HANDBOUND
AT THE
UNIVERSITY OF
TORONTO PRESS

Med. M.

8 11

MEDICAL RECORD

A Weekly Journal of Medicine and Surgery

EDITED BY

GEORGE F. SHRADY, A.M., M.D.

SURGEON TO ST. FRANCIS HOSPITAL, NEW YORK; CONSULTING SURGEON TO THE NEW YORK CANCER HOSPITAL, AND CONSULTING PHYSICIAN-IN-CHIEF TO THE HOSPITALS OF THE HEALTH DEPARTMENT OF THE CITY OF NEW YORK

Volume 45

JANUARY 6, 1894—JUNE 30, 1894

194130
6. 2. 25.

NEW YORK
WILLIAM WOOD & COMPANY
1894

R
N
Nu
K

Trow Directory,
Printing and Bookbinding Company,
201–213 *East 12th Street*,
New York.

LIST OF CONTRIBUTORS TO VOL. XLV.

Abbott, Dr. George E., New York.
Anderson, Dr. R. Harcourt, New York.
Andrews, Dr. Glenn, Montgomery, Ala.
Arnold, Dr. W. F., U. S. Navy.
Ashmead, Dr. Albert S., New York.
Ashmore-Noakes, Dr. S. S., Nice, France.

Bannan, Dr. Theresa, Syracuse, N. Y.
Barnes, Dr. Edwin, Pleasant Plains, N. Y.
Barnes, Dr. Justin L., New York.
Barnum, Dr. M. W., U. S. Navy.
Bassett, Dr. H. W., Oak Park, Ill.
Bates, Dr. W. H., New York.
Bayliss, Dr. E. B., Dayton, O.
Beck, Dr. Carl, New York.
Bennett, Dr. C. E., Cortland, N. Y.
Berg, Dr. Henry W., New York.
Bidwell, Dr. W. Davidson, Leavenworth, Kan.
Bishop, Dr. Louis Faugères, New York.
Bishop, Dr. Seth Scott, Chicago, Ill.
Blanks, Dr. J. H., Jr., Meridian, Miss.
Boeckmann, Dr. Edward, St. Paul, Minn.
Bowles, Dr. F. T., New York.
Brown, Dr. Dillon, New York.
Buck, Dr. Albert H., New York.
Buechner, Dr. W. H., Youngstown, O.
Bull, Dr. William T., New York.
Bullard, Dr. W. M., Montana.
Burr, Dr. C. B., Pontiac, Mich.
Byers, Dr. J. Wellington, Charlotte, N. C.

Cadwallader, Dr. Rawlins, Fall River Mills, Cal.
Callan, Dr. Peter A., New York.
Carr, Dr. Walter Lester, New York.
Chappell, Dr. Walter F., New York.
Cheesman, Dr. Hobart, New York.
Cheesman, Dr. William S., Auburn, N. Y.
Chew, Dr. Roger S., Calcutta, India.
Chittenden, Dr. R. H., New Haven, Conn.
Clark, Dr. L. Pierce, Middletown, Conn.
Clarke, Dr. Fisher R., Stockton, Cal.
Cleveland, Dr. Clement, New York.
Collins, Dr. Joseph, New York.
Cordier, Dr. A. H., Kansas City, Mo.
Corning, Dr. J. Leonard, New York.
Cragin Dr. Edwin B., New York.
Crile, Dr. George W., Cleveland, O.
Curtis, Dr. B. Farquhar, New York.

Dana, Dr. Charles L., New York.
Deimar, Dr. J. T., Manorville, Pa.
Denison, Dr. Charles, Denver, Col.
Dickinson, Dr. Charles S., Fort Stevenson, N. D.
Diller, Dr. Theodore, Pittsburg, Pa.
Dorning, Dr. John, New York.
Dowd, Dr. J. Henry, Buffalo, N. Y.
Down, Dr. Edwin A., Hartford, Conn.

Edebohls, Dr. George M., New York.
Edson, Dr. Cyrus, New York.
Eichacker, Dr. H. F., New York.
Einhorn, Dr. Max, New York.
Elliot, Dr. George R., New York.
Evans, Dr. Thomas R., Burlington, Iowa
Ewing, Dr. Charles B, U. S Army.

Farwell, Dr. George D., Turner's Falls, Mass.
Fischer, Dr. Louis, New York.
Follette, Dr. A. C., Schenevus, N. Y.
Fowler, Dr. George R., Brooklyn, N. Y.
Freer, Dr. O. T., Chicago, Ill.

Gallagher, Dr. Francis W., El Paso, Texas.
Garrciadiego, Dr. Salvador, Guadalajara, Mex.
Gerster, Dr. Arpad G., New York.
Ginteras, Dr. Ramon, New York
Goelet, Dr. Augustin H., New York
Goldenberg, Dr. Hermann, New York.
Goodhue, Dr. E. S., Riverside, Cal.
Goss, Dr. Clarence W., Lancaster, O.
Gregor, Dr. G. D, Salt Lake City, Utah.
Gridley, Dr. Ira D., Collinsville, Conn.
Griffin, Dr. E Harrison, New York.
Gross, Dr. M., New York.

Haffin, Dr. C. J., Batanga, West Africa.
Harding, Dr. L. A., Fergus Falls, Minn.
Harris, Dr. Isham G., Poughkeepsie, N Y.
Harris, Dr. Philander A., Paterson, N. J.
Heard, Dr. E. N., Sandusky, O.
Heckel, Dr. Edward B, Pittsburg, Pa.
Heinsan, Dr. Henry, New York.
Hemingway, Dr. S., New York.
Herzfeld, Dr. A. A., New York.
Herzog, Dr. A. W., New York.
Higgin, Dr. F. W., Cortland, N. Y.
Hoag, Dr. Lucy H., Chinkiang, China.
Hogner, Dr. Richard, Boston, Mass.
Holt, Dr. L. Emmett, New York.
Howe, Dr. J. Morgan, New York.
Hudson, Dr. A. T., Stockton, Cal.
Hymanson, Dr. A., New York.

Isaacs, Dr. A. E., New York.

Jackson, Dr. George Thomas, New York.
Jacobi, Dr. A., New York.
Jennings, Dr. David D., New York.
Jonas, Dr. A. F., Omaha, Neb.

Keator, Dr. T. O., Accord, N. Y.
Kiliam, Dr. Otto G. T., New York.
Knapp, Dr. Mark L., New York.
Koenig, Dr. Adolph, Pittsburg, Pa.
Kohn, Dr. S., New York.

Law, Dr. James, Ithaca, N. Y.
Lawinsky, Dr. J. C., New York.
Lawrence, Dr. H. Newman, New York.
Lederman, Dr. M. O., New York.
Leverett, Dr. John, Binghamton, N. Y.
Licorish, Dr. R. F., Barbadoes, W. I.
Lilienthal, Dr. Howard, New York.
Lockhart, Dr. Joseph S., Boston, Mass.
Loomis, Dr. Henry P., New York.

McAllister, Dr. E., Redlands, Cal.
McGrath, Dr. John, New York.
Magill, Dr. William S., Paris, France.
Magruder, Dr. G. L., Washington, D. C.
Maher, Dr. J. J. E., New York.
Mallett, Dr. G. H., New York.
Manley, Dr. Thomas H., New York.
Marsh, Dr. F. O., Cincinnati, O.
Marx, Dr. S., New York.
Mayo, Dr. W. J., Rochester, Minn.
Meacham, Dr. Franklin A., Salt Lake City, Utah.
Meacher, Dr. William, Portage, Wis.
Metcalfe, Dr. Orrick, Natchez, Miss.
Meyer, Dr. Willy, New York.
Mitchell, Dr. Hubbard W., New York.

Mitchell, Mr. Willard A., New York.
Monell, Dr. S. H., New York.
Moor, Dr. William, New York.
Morris, Dr. Robert T., New York.
Murphy, Dr. John B., Chicago, Ill.

Nammack, Dr. Charles E., New York.
Nelson, Dr. Wolfred, New York.
Newell, Dr. Otis K., Boston, Mass.
Newton, Dr. Richard C., Montclair, N. J.
Nicoll, Dr. H. D , New York.
Noble, Dr. Charles P., Philadelphia, Pa.
North, Dr. John, Toledo, O.
Nourse, Dr. Robert L., Ashland, Wis.
Noyes, Dr. William B., New York.

Osler, Dr. William, Baltimore, Md.
Osmun, Dr. L. C., Hackettstown, N. J.
Outerbridge, Dr. Paul, New York.
Overholt, Dr. F., Omaha, Neb.

Page, Dr. Charles E., Boston, Mass.
Peabody, Dr. C. A., Worcester, Mass.
Peet, Dr. Walter B., Hammonton-in-the-Pines, N. J.
Pernet, Mr. George, London.
Pierson, Dr. Samuel, Stamford, Conn.
Piffard, Dr. Henry G., New York.
Powers, Dr. Charles A., New York.
Price, Dr. A. F., U. S. Navy.
Pyle, Dr. J. S , Canton, O.

Ranney, Dr. Ambrose L., New York.
Raymond, Dr. James Harvey, Chicago, Ill.
Rector, Dr. Joseph M., Jersey City, N. J.
Reich, Dr. A., New York.
Reichard, Dr. E. E., Poughkeepsie, N. Y.
Ricketts, Dr. B. Merrill, Cincinnati, O.
Robinson, Dr. Beverley, New York.
Rockwell, Dr. A. D., New York.
Rogers, Dr. W. B., Memphis, Tenn.
Rolfe, Dr. William A., Boston, Mass.
Roosevelt, Dr. J. West, New York.
Rosahusky, Dr. H., New York.
Rose, Dr. Achilles, New York.
Rosenberg, Dr. Julius, New York.
Rugh, Dr. J. Torrance, Philadelphia, Pa.
Rupp, Dr. Adolph, New York.
Russell, Dr. Louise, Van, Turkey in Asia.

Schumpert, Dr. T. E., Shreveport, La.
Searles, Dr. F. R., Plainfield, N. J.
Seeligmann, Dr. Gustav, New York.
Seelye, Dr. H. H., Amherst, Mass.
Semeleder, Dr. F., Cordova, Mex.
Seward, Dr. W. M., New York.
Shepherd, Dr. Francis J., Montreal, Canada.
Shipps, Dr. William H., Bordentown, N. J.
Shrady, Dr. George F., New York.
Simon, Dr. Charles E., Baltimore, Md.
Sloan, Dr. T. W., Seattle, Wash.
Smith, Dr. Andrew H., New York.
Smith, Dr. E. H., Santa Clara, Cal.
Smith, Dr. Louise Russell, Van, Turkey in Asia.
Spence, Dr. Arnot, New York.
Spotswood, Dr. Dillon J., Fairford, Ala.
Spratling, Dr. William Philip, New York.
Stark, Dr. Henry S., New York.
Stedman, Dr. Thomas L., New York.
Stickler, Dr. Joseph William, Orange, N. J.
Stiles, Dr. C. W., Washington, D. C.
Stowell, Dr. William L., New York.
Straight, Dr. Howard, Cleveland, O.
Strobell, Dr. Charles William, Rutland, Vt.
Strock, Dr. Daniel, Camden, N. J.
Sturgis, Dr. Russell, Boston, Mass.
Swasey, Dr. Edward, Worcester, Mass.

Tefft, Dr. J. E., Springfield, Mo.
Thayer, Dr. William Henry, Berkshire, Mass.
Thistle, Dr. W. B., Toronto, Canada.
Thomas, Dr. Homer M., Chicago, Ill.
Thomas, Dr. T. Gaillard, New York.
Thompson, Dr. W. Gilman, New York.
Thomson, Dr. W. H., New York.
Truex, Dr. William E., Freehold, N. J.
Tsuchiya, M. M., New York.
Tucker, Dr. Ernest F., Portland, Ore.
Tucker, Dr. Ervin A., New York.
Tyson, Dr. H. H., New York.

Vinton, Dr. Maria M., New York.
Vulpius, Dr. Walther, New York.

Waechter, Dr. C., New York.
Wagner, Dr. Clinton, New York.
Walker, Dr. John B., New York.
Warner, Dr. Frank, Columbus, O.
Weed, Dr. H. A., Lockport, N. Y.
Weeks, Dr. John E., New York.
Weir, Dr. James Jr., Owensboro, Ky.
Wells, Dr. Walter S., New York.
Wendt, Dr. Edmund C., New York.
Wilcox, Dr. Reynold W., New York.
Wischnewetzky, Dr. L., New York.
Wolff, Dr. Bernard, Atlanta, Ga.
Woolley, Dr. B. M., Atlanta, Ga.
Wright, Dr. Jonathan, Brooklyn, N. Y.
Wyeth, Dr. John A., New York.

Societies from which Reports have been received.

Academy of Medicine of Paris.
Academy of Sciences of Paris.
American Association of Genito-urinary Surgeons.
American Climatological Association.
American Dermatological Association.
American Genito urinary Association.
American Gynecological Society.
American Medical Association.
American Neurological Association.
American Ophthalmological Association.
American Orthopedic Association.
American Otological Society.
American Pediatric Society.
American Surgical Association.
Association of American Anatomists.
Association of American Physicians.

Berlin Medical Society.
Biological Society of Paris.

Clinical Society of London.
Congress of American Physicians and Surgeons.
Congress of Russian Physicians.

French Society of Dermatology and Syphilography.

Hamburg Medical Society.
Harveian Society of London.
Hospitals Medical Society of Paris.

International Medical Congress.

Medical Society of London.
Medical Society of the County of New York.
Medical Society of the State of New York.
Medico-chirurgical Society of Edinburgh.

New York Academy of Medicine.
New York County Medical Association.
New York Pathological Society.

Obstetrical Society of London.
Ophthalmological Society of London.

Pathological Society of London.
Practitioners' Society of New York.

Royal Medico chirurgical Society of London.
Royal Society of Physicians of Buda-Pesth.

Society for Psychiatry and Neurology of Vienna.
Society of Physicians of Vienna.
Society of Physicians and Surgeons of Paris.
Surgical Society of Paris.

Therapeutical Society of Paris.

Vienna Medical Club.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 45, No. 1.
Whole No. 1209.

NEW YORK, JANUARY 6, 1894.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

SOME POINTS IN THE DIAGNOSIS OF APPENDICITIS.[1]

BY GEORGE F. SHRADY, M.D.,

SURGEON TO ST. FRANCIS HOSPITAL,

NEW YORK.

AFTER years of perhaps unmerited obscurity the appendix has worked itself into a prominence out of all proportion to its size, but presumably with a full appreciation of its importance. Whatever may have been said of its apparent uselessness, it has at least so far demonstrated its right for attention that it has called forth the best directed efforts of advanced surgery to circumvent its dangerously erratic tendencies. Heretofore, however, the diseases to which it is a subject have been viewed so much from a purely operative stand-point that many of the other essential features of their study have been proportionately neglected. Prominent among the latter are those which bear upon the timely and correct diagnosis of the threatening as well as dangerous forms of the disease. In the face of the fact that many eminent clinicians state that it is oftentimes impossible to make an accurate estimate of the proximate or ultimate dangers in a particular case, the operator must, notwithstanding, be called upon to settle the difference when emergencies are most imperative and responsibilities most grave. In the cases which I have seen in hospital and private practice the question of diagnosis has been almost the only one which has given me any concern. In this I am well assured my experience corresponds with that of many other surgeons. In order, therefore, to clear up some of the doubtful points, I have given this part of the subject a careful and somewhat extended study, based principally upon the writings of others and supplemented by personal experience. In the attempt at a critical analysis of symptoms by an examination of over three hundred cases, I have been struck not only with the want of completeness as to detailed phenomena of symptomatology, but as to the significance of the same as bearing upon the demonstrated existence of pathological changes. My original plan comprised a statistical study of the leading symptoms, their relation with each other, and their comparative frequency of association as connected with actual lesions; but this I discovered to be impossible, unless the tables were so complicated with qualifications and loaded with explanations for important omissions, that they would be deprived of their real practical significance. Hence I have been forced to rely upon the general impressions which have been made by the multiple portraiture, and present them for what they may be worth, as a contribution to a part of the subject in which the general practitioner and surgeon are alike interested.

As every diagnosis must be based upon the study of symptoms common to other diseases, we may make a natural beginning in estimating their correlative value by glancing at a well defined picture toward which our comparisons may focus.

Let us then, with this object in view, call to our mind a case of perforative appendicitis, for it is upon the importance of diagnosticating such an one that the main purpose of this paper centres.

A young male patient, with a history of previous milder attacks, is suddenly seized, usually after a period of constipation, with chilliness, diarrhœa, reflex pain in the epigastrium, and colicky pains distributed over the abdomen. There is vomiting, slight increase of temperature, natural respiration, no marked tympanites, but general tenderness on pressure. In the course of a few hours the pain becomes localized in the right iliac region, where there is increased tenderness and circumscribed rigidity of abdominal muscles, with perhaps slight dulness on percussion. Coincident with these phenomena there is difficult micturition, sometimes tenesmus, a slight rise of temperature, to perhaps 100° F., or exceptionally 102°, and a distinct acceleration of pulse. At this stage, also, a distinct focal tenderness will be detected at McBurney's point, from one and a half to two and a half inches inside the anterior superior spine, or thereabouts, on a line with the umbilicus. Then subsequently and suddenly there is developed an intense pain in the circumscribed area, vomiting increases, abdominal distention occurs, patient shows evidence of intense shock—pinched features, cold finger tips, cyanotic lips, hurried thoracic breathing, thready, rapid pulse, and temperature 102° to 103° F. In the course of a few hours pain and tympanites progressively increase, and finally the patient dies with symptoms of septic peritonitis. This is the usual course of a classically clear case; but, unfortunately, such are subject to so many variations that they prove the exception rather than the rule.

So many unlooked-for modifications of the clinical picture present themselves that few, if any, can always be sure of these precise indications, especially during that most vital period of the earliest development of ominous symptoms, and when prompt action settles the question between life and death. The experiences of every surgeon not infrequently cross each other on these lines of mistake and doubt. So the more we examine the boundary between enthusiastic advocacy of operative procedure on the one hand, and the judicious conservatism of watchfulness on the other, the better we will be prepared to meet and treat each case as it presents itself.

Perhaps the better way to appreciate the relative significance of the usual symptoms of appendicitis is to study them in their pathological or causative relations with other associated conditions, and arrive at such approximate conclusions as may be possible under the circumstances. The first in importance and frequency of these is the localized pain in the right iliac fossa, its actual position, its degree of intensity, its time of occurrence, and its significance as indicating the character and degree of pathological lesion. I am so firmly convinced of the constancy of localized pain in the region named, that the failure to give it due importance is to be explained more on the score of imperfect examination of the case than for any other assigned reason. I expect to find it in every case, and have never met an instance in which it was absent. Whenever, after careful search, pain is not present in that situation, as is said to happen, there is always a good reason for it, even if such reason may not be discovered at the time. Thus, in the so-called fulminating varieties of perforation the system may become so suddenly overwhelmed by shock that no pain can be appreciated by the patient. The predominating pains reported as being located variously in the epigastric, umbilical, hypochondriac, and hypogastric regions are only of passing interest in helping to make a more complete and more varied clinical picture; such pains are mostly colicky and reflex in reality. It may be

[1] Read at a meeting of the Practitioners' Society of New York, December 1, 1893.

interesting to note in this connection that distinctly isolated and persistent spots of tenderness in out-of-the-way localities are not uncommonly associated with adhesive displacements of the cæcum and appendix to such situations. For instance, in three cases reported by Loomis, Clark, and Fowler, respectively, in which there was pain in the *left* iliac fossa, the appendix was displaced to that side and adherent. The varied normal positions of the appendix, as shown by Bryant and others, will greatly aid us in explaining deviations from set rules.

Since McBurney has directed particular attention to the symptomatic significance of a focal tenderness between the right anterior spine and umbilicus, the importance of more accurate examinations of the iliac region has impressed itself upon clinicians. That this painful spot is sometimes absent or not recognizable in real cases, and present in false ones, cannot be denied. Its indications have been so extensively tested, by so many observers, that there is abundance of accumulated testimony pro and con. I am not aware, however, that when associated with appendicitis it can be said to indicate any particular pathological process other than an inflammatory tenderness of the appendix itself, or a localized peritonitis in the neighborhood, either of which is made manifest by pressure at that particular point. In other words, I am led to believe that it as often indicates presumptive as it does real danger in estimating the immediate chances of the patient. It has been noticed alike in the simple cases of intra- and extra-peritoneal abscesses, and in the so called cases of acute perforating appendicitis.

The claim of McBurney, that the point indicates the situation of the base of the appendix, although a reasonable one, and, as far as my observations go, a just one, is denied by Kelynack[1] "after an examination of a very large number of cases." It is certain, however, that when the focal intensity of appendicitis is in the situation indicated, the explanation is sound. This was proven absolutely in three of my recent cases of perforative appendicitis, and in one of the recurrent variety operated upon in the interval.

I have also noted the presence of the painful point when the appendix was relatively far away, being posterior and external to the cæcum. Whatever relation it may have to actual lesions, when the point can be demonstrated, it is a valuable diagnostic sign.

It would appear, from our present knowledge and in the light of accumulated experience, that the real cause of tenderness is in the appendix itself. Whether the organ is situated immediately under the painful point or not, the pressure is either direct or communicated in such a manner that the tender and diseased appendix is caught somewhere in the line between the finger-point and the posterior abdominal wall.

In this connection I may state that my attention has been called by Dr. Edebohls to the possibility of diagnosticating recurrent appendicitis by actually feeling the appendix through the abdominal wall, and demonstrating the cause of tenderness by direct pressure upon the organ. In one case I was able to do this, to recognize the appendix rolling under the fingers, to limit tenderness to direct pressure upon the process, and afterward to remove the organ by operation from that exact locality.

If we assume that pain on pressure indicates inflammatory lesion at or near the point of pressure, we must take the chances of other organs in the neighborhood likewise affected giving the same sign. Fortunately there are very few pathological conditions other than those which belong to the appendix itself which make mistakes probable.

One of the earliest local symptoms after pain is that of circumscribed muscle tension in the right iliac fossa. This occurs in about forty per cent. of the cases, although its absence is not noticed in the remaining sixty per cent. In eighteen acute cases in which it was looked for, I found it in every one. Thus I have been led to rely upon it as an exceedingly valuable sign.

Tumor in the iliac region rarely shows itself before the third day after the appearance of localized pain or tension, and not until agglutinating or circumscribed effusions have occurred. As tumor generally indicates nature's effort to limit effusion, its size, situation, and firmness are important matters to take into account. Swellings which form slowly are firm and distinctly circumscribed, are not so liable to rupture as those which are more diffused, rapidly enlarge, and are attended with marked constitutional disturbance—such as sudden rise of temperature and pulse, rapid increase of degree and area of tenderness, and progressive meteorism.

That the tumor, even in bad cases, is not always due to limiting effusions, was proven in a girl, aged nineteen, upon whom I did appendectomy for Dr. D. St. John, of Hackensack, N. J. Before the operation the swelling was so distinct, tender, and circumscribed that we were sure an abscess had formed. On exposing the site of the swelling the latter proved to be nothing more than a thickened cæcum distended with fæces. In that case the appendix was found perforated and adherent posteriorly. Not infrequently tumor is entirely absent, especially in those cases in which the inflamed appendix is situated behind the cæcum; but as a compensatory advantage in diagnosis, local rigidity of the abdominal muscles is generally quite marked in the bad cases, as well as the existence of focal tenderness.

Dulness on percussion is rarely recognized before the fourth day, and being a comparatively late symptom, is merely confirmatory of limiting inflammation with more or less extensive effusion of lymph or pus. When the abscess is behind the cæcum, dulness can rarely, if ever, be demonstrated. Fluctuation does not appear as a rule until the second week. It is often difficult to demonstrate, is sometimes recognized by rectal examination, but when present removes all doubt as to the necessity of immediate operation for abscess.

Œdema of the overlying integument is not noticed until a paratyphlitic abscess has formed, of which it is a reasonably sure indication. Hence for purposes of early diagnosis in apprehension of danger it is of no value and cannot be expected until late in the disease.

Although a bad case of appendicitis gives rise ultimately to formidable conditions, the pulse and temperature do not indicate such probabilities at the commencement. The explanation is sought for in the necessarily limited degree of the initiative lesion, and the correspondingly small area of peritoneum that is primarily involved. In some of the worst cases the temperature has been reported normal until the quick ending of the case in overwhelming shock.

Generally, however, the pulse is slightly accelerated, averaging a hundred, and the temperature is above the normal—from 100° to 101° F. The significance of dangerous conditions is the gradual increase of both in connection with the augmentation of pain, of tenderness, and tympanites. Often the suddenly increased pulse-beat is the earliest bad symptom, preceding even the ominous rise in temperature, the extra intensity of pain, and the rapid, grunting respiration.

Usually, however, before a steady progression to the bad, there is a deceptive calm, in which pulse, temperature, and pain decline, marking the occurrence of effusion and the decrease of tension of inflamed parts.

Vomiting is an early symptom, and variously marks the reflex indication of commencing inflammation, or the occurrence of perforation, especially the latter; when it becomes greenish in character it is associated with a chill.

The sudden occurrence of intense localized pain usually indicates a dangerous change either in the occurrence of perforation or the tearing of adhesions and rupture of an abscess, and when combined with shock indicates effu-

[1] Pathology of the Vermiform Appendix, by T. N. Kelynack, M.D., London, 1893, p. 149.

sion in the peritoneal cavity. The extent of effusion is governed by the condition of tension, amount of contents, mobility, and length of the appendix. Fortunately, the anatomical relations of the parts are such as tend to limit the area of invasion of surrounding parts; contrasting strongly with perforations elsewhere in the abdominal cavity. Kelynack offers the following explanations, which carry with them a more comforting assurance of relative safety than is usually entertained:

1. A small quantity of the contents of the appendix is extravasated. 2. The extravasated materials are usually solid. 3. The material is of a less irritating character than from other portions of the intestinal canal. 4. The position of the appendix interferes with the rapid diffusion of the effused material. 5. The movements of the appendix are more or less limited.

Taking our chances of making a correct and timely diagnosis in the dangerous cases of appendicitis, many possible conditions must be taken into account as associated with the symptoms of other simulating diseases.

The first of these is ordinary typhlitis or cæcitis. This affection is far more common than is generally supposed. Although at its commencement showing ominous symptoms, it always tends to recovery under proper medical treatment. With this condition an early pronounced swelling, usually oblong in shape, is the rule, with some tenderness on pressure; no increase of temperature nor of pulse, constipation, rarely vomiting, no chill, no localized rigidity, and a chronic history, in a person past middle life. Frequently indentation can be made in the tumor on account of its fecal contents. The symptoms are not progressive in severity, and there is no acute pain on deep pressure. Whether or not it is true that in the large majority of these cases a simple appendicitis is the initial lesion cannot be proven; as such, as a rule, recover, even without an operation. It is quite probable that many cases of simple catarrhal appendicitis recover without showing subsequent lesion, although within the first forty-eight hours they may present significantly dangerous symptoms.

In one exceptional case, which I have previously reported, there were four distinct attacks so closely resembling suppurative appendicitis that on each occasion an operation was contemplated; but on the patient dying of another disease, no autopsical lesions of the appendix or cæcum were discoverable, save a general thickening of the latter.

The practitioner who is called to a case of pain and swelling in the right groin, and would not at once think of appendicitis, can be stamped as one who does not take a medical journal, does not attend his medical society, and does not read the daily papers. Still, very many mistakes are recorded, in the attempted diagnosis of appendicitis, when swelling, or tenderness, or both appear in the right iliac fossa. These mostly refer to psoas abscesses, morbus coxarius, renal and biliary colic, tubal and ovarian disease, intussusception, malignant tumors of colon or cæcum, perinephritic abscess, typhoid fever, and even floating kidney; while in the acute and grave cases, where sudden peritonitis appears, perforating ulcers of the stomach or intestine, and rupture of the gall-bladder, have been mistaken for perforation of the appendix.

The differentiation of these, in the order mentioned, can be done by comparing their salient symptoms with those of the disease under consideration.

Psoas abscess is chronic in character, the tumor is slow in development, is generally tympanitic on percussion owing to its deep seat, has a doughy feel, caries of the lumbar spine exists with spinal tenderness and deformity. The right leg is drawn up, and is usually the first sign of trouble, the patient is cachectic, and the developing abscess shows a low grade of action with attendant hectic fever. The maximum of pressure tenderness is lower and more external than in appendicitis.

Dr. H. C. Coe communicates a case of psoas abscess, however, in which McBurney's point was distinctly marked, and in which all the other essential features of appendicular disease were present.

There is at present in my wards at St. Francis Hospital a case of undoubted psoas abscess, in which the tender point is distinctly marked on a line between the anterior superior spine and the umbilicus. This may be an instance in which appendicular disease antedated the abscess in question, but such is scarcely probable in view of a previously long existing deformity of the lumbar spine.

Renal and biliary colic are ushered in with very severe symptoms of localized pain and vomiting, but there is no localized iliac tension, no tumor, no focal tenderness, and no significant shock. The intensity of the pain in biliary colic is situated, as a rule, in the epigastrium, is intense and stabbing in character, extending backward toward the right scapula, and is followed by jaundice: while in renal colic the same intensity takes the direction backward to the lumbar region, and downward along the cord, retracting the testicle.

It is quite true that occasionally in appendicitis the pain is along the cord, and is sometimes attended with difficult micturition and retraction of the testicle: but the focal centre of tenderness, when carefully sought, is almost invariably at or near the situation of the appendix. In renal as well as biliary colic the intense and spasmodic pains are limited to the affected side, and are not attended with elevation of temperature, increase of pulse, or tympanites.

The diagnosis of appendicitis in the female is attended with peculiar difficulties bearing on the differentiation of symptoms associated with tubal and ovarian disease. Coe, Grandin, and others have shown that the painful point and tumor are below the situation of the region of the appendix, the swelling is rounder, nearer the uterus, and more circumscribed, and its connection can usually be traced to the tube or ovary by rectal or vaginal palpation. When, however, the latter cannot be done the absolute diagnosis is often left in doubt. Usually, however, the previous history of menstrual troubles, the chronic character of the case, and the absence of the recognized symptoms of recurrent appendicitis will help to a conclusion. The latter are so well described by Bull, in a recent paper read before this Society, that it is unnecessary to refer to them in detail. In the acute forms which sometimes are associated with the puerperal state, the symptoms and their sequence must be studied with great circumspection. The same may be said of hæmatoma, two remarkable and instructive cases of which have been reported by Barker, in which it would appear that the ordinary means of distinction known at the time were of no avail in avoiding the error.

Intestinal obstruction is not infrequently mistaken for perforation of the appendix. Ransohoff records twelve instances, and Hartley two, in both of which operations were undertaken for what was thought to be strangulation. I had one such case, the error of which was not discovered until a gangrenous appendix was found. But under such circumstances there is no question as to the propriety of resorting to operative interference, not only to clear away all doubt, but to give the patient the last chance. Usually the suddenness and severity of the attack without increase of temperature, the rapid distention of the bowels, the grunting respiration, the fecal vomiting, great prostration, tenesmus, the absence of localized pain and tumor, with diffused abdominal tenderness, will complete the clinical picture.

In intussusception the tumor can generally be recognized, oblong in shape and following the course of the colon, one side or the other, without marked local tenderness or increase of temperature, and there is besides a rectal discharge of bloody mucus, a rare symptom in appendicitis. Intussusception is essentially a disease of children, occurring in eighty per cent. of the cases before the tenth year, and in a large proportion of these the tumor can be felt through the rectum.

In suppurative appendicitis it is not uncommon for the paratyphlitic abscesses to burrow their way to the kidney

or liver, and may even perforate the diaphragm. Under such circumstances, with a fluctuating swelling high in the lower or lumbar region, it might be easy to err as to the origin of an abscess. In one of my cases of burrowing appendicular abscess, an escape was found through the foramen ovale in the inside of the thigh. But abscesses of this nature require time for their production, and can hardly be mistaken for lesions requiring such urgent and immediate treatment as those previously mentioned. In this connection I take occasion to refer to the admirable paper of Weir on the subject of sub-diaphragmatic abscesses of appendicular origin, in which many interesting diagnostic features are very instructively presented.

Within the past two years I have been asked to do appendectomy on two cases which proved to be typhoid fever, and upon which, of course, I did not operate. One is a well-known journalist of this city, who never tires of talking of his escape, the other occurred in a boy aged sixteen. In the first instance the patient had been ill a week with slight fever, pain and dulness in iliac region, and tenderness over a distended abdomen. No focal point could be discovered. His furred tongue, headache, unnatural stupidity, rapid pulse, and characteristic diarrhœa, suggested the idea of studying the temperature curve, the ultimate result of which was equally satisfactory to the family physician and consultant. In the case of the boy the symptoms were ushered in with colic, chill, vomiting, headache, and abdominal pain. The physician in attendance having the night previous listened to the danger of appendicitis, graphically detailed in a paper before the Academy, became convinced his patient was afflicted with that disease, and demanded immediate consultation. It was with much difficulty, and with some misgiving on my part, that an opposite view was taken, but the typhoid took its course and the boy still carries his appendix.

From conversation with some of my medical friends I learn that the suspicion of appendicitis is not by any means uncommon with cases of commencing typhoid. It does not, however, seem very difficult, under the circumstances. to make a correct diagnosis, when the great frequency of the pulse, the increased elevation of temperature, the headache, and characteristically furred tongue are duly taken into account. Still the best of men have been mistaken when iliac pain and local tenderness appear to be at first the leading symptoms.

It is not to be denied that perforations occur as the result of typhoid ulcerations of the appendix, but these are not only very rare, but do not take place until comparatively late in the disease, and when there is no question generally as to the character and significance of the previous symptoms.

Neuralgia of the iliac fossa is a condition associated with localized pain only, is intermittent in character, and is relieved rather than increased by deep pressure. Yet I know of one instance—naturally a medical man—in which the radical operation was done for just this condition, but fortunately with the ultimate recovery of the patient. He has no appendix now, and can graciously patronize those of his acquaintances who are not so fortunate in being rid of a quarrelsome and non-insurable tenant.

Gibney has called attention to the possibility of mistaking cases of perityphlitis for hip diseases. Although the cases cited by him point in that direction, it is ordinarily not difficult to discriminate between the two diseases, notwithstanding the marked flexion and abduction of the thigh which may occur in both. Hip disease has a long and characteristic antecedent history, and the focus of pain is in the hip-joint itself, directly occasioned by flexion and rotation of the thigh and by crowding the joint surfaces together.

One of the older means of diagnosticating appendicular abscess by aspiration is now out of vogue. While in some exceptionable cases it may be the only sure way of making a diagnosis of an existing intra- or extra peritoneal abscess, it is liable to do great mischief when pus is found, septically infecting the peritoneum on the withdrawal of the needle. Although I have often made the exploration in times gone by without accident, I never find it necessary now, except perhaps when forced to settle a doubtful point during the actual progress of a laparotomy. Aside from its danger it is not reliable, as we often fail to find pus when it is afterward demonstrated to be present by the safer and surer method of free exposure of the diseased parts.

I have not thus far referred to rectal examinations for diagnosis, as personally I am somewhat in the position of the historian who wrote the famously brief chapter on the snakes in Ireland. I have not often seen the necessity of practising it except in women, and when I have done so the results have not been brilliantly confirmatory. In some cases it will aid us, but in most it will not. Loomis urges early rectal examinations under ether, with a view of detecting small circumscribed effusions in the iliac fossa. I confess, however, that I could not trust my touch to such a delicate test in clearing up an otherwise doubtful point. And besides, the force and pressure necessary in the bimanual examinations might tear protecting adhesions, or possibly rupture young and tender abscesses.

It would scarcely be possible to enumerate or classify the number and variety of cases in which obscure and suspicious symptoms of appendicitis may exist. Every practitioner at times thinks of them and eliminates them as best he may, proving in his own mind, by increased experience, that very much is to be learned in this particular part of the inquiry.

It is with a view of contributing to more certainty of distinction in suspected cases, and in noting some of the differences between the mild and recoverable cases and the severe and fatal ones, that the suggestions based upon the personal experience of the writer are offered. There is now no question how we should operate but when. In clear cases no time is to be lost. Under such circumstances there is no operation for emergency that has a better record. In the doubtful cases the line has not yet been drawn absolutely between watchful patience and unwarranted exploration, and it will not be until our means of diagnosis are more patiently perfected and the relatively significant symptoms in their proper sequence are still more carefully studied.

8 East Sixty-sixth Street.

Pre-natal Determination of Sex.—Dr. T. O. Keator, of Accord, N. Y., writes: "In your issue of December 16th, I notice an article by Dr. Abbot, of Hamburg, N. Y., on pre natal determination of sex. It reminds me that some years since I had been making great efforts to determine the sex prior to delivery, and thought that I had succeeded; and was so well convinced that conception just prior to menstruation would surely result in a boy, and just after a girl, and had an article written for publication on the subject, when I was called to attend Mrs. S—— in confinement, and in a few hours delivered her of a pair of twins, one boy and one girl, I began to think that there was something wrong with my theory, and consequently never published my article. Since that time I have made diligent inquiry wherever it was possible that the time of conception could be known, and out of ten cases where there could be no mistake about the time of conception, six conceived just after a menstrual period, and produced four boys, two girls; the other four conceived just prior to a menstrual period, and produced three girls and one boy. In pursuing this subject I think most physicians reach their conclusions too soon, and from too few cases. We are as far from pre natal determination ot sex as ever, unless someone will explain the twin conceptions of one male and one female."

Trichloracetic Acid in papillomata, warts, and in papillomatous urethritis.—Lauz.

APEX CATARRH.

By HORACE S. STRAIGHT, A.M., M.D.,

CLEVELAND, O.

LECTURER ON DISEASES OF THROAT AND NOSE, MEDICAL DEPARTMENT, WESTERN RESERVE UNIVERSITY, ETC.

Apex catarrh is the name I have chosen to designate a certain condition of the lungs occurring most often at the apices, but next in frequency in the lower portion of the subclavicular region or upper portion of the mammary region. Localized capillary bronchitis would describe the condition in its earlier stages, but in well marked cases there is a wider involvement of tissue. I know of no term that describes the condition better than the one chosen—apex catarrh. If there is any literature upon this subject, it has never been my good fortune to find it. For years I have ransacked all the literature at my disposal, only to find no mention at all of any such condition. Nearly all writers speak of a long period of depressed health that precedes tuberculosis of the lungs, but there is nothing told us of the symptoms or physical signs found in the condition of lowered vitality. It is with this period of depressed health that this paper has to do.

Etiology.—There is little to say concerning the causes of apex catarrh, because in the five years since which time my attention was called to the frequent occurrence and importance of this condition, I have learned little as to its etiology. Those causes ascribed by the various writers as factors in the production of tuberculosis of the lungs, certainly have an influence in the production of an apex catarrh, and yet in the great majority of cases one can find no adequate reason. Apex catarrh does not occur simply in people whose health is depressed, whose occupation is in-door, and whose surroundings are unhygienic.

Many such cases occur, but I see many cases in people who are apparently in the best of health, and I am constantly surprised to find evidences of slight catarrh at the apices of people who are not anæmic, who have not lost flesh, and who complain simply of stomach disturbances and of feeling tired. From the first appearance of the grippe until one year ago, I saw more cases of apex catarrh than ever before or since, and yet before the grippe appeared, my dispensary service was overflowing with cases of apex catarrh, and there is no change at the present time. It occurs most often in people under forty years of age. I have never seen a case in a child less than four years of age. It is of frequent occurrence in children, but presents marked differences in its symptoms and course. The greater number of cases occur in people under thirty-five years of age.

The disease may originate in two ways. The patient often comes under observation when suffering from an acute cold. His history in the majority of cases discloses the fact that even before taking the acute cold he had not felt well, that his appetite had not been as good as usual, that he had felt tired mornings, and also had tired easily upon exertion. This enumeration enbraces only a few of the more prominent symptoms.

My opinion is that the patient was in a lowered constitutional condition, and that his acute cold was contracted because of his lowered vitality; that there was a catarrhal condition of his capillary bronchial tubes at the apex, before the onset of the cold which brings him to the doctor. While the patient always persists in ascribing all his future sufferings to the cold he caught at a certain time, my experience has taught me that the acute cold only brought the patient to a realization of his condition in the greater number of cases, and that the acute cold had little influence in the future of his case. I do not mean to say that a healthy person may not take cold; what I mean to say is, that a patient suffering with an apex catarrh takes cold much more easily than a healthy person, and that his sufferings are out of all proportion to anything that can be detected in his case. If patients who take cold easily and on whom colds make a marked impression, were subjected to a careful chest examination, the explanation of the patient's tendency would more often be found than in ascribing it to malaria, rheumatism, gout, etc.

Many a case has passed under my observation that would not believe that there was anything at fault—patients at whose apices I had detected the early signs of an apex catarrh—until an acute cold would bring them back to me weeks after my first examination. I see many cases of this kind during the summer months, when the tendency to take cold is not so great. I have no explanation to offer as to the reason why the apex catarrh develops. That the condition does occur as stated, is a conviction only arrived at after six years' observation. Another class of cases develop in connection with an acute cold. If the condition is a simple catarrh—and this is my belief—it is reasonable to believe that the inflammation may attack not only the mucous membrane of the nose, throat, and large bronchial tubes, but also the mucous membrane of the capillary tubes in the subclavicular region; why this should occur in one case and not in another is impossible of explanation. When this does occur the inflammation may subside in every other region previously involved, and yet continue to spread at the apex. This is the best explanation of the second class of cases that I have been able to find.

In the slightest cases there is undoubtedly an inflammation of the mucous membrane of the capillary bronchial tubes. In the well marked cases there is in addition an inflammation of some of the air-cells of the lung. The inflammatory process may even spread to the pleura. This condition is undoubtedly catarrhal. There is no other supposition that is as reasonable, in view of the course of the disease and the large proportion of recoveries. It seems to me untenable to consider an apex catarrh a localized tuberculosis. A small number of cases that have the same physical signs as an apex catarrh, are tubercular from the beginning. The catarrh is in these cases due to the irritation of a previous deposit of tubercle. The statements in the last two sentences are commonly accepted, although no explanation can be given. These cases are only frequent enough to prove them an exception to the supposition that cases of apex catarrh are simply catarrhal. That an apex catarrh may become a localized tuberculosis or an incipient phthisis, is a reasonable conclusion. It is in view of this possibility that the importance of these early catarrhal conditions is emphasized. The tubercle bacillus does not grow even if it gain entrance into a healthy lung, but if it gain entrance into a portion of the lung that has become depressed in its vitality through a catarrhal process, the conditions for growth and development are favorable. Why this infection with tubercle bacilli occurs so infrequently is a mystery to me. It might be explained by assuming that the catarrhal process must become marked before the non-resistance of the cells is great enough to permit of their growth. It is a fact that the larger number of cases never become marked. In the early cases of apex catarrh there is no expectoration. It is impossible to obtain any sputa for examination, unless the patient have a new cold, and then the expectoration arises from the larynx or pharynx, and not from the area of chronic capillary bronchitis. For this reason I have never made any extended observations with the microscope in slight cases. In many marked cases of apex catarrh in which I suspected infection from tubercle bacilli and made a microscopical examination, I have failed on repeated examination to demonstrate their presence.

The objective symptoms may be very few. In many early cases there is no anæmia, although an anæmia may develop in spite of an early diagnosis and treatment. The earliest symptoms are usually disturbances of the gastro-intestinal tract. The tongue becomes slightly coated, the patient complains of a bad taste in his mouth on rising, he loses his appetite, and suffers more than ordinary from constipation. Patients often suffer from peculiar sensations in the stomach. These neuroses seem

to occur most often when the stomach is empty, and may be relieved by taking food. They are frequently referred to as "such a gone feeling in the stomach." Frontal headache is a frequent symptom. It is dull in character. This headache is liable to be complained of most in the earlier part of the day, but it may be almost continuous. Patients who are subject to sick headaches, upon the development of an apex catarrh suffer more severely from their headaches. The attacks are not only more severe, but they occur more frequently. The possibility of a frontal headache being a symptom of an apex catarrh, is a growing conviction on my part. It may be said that this headache is the result of the gastro intestinal disturbance. All this I grant, but the point insisted upon is that the gastro-intestinal catarrh is an associated condition, and that the apex catarrh is not developed as a result of the malassimilation of food. In other words, apex catarrh is the name given to a disease in which all the organs supplied by the pneumogastrics suffer. It could possibly as well be called a condition in which all the mucous membranes suffer. The primary condition at the apices is certainly limited to the mucous membrane of the capillary tubes. The mucous membrane of the digestive tract is also markedly involved. Even the mucous membrane of the genito-urinary tract shows evidences of disturbances in frequent urination and at times traces of albumin.

The most marked symptoms are often those of the gastro intestinal mucous membrane, and yet in the earliest cases even slight changes can be detected at the apices, with slight rise of temperature and slight rapidity of pulse. These early signs may be only a transference of heart-sounds, and yet they are most important, because such cases, if the apex catarrh pursues an unfavorable course, die of tuberculosis of the lungs. If the physician could be assured that a given case would recover, it would make little difference as to the name given to the condition, but the prognosis and treatment certainly are dependent upon an appreciation of all the organs involved. In a certain number of cases there is a marked functional disturbance of the heart, and pain in the cardiac region is a frequent symptom. At other times the patient shows marked signs of liver disturbance, and patients are apt to think they are suffering from a simple biliousness The early signs at the apices are not easy to detect. It takes much study and care to be at all certain. It sometimes takes a number of weeks' observation to arrive at a positive opinion, although, as a rule, one can decide upon first examination.

The gastro intestinal symptoms are plain. The patient has made the diagnosis himself, and will not believe in any other opinion.

The case is treated symptomatically. The great majority do well upon such treatment. Many recover if not treated at all. If the patient fails to improve, and months after coming under observation the chest is examined and catarrh at the apices is found, the condition is explained as being due to the long-continued malassimilation of food. I do not pretend to deny that this explanation might not apply in exceptional cases, and yet I do maintain that the great majority of cases do not arise in this way.

The subjective symptoms are much more severe than the patient's appearance would lead one to think. Patients complain but get little consideration, because they do not look sick. They complain of being so tired. Tney are apt to feel worse every other day. For this reason they are often thought to be cases of malaria. Malaria is almost unknown in Cleveland, and with this statement I leave the discussion as to this possibility.

Patients complain of aching all over the body. They tire easily upon exertion, and complain of oppression in the upper anterior part of the chest. Nervousness is a frequent symptom. Pain under one shoulder blade, or between the scapulæ, is almost certain to occur at some stage of the disease. Pain in the lumbar region is also a marked symptom. Patients suffer more upon damp, cold days, or if they take cold.

The tendency to take cold is striking. While a slight cold may produce little change in the patient's appearance, his suffering is out of all proportion to anything that can be detected. The pulse may not be increased in frequency. The temperature may not rise even one-half of a degree. Other cases when they take cold have a marked rise of temperature and a rapid pulse, and have many symptoms in common with typhoid fever. The differential diagnosis between a case of apex catarrh with an acute exacerbation from cold and typhoid fever, is not an easy matter. It can, however, be decided in most cases within a few days. The patient who takes cold easily and on whom colds make a marked impression, ought always to be subjected to a chest examination, and the whole matter is often thus explained by the detection of a smouldering capillary bronchitis at the apices. Painful spots in the upper anterior portion of the chest are often complained of. Intercostal neuralgia occurs at time in most cases.

One of the earliest symptoms is a morning depression. After 10 A.M., the patients feel better, and they almost always feel best late in the afternoon. While in the well-marked cases the patient suffers much more than his appearance would lead one to think, the early cases often think there is nothing at all the matter, and that they need no medicine. Many a patient who came to me for some local disease of the upper air-passages, and at whose apices I discovered the key to the condition for which he sought advice, and prescribed with reference to this fact, has told me, after taking his medicine for a week or two, that he felt much better than when he first came under observation, although at that time he had reported himself perfectly well. When asked why they had not stated their real condition at first, they invariably say, "I did not know that I was not as well as usual, but I feel so much better now that I must have deceived you as well as myself."

Physical Signs.—Upon inspection: In the early cases nothing may be found upon inspection. In cases that are at all well-marked one can often detect a pallor of the skin, also a localized congestion of the superficial veins. Ordinarily the expansion is normal, as well as the frequency of the respirations. On forced breathing in marked cases one shoulder blade may not move as freely as the other, and depressions in the subclavicular and mammary regions may occur.

Upon percussion: In slight cases there is no change to be detected by percussion, but slight increase in the resistance can often be detected, although there is not consolidation enough to raise the pitch of the percussion-note. A localized tenderness is often complained of during percussion, or the patient may tell you that his chest was painful for some time after the examination. In well-marked cases, the pitch upon percussion is higher than normal.

Upon auscultation: Transference of heart sounds only may be found. If transference of heart-sounds is found, a positive diagnosis can be made although the patient may have no elevation of temperature or rise in the pulse-rate. As a rule, a temperature of 99.5° F. is found in cases in which transference of heart-sounds is detected. The pulse is usually slightly increased in frequency, although the rise of temperature occurs earlier than the disturbance of the pulse. It is also the rule, in cases at all advanced, to find irregular breathing as well as transference of heart sounds. Diminished respiration also occurs. Subcrepitant râles may occur in connection with the foregoing signs; but râles of any kind are rare, unless the patient has taken a fresh cold. In cases of apex catarrh, I have never been able to detect any special changes in the extreme apex—the supra-clavicular region—except at times a slight rise in pitch upon percussion.

Whenever I find persistent fine crepitation, I suspect that the case is one of incipient phthisis. Rough breathing also is a common sign.

Temperature and Pulse.—The temperature is usually slightly elevated, ranging from 99° F. to 100° F. A temperature of 99° F. does not necessarily mean anything, and yet, if it occur in the earlier part of the day and is persistent, it ought to be taken at night. The temperature in the early morning may be subnormal. This is liable to be found in the cases characterized by great depression. Any persistent elevation above 99° F. I consider febrile. A small proportion of cases have a normal temperature and pulse through the whole course of the disease, unless they take cold. The pulse ordinarily is about 90° F. The tension is usually less than normal. Irritability is a noticeable feature. Irregularity is of frequent occurrence. Intermittency is rare, but may occur.

The duration of these cases is something that it is absolutely impossible to prognose. The truth of this statement is the more impressed upon me as a larger number of cases pass under observation. The local lesions spread for a time in spite of treatment. Such a case ordinarily has an implication of both apices before he recovers. An early case may have only the slightest signs at one apex, but almost without exception, the lesion spreads to the other apex, although creosote may have been given as soon as transference of heart-sounds was detected. A fair average of duration is from three to six months. Many cases last for years. Many cases recover sufficiently within a few weeks to stop their medicine.

After taking treatment for a short time the patient feels perfectly well, and in spite of being advised to continue because the local lesion has not closed up, the patient discontinues treatment—in many cases only to find out within a short time that all his old symptoms have returned.

An apex catarrh often occurs in connection with some other disease whose presence so completely explains the patient's condition that the apex catarrh is overlooked. The case may fail to improve because the apices receive no attention, and yet so many cases of chronic disease fail to respond to treatment, that the fact of itself may not cause any suspicion in the attendant's mind.

An apex catarrh often occurs in connection with secondary syphilis. I have seen a number of such cases that had had the wisest possible treatment for the syphilis, but whose sufferings were so much like those of some apex case that I had helped, that they abandoned their doctor and came to me.

With no change in the specific treatment except the addition of creosote or benzoal, I have seen these cases improve promptly after months of suffering. I have often seen cases of an apex catarrh in a patient with organic heart disease. If a patient with a sound heart should develop an apex catarrh—and this is a matter of daily observation—why should not a patient suffer from the same disease who is also suffering from an organic heart lesion?

The greater number occurred in patients with organic heart disease, whose conformation was perfect. Patients with healthy hearts, in whom a catarrh at the apex develops, complain in at least half of the cases of their heart-action. The majority of cases with organic heart disease experience occasionally on exertion a palpitation and irregularity. With the development of an apex catarrh the patient suffers much more from his heart. The physician discovers a murmur upon examining the heart, and the condition so thoroughly explains the course of the patient's sufferings that he is given digitalis and tonics, and then when he fails to improve the reason is hard to explain. If the temperature were taken, the practitioner would be led to see that there was some other condition present. A slight case of apex catarrh in a patient who has organic heart disease with a loud murmur, is often exceeding difficult to diagnose, because the heart-sounds are changed, and in early cases the transference of heart-sounds is the most important physical sign.

Apex catarrh occurs also in connection with chronic disease of the joints, and I have seen many such cases. The surgeon expects to find anæmia, loss of flesh, etc., in connection with hip-joint disease, knee-joint disease, and Pott's disease. He gives cod-liver oil and tonics and treats the local condition, and if the patient does not die of phthisis, he never realizes that there ever existed any disease at the apex. If such a case does die of tuberculosis of the lungs, what shall we say? That the patient developed tuberculosis secondary to the chronic local condition, or that the lesion in the joint and the apex occurred at the same time, due to some unexplained constitutional state; and that one lesion—the joint—ceased to progress, and that the other—the apex—continued to spread, and cost the patient his life? This seems to me to be a fruitful field for investigation. I have seen many cases of enlarged cervical glands that occurred in adults and children in connection with an apex catarrh.

I have also seen an enlargement of the inguinal glands occurring in the same connection, although less frequently. Apex catarrh also often develops in asthmatics and patients suffering from chronic bronchitis and emphysema. They suffer more than ordinary, and present themselves for treatment. They are easily overlooked, because an early apex catarrh or a developing catarrh at the apex is difficult enough to diagnose when no other disease of the chest is present; but in connection with asthma or emphysema, it is sometimes impossible to decide. When in doubt, treat the asthma as you would if you were certain no catarrh at the apex were present, and give the patient creosote. You can make no mistake, for creosote is as good a remedy in chronic bronchitis as any I know, and the best thing for an apex catarrh. A short observation of the temperature will probably enable you to decide; also remember that the apex catarrh, if present, is surely going to spread for a few weeks in spite of any treatment, although the patient's general condition may begin to improve within a few days.

Treatment.—The treatment may be summed up in a few words. Give the patient creosote, guayacol, or benzoal, and treat him otherwise on general principles. In the cases that suffer from marked gastro-intestinal disturbances one certainly obtains better results by giving also pepsine, stomachic tonic, dilute acids, etc. I have often been asked as to the administration of creosote in phthisis. In incipient phthisis I always make a trial of creosote, but in those cases in which tubercle bacilli are found in the sputa, the patient usually fails to respond in a satisfactory way to any treatment. It is in apex catarrh that creosote acts most brilliantly. It is in those catarrhal conditions the most valuable remedy with which I am acquainted, and when benzoal appeared—a pleasant remedy that can be given to children and fastidious patients—the difficulties attendant upon the administration of creosote were largely removed.

For at least five years I have realized the frequent occurrence of apex catarrh in adults. It is only within the last two years, however, that the frequency of the occurrence of this disease in children has been impressed upon me. The reason is not difficult of explanation. For five years I was chief of the throat and chest department of the John Huntington Dispensary. My service was almost entirely limited to patients over fourteen years of age. The chief in charge of the children's department classed and treated every case under fourteen years of age. For this reason my opportunity was almost entirely limited to my private practice. My private practice was never large. I had plenty of office patients, but they were mostly adults. I have only arrived at my knowledge of apex catarrh in children through many a humiliation. I really thought for two or three years that if a patient was less than twelve years of age the occurrence of an apex catarrh was out of the question.

The importance of an examination of the chest in the slight febrile condition of children is what I hope to impress upon the readers of this article. A case or two at this point may be helpful.

Case I.—One year ago last March, a little girl aged

six came to my office complaining of frontal headache. Her pulse was 120. Her temperature was not noted. Her tongue was slightly coated, but there was nothing in her condition that led me to think the case more than an ordinary biliousness. I gave her tonic doses of quinine and one twentieth of a grain of calomel every two hours. In four days she returned. She complained as much as ever. Her pulse was rapid, but I attached little importance to this fact. The quinine was continued. Again she returned with the same story, only to be ordered to continue her quinine. After two weeks of treatment and continued complaint of frontal headache, the possibility of eye-strain suggested itself. I had finished writing a note to an oculist requesting a test of vision, when the possibility of the headache being a symptom of an apex catarrh also suggested itself. Her temperature was now taken. It was 100° F. Her pulse was 108.

Her chest examination revealed a slight catarrh at the right apex. The quinine was discontinued, and single-drop doses of creosote every two hours were given instead. Her headache disappeared within a few days and did not return. She continued her creosote for a few weeks and entirely recovered.

Case II.—In December, 1892, I was called to see a little girl aged eight. She had a follicular tonsillitis and a slight inflammation of the mucous membrane of the large bronchial tubes. There seemed to be nothing unusual in the case, and I looked for a speedy recovery. She had had bronchitis affecting the larger bronchi every winter all her life. The bronchial inflammation seemed to be simply an exacerbation of her old trouble. She improved slightly, but her pulse continued rapid and the temperature failed to decrease as I expected. I sought an explanation. I re-examined the chest, but failed to pay proper attention to the apices, and discovered nothing new.

The possibility of a malarial element suggested the administration of quinine, and moderate doses were given. She did not improve at all. The quinine was increased to an equivalent of thirty grains daily for an adult, and continued for four days. There was no change for the better. Her chest was again examined, and this time the apices received proper attention. At the left apex transference of heart-sounds was detected, also an exaggeration of the normal rough breathing found in childhood. She was given one-half-drop dose of creosote every two hours, and within two days her improvement was marked. After continuing this treatment for a few weeks she recovered.

Case III.—In January, 1893, I was called to see a boy aged eight, who seemed to have a slight catarrhal laryngitis only. Tincture of aconite and small doses of morphine, with alternate doses of calomel, were prescribed. He was subject to such colds, and as I had seen him before in such an attack I considered the case of little gravity. After five days his mother brought him to my office. His temperature was 100° F., and his pulse was slightly accelerated. No special importance was attached to the rise of temperature, but he was given two grains of quinine four times a day. After one week his mother brought him back and said he had a poor appetite, was very much depressed mornings, and complained of feeling tired. His chest was examined after finding his temperature slightly elevated and pulse more rapid than normal. His right apex was suspicious, but the signs were not well marked enough to enable me to give a positive opinion. Small doses of creosote were given and the quinine was discontinued. He rapidly improved under the change. After one week the continuance of the treatment was advised, but he stopped his medicine after he had taken it two weeks. For a month he disappeared. Then his mother brought him back again. His temperature was 102° F. and his pulse was 120. The catarrh at his right apex was now well marked. He was put back upon his creosote. For a week his temperature remained about 102° F. at night, and his pulse continued rapid. His improvement this time was much slower than six weeks before. After a week he began to improve. He now continued his treatment more nearly as I advised, and after a few weeks his recovery was complete.

Etiology.—I know nothing as to the causation of this disease in children. Station in life seems to have little influence. Season of year also seems to have nothing to do with its occurrence. Parents, almost without exception, attribute the child's condition as being due to an acute cold: whether the catarrhal condition at the apex owes its origin to the acute cold, or whether a catarrhal condition at the apex existed before the onset of the acute cold, I cannot say. The symptoms in children differ so much from those in an adult, that it is impossible to fix a definite limit to the onset of the disease.

The symptoms in children are very much less marked than in adults. They either suffer much less or are observed much less closely. The objective symptoms in a child with apex catarrh may be almost altogether wanting. There is usually no anæmia. The gastro-intestinal disturbance so marked in adults, usually only shows itself in a slightly coated tongue, and no complaint of stomach is made. I have never observed any irritation of the genito-urinary mucous membrane in a child. If a child suffering from an apex catarrh has no pharyngitis or laryngitis, no sputa can be obtained. Consequently I have made no microscopical examination of the sputa in these cases. The subjective symptoms are more marked in children than in adults. Frontal headache is common. Often the parents notice that the child is restless and does not play as much as usual. A small proportion of cases are pale and depressed in the mornings. They do not seem to suffer more one day than another. The appetite is usually slightly impaired. The chest examination reveals on inspection usually nothing. Congestion of the superficial veins may be observed, in well marked cases slight flattening.

On percussion nothing is detected, neither localized tenderness nor elevation in pitch.

On auscultation, transference of heart-sounds is the earliest sign as well as the latest. Often we can detect only transference of heart-sounds. In well-marked cases an exaggeration of the normal rough breathing in children, as well as cog-wheeled breathing, occur. Auscultation is ordinarily the only method of any value in the diagnosis of apex catarrh in children. In slight cases it is extremely difficult to decide, and I believe it only possible after long training. I see many cases in which a positive opinion cannot be given.

The observation of the temperature is much more important in children than in adults. The temperature in adults with an apex catarrh may be normal even at night. I have not observed this in children. If it be possible, such a case has not as yet appeared. If the temperature is normal I consider a chest examination unnecessary. If there is a slight rise of temperature the chest ought always to be examined, for I do not know how an apex catarrh in a child can be otherwise diagnosticated from an ordinary bilious attack. The pulse also is always rapid in children. The course of the disease is much shorter than is the rule in adults. A case that feels the need of continuing treatment more than six weeks is the exception. Parents almost uniformly insist upon knowing whether the child needs to continue its treatment more than a week longer after the child feels as well as ever.

Cases of apex catarrh in children always recover in my experience; why they should invariably recover I cannot say. A small proportion of such conditions in adults do not recover. I have yet, however, to see a case in a child that became a tuberculosis.

The treatment is the same as for an apex catarrh in an adult. As a rule, however, one needs to give little attention to the gastro-intestinal tract. Children respond to treatment more promptly than adults. If children will take creosote they seem to do as well as they do when benzoal is given. Benzoal is a pleasant remedy.

In this respect only it has seemed to me to be superior to creosote. I have not found that the other superior qualities claimed for benzoal have been realized. Small doses of creosote or benzoal are all that is necessary. One or two drops of creosote four times a day is enough for children under ten years of age. Benzoal need not often be given in larger doses than one or two grains four times a day. I sometimes give one grain of benzoal every two hours if the case seems at all urgent. While I believe some form of beechwood creosote to be the best remedy in apex catarrh in children, I realize the fact that they do well on other remedies. I do not know but that the local lesion recovers as soon when general tonics are given, but I do know that the subjective symptoms are much more promptly relieved if creosote is given. It certainly is a satisfaction to be able to say that "this child will be better within four days, and probably you will notice a change within twenty-four hours." If creosote is the remedy you can make such a statement and not run any risk. If some other tonic is given I would not know what to promise as to any immediate effect.

323 Hickox Building.

OPERATION FOR THE CORRECTION OF DEFORMITY OF THE WRIST CAUSED BY SHORTENING OF THE RADIUS AFTER FRACTURE.

By E. S. GOODHUE, M.D.,

RIVERSIDE, CAL.

April 28, 1892, Mrs. M——, aged forty-three, American, housewife, of good family history, consulted Dr. C. J. Gill for ununited fracture of the right radius at junction of the upper with the middle third—ancient, four months.

The arm presented the usual deformity of a closed, uncomplicated fracture of the radius above the insertion of the pronator teres muscle, with shortening, preternatural mobility, deviation of the hand toward the radial side, and showing marked displacement of the upper end of the lower fragment toward the ulna. Crepitus distinct, with power of pronation and supination gone. An attempt was made at once by Dr. Gill to convert the ancient fracture into a recent one by more or less forcible bending and rotation, so that the newly freshened ends might be brought into apposition and result in consolidation, after which the arm was placed in straight wooden splints and treated as a recent fracture. This was followed by the usual hygienic measures. But the bones would not unite, and after repeated attempts to encourage consolidation it was decided to do a more radical operation.

Accordingly, on August 30, 1892, Dr. Gill operated, making an open fracture, Dr. Rutherford and myself assisting, and in a longitudinal incision cut down to the separated extremities, which were turned out and sawed off. A small fragment of bone, which resembled a part of a comminution, was removed from the end, but only enough was taken away to secure a broad, fresh surface, without destroying too much periosteum. The bones were found somewhat diminished in calibre at their broken ends, presenting a "whittled-off" appearance, as the result of absorption; the lower end of the upper fragment being to the ulnar side. After resection of the bones they were brought into perfect apposition and fastened together by silver wire, the ends of the wire extending beyond the external wound; the forearm was then put up in straight wooden splints, such as are usually employed for fracture of the radius below the insertion of the round pronator

In three weeks more absolute bony union had not taken place, and slight crepitus was discernible. The flesh wound had healed by first intention, excepting at the point irritated by contact with the wire. On the removal of this irritant, and after slight manipulation of the fragments, the splints were removed. Union was finally secured, but at the expense of a perfect arm. There was a pronated inclination of the wrist toward the radial side, with shortening there, and a decided increase in the circumference of the wrist, the lower end of the ulna reaching three-quarters of an inch beyond the radius, its styloid process lying upon and beyond the cuneiform bone. The inter-articular fibro cartilage was evidently stretched, and considerable pain and soreness were referred by the patient to the wrist, but she felt none at the seat of fracture. The angular deformity which resulted was exceedingly ungainly, and at the same time interfered with the usefulness of the arm. The accompanying illustration, taken from a photograph, is a correct representation of the arm as it was a day before the second operation, done July 6, 1893.



October 20, 1892, the straight splints were taken off, and a right-angled wooden splint fitted so as to thoroughly immobilize the arm, and, if possible, remedy the defect of deviation, but without success.

Dr. Gill now decided upon performing a radical operation to correct the defect if possible—an operation no less than the removal of a portion of the ulna. Without precedent to go by, the doctor still believed that by this means the wrist could be straightened and the protuberance removed. Records of cases were looked into, and orthopedic annals scanned, but no similar operation was found described in any of the works consulted. Dr. S. C. Lane, of San Francisco, who was written to concerning the proposed operation, answered as follows: "In your patient the attempt to shorten the ulna would be a justifiable procedure, and probably bring some improvement. Your case verifies what every surgeon learns to his regret, that a Colles's (?) fracture in a woman who has passed the meridian of life is a troublesome matter,

and do what one can, the result is never very satisfactory."

On Thursday, July 6, 1893, Dr. Gill cut down upon the ulna at about the junction of the middle with the lower third, just above the attachment of the pronator quadratus, removing five-eighths of an inch of bone, bringing the ends into perfect apposition and closing the external wound. As soon as the fragment of bone was sawed off the angularity of the wrist became less apparent, and the bulging styloid process gradually took its accustomed place, making, after the lapse of a few days, a normal-looking wrist.

A pistol shaped wooden splint was then carefully adjusted, the forced deviation being to the ulnar side, in



order to keep the two ends of the newly separated bone in apposition, and to correct the old deviation toward the radial side. Union was rather slow, although the wound healed by first intention, and after six weeks of rest some crepitus could still be detected. The arm was now put up in a silicate of sodium splint, where it remained until within the last few weeks. At present writing union seems perfect. The arm is three-quarters of an inch shorter than the other, presents a normal appearance, and can be freely used. The hand is pronated or supinated at will, and has an amount of lateral motion, while the deformity of the wrist is absolutely corrected. There is no pain or soreness. A photograph of the arm was taken October 7th, and shows the arm as it is to day, three months after the operation.

The cause of the delayed union of the radius and ulna is not so easily explained, as the patient was not old nor in poor health at the time of the operations. After resection of the radius union may have been delayed by the wire, which kept an open wound. When the wire was removed, union came about. In such a case it is a question whether chromicized catgut would not have been better than the wire. In the delayed union of the ulna it may be that the strict antisepsis secured during the operation prevented the necessary amount of irritation and so defeated union, which finally occurred after repeated manipulation.

To the pluck and indomitable will and perseverance of the patient is due, in a great measure, the ultimate success of the operation, for the results are eminently satisfactory, and the patient is living to testify with enthusiasm as to the success and practicability of this new operative procedure.

THE REVIVAL OF SYMPHYSEOTOMY.

By CHARLES WILLIAM STROBELL, M.D.,

RUTLAND, VT.

It would seem that we have at last means to abolish the horrible operation of embryotomy—at least in the vast majority of cases. I say "at last" advisedly, since it is not a new operation, but one proposed and performed by Jean de la Courvée in 1644, then allowed to lapse into oblivion until 1768, when it was resurrected by Sigualt, in France, but not actually performed by him until 1777, when, after a short season of doubtful success, the operation was again abandoned, on account of the fatality attending it, which fatality we now know to have been due to ignorance of the laws of asepsis in surgery.

The revival of symphyseotomy (or pubiotomy, as it is perhaps more properly termed) by Morrisani, of Naples, in 1866, in the land of its birth, was the natural outcome of the aseptic theory, for these worthy descendants of men illustrious in the annals of Italian medicine were not slow to perceive that asepsis lay at the root of all failures charged to the operation in 1644 and 1777, causing its discontinuance. They boldly acted upon that conviction, with what magnificent results we are all perfectly familiar. Operators of other countries were prompt to follow in the wake of such success, until now reports of cases awaken but slight interest, as it is almost a foregone conclusion that the case recovers, and that the "mother and child are doing well." We are, consequently, more interested, when about to read such reports, to learn about the union of the symphyses, than to learn whether the lives were saved.

The knowledge of the revival of symphyseotomy, and its brilliant results, was imparted to the profession in America in 1892, by Dr. Harris, of Philadelphia, who had collected reports of forty-four cases, all by foreign operators, with only one recorded maternal fatality, and three children. Our American surgeons were not slow to follow such a lead, with results fully equal to those of their foreign confrères.

In a community such as ours, there occasionally occurs a case in which the ghastly operation of embryotomy stares us in the face, on account of a justo minor, or a simply flattened pelvis, whose diameters are such as to render it impossible to extract a living child; the usual alternative, Cæsarean section, being, as usual, declined, which is in perfect accord with the law of self-preservation. It is in these cases, and in those of abnormal cranial development, sure to lead to fatal fœtal compression, that symphyseotomy steps in, and, without materially increasing the risk to the mother, rescues the child from a needless death.

Symphyseotomy is not a panacea for all abnormal conditions of the puerperal pelvis. It has its peculiar sphere, as have also embryotomy, Cæsarean section, pubio-ischiotomy, Porro's operation, and their various modifications, and cannot in every instance take the place of any one of them. Its range of utility is rapidly being determined, and its technique perfected. It is said to be a simple operation in the hands of skilful operators.

In the determination of the indication for symphyseotomy, after exclusion of such manifestly inoperable

cases as cancer of the cervix, fibroid tumors, rigidity of the os uteri, anchylosis of one or both sacro-iliac synchondroses, and that form of pelvic deformity wherein the symphyses and rami of the pubes are unusually deep and thick, or in the Negéle or the Roberts pelvis; pelvimetry is an absolute necessity, except in those very rare cases where the general deformity is sufficiently obvious. Manual pelvimetry alone will not do; the examining finger should give the warning; the pelvimeter must solve the problem.

We come now to the consideration of the limits, maximum and minimum, of the diameters of pelves requiring pubiotomy.

We find that there is some diversity of agreement among those whose experience, though as yet so limited, we must look to for light on this point. I said "diversity of agreement"—it certainly is a fact that thus far, among American operators at least, I have found four observers advocating different minimum conjugatæ veræ. Murray, of New York, two and three-eighths inches; Jewett, of Brooklyn, two and one-half inches; Edgar, of New York, two and five eighths inches; Stanton, of New York, two and three quarter inches. The variation in question being three-eighths of an inch. Concerning the maximum, this may be even from three and one-half to four inches, if craniotomy had to be performed on all the patients' previous labors, indicating some peculiar deformity. But these again are the exceptional cases.

Dr. Jewett, in the medical and surgical reports for April, says on this point: "Two and one-half inches conjugatæ veræ is the limit. The maximum will, no doubt, in the future encroach to some extent upon the present field of forceps and version." The pelvimeter of Baudelocque, which is perhaps representative of its class, will give approximately the antero-posterior or conjugate diameter. By placing one point of the instrument over the lumbo-sacral articulation, opposite the sacral promontory, the other resting on the anterior middle portion of the pubes, the reading will indicate the approximate conjugatæ diameter. The transverse being obtained by placing the points of the pelvimeter upon the anterior superior spinous processes of the ilia, which measure nine and a half inches, while between the widest parts of the iliac crests the result should be ten and a half inches. Of course there is quite a variety of pelvimeters, but we will not consume time with a description of them. Of manual methods, Ramsbotham's method is the simplest and best.

This much for pelvimetry. Now, as regards the determination of the diameters of the fœtal crania, which is considered of such great importance, as it certainly is, Murray says, on this point, in the *American Journal of Obstetrics*: "The determination of the size of the child's head is important as a factor of all elective obstetrical operations if a living child is to be obtained." I agree with Dr. Murray as to the advisability of such a determination, but have grave doubts as to its universal applicability. It is of the greater moment, in my judgment, to ascertain the degree of mobility of the cranial bones, which, cartilage-like, in the majority of cases, adapt themselves wonderfully at times, during the moulding process, to contracted conditions, even in some cases overlapping. Of course, if the head is large and cranial ossification well advanced, we need not expect much from this source. I consider the determination of the cranial diameters, in utero, impracticable with our present means of obtaining them. It is well to bear in mind the rule laid down by one author, whose name has escaped me, which is as follows: "Cranial ossification of the fœtus, and the compressibility of the head, diminishes progressively with the age of the mother. This fact should be given due weight in the solution of all obstetrical problems."

So much for the indications, and their determination. Now let us examine into the effects of the division of the symphyses, as regards gain of space. I will have to quote authors who have made this a study, both upon the living and upon the cadaver. The one important point noted in this connection is, that the amount of space gained, or, the diameter after symphyseotomy, is greater in practice than one would expect from theoretical considerations, or, from experiments upon the cadaver. Herzel, of Dresden, whom I quote at some length, in an article in the May number of the *Journal of Obstetrics*, says: "Under the influence of pregnancy, the pelvic joints partake of the general development of the generative organs. Their ligaments and cartilages become swollen and softened, and the synovial membrane, existing between the articulating surfaces, is greatly augmented in size."

"In conformity with Morrisani's writings are the results of an investigation of 25 pelves; in brief as follows: In 13 of these, laceration of the sacro-iliac ligaments resulted, when the distance between the pubic bones amounted to 6 ctm. (*i.e.*, two and one-fifth inches), or less. Ten of these pelves were from women above sixty years of age. They were all much emaciated, and suffered from chronic disease. In a second group of cases the sacro-iliac joints separated between 6 to 8 ctm. (*i.e.*, two and one-half to three inches). These bodies were from younger and better nourished individuals. And in 4 puerperal pelves, the articulation could be separated from 8 to 9 ctm. (*i.e.*, three to three and two-fifths inches), before a luxation of the sacro-iliac synchondroses was observed. But even the experiments upon puerperal pelves give no proper conception of the ease with which the pubic bones separate in the actual operation upon the living woman. If we divide the symphyses in the corpse, the bones separate about 1 ctm., while in the living woman a spontaneous separation of about 3 ctm. takes place. To obtain a greater separation than 1 ctm. requires, in the dead woman, a certain degree of force, but in the living woman counter-pressure upon the trochanters is necessary to prevent too great a separation of the bones."

Decidedly interesting is the examination of 60 female pelves, as regards the exact location of the symphyses. In only 8 cases was the joint in exactly the median line. In 40 it was to the left, in 12 to the right, of a line drawn through the centre of the promontory. It matters little which diameter is at fault, whether transverse or other deformities, the pelvic diameter increases in all directions about two inches, but varies with the age of the patient.

According to the conclusions of Boucicourt also, the dimensions of the pelvis are increased by simply cutting through the symphysis. He further says, "When the legs are adducted, yet without forcing the crests of the iliac bones apart, and without any incisions having been made in the connective tissue, the aponeuroses, or the surrounding ligament, the distance between the ossa pubes can, without any tearing of the soft parts, or any dislocation of the sacro-iliac articulation, be increased to 4 ctm. (one and three-fifths to two inches) up to 5, yea even up to 8 ctm. (two and two-fifths, three, three and one-fifth inches), according to some obstetricians, especially if the operation was made immediately after death, and on a young and weak person."

It is plain, therefore, that experiments upon the pelves of women who have died either shortly before or after labor, alone can give a correct estimate, as to how much room there may be gained by this operation. As to the amount of room gained by symphyseotomy, it is the general verdict that all diameters are enlarged about two inches. Separation of 1 ctm. (two-fifths of an inch) increases the conjugate diameter one-twelfth of an inch. Pubic bones can safely be separated three inches, which implies that we can elongate conjugate of brim three-fourths of an inch, or one-fourth of an inch enlargement of conjugate of brim to every one inch of separation.

The proper time to perform the operation is at the end of the first stage, when the os is fully dilated, after which, unless contra-indicated, the woman may be left to nature.

In preparing to perform symphyseotomy, it should be borne in mind that the interarticular cartilage is not always in the median line, and that exostosis, or anchylosis, from inflammatory processes, may exist, necessitating the employment of the chain-saw, which should be always at hand. The use of the saw in pubiotomy has thus far had a somewhat bad record, otherwise it would be the safest of instruments for the division of the joint, since it insures greater safety to soft parts. Also, though not a bloody operation, still the rule should be to have at hand a supply of hæmostatic forceps. The most vascular tissue to be divided is the subpubic ligament. A good, strong, blunt-pointed bistoury, with stiff handle, is, in my judgment, the instrument to be chosen, rather than the Galbiati falcetta, or the new Harris knife, which is constructed on much the same plan.

The manner of cutting also deserves a word, *i.e.*, whether it is best to cut from above downward or from below upward.

Herzel, in his Dresden clinic, prefers the former method for the purpose of preserving the ligamentum arcuatum, which it is deemed desirable to preserve intact. He finds that the amount of separation is one inch without the division of the ligament, which is increased to two inches when it is divided.

The desirability of cutting from below upward (if it is desired to make a complete section) is in the fact that it is better protection against injury to the urethra and vessels. Division of the symphysis is painless, and repair speedy; from two to four weeks the rule.

Rules for Operating.—1. The operation should always be done under an anæsthetic and in the lithotomy position.

2. The woman must be free from infection.

3. The pelvis must not be anchylosed, or have an extreme oblique contraction.

4. The fœtal heart-sounds must be good.

5. Desirable conditions are that the woman be a multipara, and that the tissues are sufficiently prepared.

The technique of the operation is as follows, still quoting from Wehle:

1. Emptying of the bladder; thorough disinfection of the abdominal walls, and the external and internal genitals.

2. The operator stands between the extended legs, which are supported by one assistant on either side. These assistants place one hand under the knee, and with the other hand make counter-pressure against the sides of the pelvis.

3. Incision down to the symphysis.

4. Division of the muscularis pyramidalis, and detachment from the symphysis of the prevesical tissues.

5. The index-finger is placed behind the joint, which is then divided with a curved probe-pointed bistoury, from above and behind, to below forward. In looking for the symphysis, it should be remembered that its situation, in the median line, is the exception. The ligamentum arcuatum should, if possible, not be divided.

6. The fœtal head is pressed into the pelvis, and delivery accomplished. While the head passes through the pelvis, the legs should be extended, and the assistants should make counter-pressure against the trochanters.

7. Arrest of hemorrhage.

8. Suturing of the wound by three or four strong silk ligatures. The sutures should be passed through the skin, and made to include the anterior surface of the symphysis.

9. The pelvis is immobilized by a strong canvas belt buckled in front. The use of silver wire in suturing the symphysis together, to insure union, as recently advocated, seems to me, in view of the almost invariable and speedy union without it, to be superfluous, except in cases, perhaps, where the saw has been used in anchylosis or similar conditions. Here the condition is similar to a compound fracture, and silver-wire sutures might be desirable.

Pain in the knee, when obscure, should suggest examination of the hip.

PHARYNGO-MYCOSIS.

By HOMER M. THOMAS, A.M., M.D.,

CHICAGO, ILL.

The term pharyngo-mycosis signifies a fungoid condition of the pharynx. It is a parasitic affection of the mucous membrane of the mouth, and manifests itself in white patches of varying sizes. These are found to contain epithelial cells and parasitic forms of a vegetable nature, the distinctive ones being called leptothrix threads. The tonsillar crypts of healthy persons are sometimes more or less plugged by these vegetable masses, but it is only when the plugs are large enough to project slightly over the surface that they come under observation. Mycosis leptothrix occurs in two forms, diffused and circumscribed. In the diffuse form the entire tongue is coated with a shiny, milk-white mass, which is frequently of sufficient density to obscure from view the villiform papillæ. Movement of the tongue and sense of taste are not lost, and there is no interference with the general health. In the circumscribed form white, glistening points appear, resembling those seen in follicular tonsillitis, except that the mucous membrane about them preserves its normal pink hue. The tonsils, pharyngeal walls, and base of the tongue are apt to be invaded. White or yellowish-gray spots, usually hard, are arranged in groups or singly, and form little excrescences on the normal mucous membrane. They adhere firmly to the surrounding parts, and reappear if removed by forceps. The leptothrix buccalis is found in carious teeth, and in the accumulations known as tartar; a microscopical examination of the secretions of the mouth will almost always find them. You should look for these collections in the lymphatic tissue at the base of the tongue, in the faucial tonsils, and in the adenoid tissue of the vault of the pharynx.

Some of these white spots resemble a mushroom in shape, others are like pointed cones. The mass seems to be in layers, the outer one being easily smoothed off, while there is a deeper and harder substratum in the shape of little plaques. These little excrescences have their attachments on the surface and in the openings and depressions of the tonsils, or on the palatine arch, often on the posterior pharyngeal wall, the side of the pharyngeal wall being sometimes involved. When occurring on the tongue, they have their attachments in the region of the large papillæ. Sometimes this mass is cheesy and easily removed; sometimes tough and stringy, running deep into the follicles, being very tenacious and difficult to remove. Dr. Fraenkel, of Berlin, first pointed out, in 1873, an abundance of leptothrix threads in these products, and since then this has been noted by many observers.

However numerous these small, white projections may be, each spot is isolated and they never form a continuous mass. After the tonsil the glandular subtissue at the base of the tongue is most frequently affected; and the growth here may be extensive, the masses attaining the size of a pea. In some cases mycosis involves all parts of the pharynx.

Pathology.—The gross appearance of the lesion is that of discrete white spots, which may be connected here and there by scanty threadlike filaments. The mucous membrane covering the tonsil is the part most frequently invaded. In so-called fetid bronchitis the leptothrix threads have been found in the tracheal mucous membrane, in the characteristic fungoid plugs; they have also been found in the sputa of pulmonary gangrene. In fourteen cases reported by Heyring, the affection was confined to the tonsils in seven, in the remainder the base of the tongue was also affected. Six were men and eight were women. The ages varied from twelve to sixty-two, the preponderance being between twenty-eight and thirty-five.

The characteristic feature of the circumscribed form is, that although it quickly redevelops, often in twenty-four hours, in the same spot from which it has been re-

moved by instrumentation, its extension to other points is comparatively slow; that is, new foci of the disease develop sluggishly, but when once established their tenacity of life is very great and radical methods are required to destroy them.

From diphtheria this disease may be differentiated by the persistent discrete arrangement of the exudate; the general absence of surrounding inflammation, and the masses being much harder than pseudo membrane. The tongue may also be involved, which is rarely the case in diphtheria. The absence of the Klebs-Loeffler bacillus would be convincing. Mycosis of the pharynx may be confounded with cheesy masses in the crypts of the tonsil and follicular disease of the throat, but the ease with which the cheesy masses may be expressed from the crypts of the tonsil is in striking contrast to the fixation of the mycotic masses. The constant presence of inflammation in follicular disease, and an entire absence of inflammation in mycosis are distinctive of the two diseases. The exudation of follicular tonsillitis is a yellowish-white; it frequently becomes confluent, and upon the application of the salt of iron it is readily disintegrated and may be largely removed.

Microscopical Appearance.—Microscopical examination shows a general mass of epithelial cells surrounded by an irregular collection of fungoid spores arranged in linklike processes, their ends being rounded or club-shaped. They vary in length and some curl up at the ends into hairlike filaments, others are like rods, colorless, with sharp dark borders, the centres seeming to be full of granular matter. Besides these spores there are round or oval highly reproductive bodies, with dark borders, arranged in colonies or placed separately between the branch spores. Staining with methyl blue brings out colored and uncolored portions on the stem spores. Jacobson succeeded in making a pure culture of these organisms. Leptothrix has the peculiarity of dissolving the chalk deposits of the salivary ducts and glands. Miller describes the microscopical appearance as a dirty yellowish deposit, varying in size from the head of a pin to a pea, consisting of numerous bacterial forms and extending deep into the lacunæ of the tonsil.

Etiology.—The etiology of pharyngo-mycosis is very uncertain. Mouth-breathing has been suggested as the cause. Tonsillar hypertrophy is a predisposing cause. It has been noticed as a sequel to rheumatic amygdalitis. Some observers have mentioned damp localities as favorable to the growth of this fungus. Catarrhal inflammation is a predisposing cause. It is more frequent in females than in males. Tobacco-smoking is thought by some to have a preventive action. The resemblance of the bacilli to several forms found in water, especially the water from marshes, has suggested the possibility of such a source of infection. In several instances it has been observed to follow or excite affections of the pharynx. It occurs most frequently in women and children who suffer from enlarged tonsils and are disposed to chronic pharyngitis. Some writers claim that a condition of malnutrition, with an impaired state of health, may be considered as a provoking cause; others claim a positive relation between disturbances of digestion and mycosis. W. C. Glasgow believes that some peculiar condition of the mucous membrane is a necessary factor in the development of mycosis, and that it only exists when the membrane presents a soil which favors its growth and development. The disease is not directly transmissible, and is not contagious.

Symptoms.—The subjective symptoms of pharyngo-mycosis are variable; sometimes there exists a sensation of tickling and dryness in the throat, confined to the pharynx. Again, there may be a feeling as if the throat had a band drawn around it giving rise to a slight choking or feeling of pressure; slight pain on swallowing, the feeling of the presence of a foreign body, attended with an irritation which causes a desire to clear the throat and to cough. In some cases these symptoms are greatly exaggerated, with depression, considerable fever, and loss of appetite. The disease may exist without any symptoms being apparent to the patient, if not a vocalist. Mycosis in the throat of a vocalist produces great dryness and irritability of the fauces after a short vocal use of the throat. The voice is rather lowered in tone and inclined to be husky.

The objective symptoms are spots upon the pharyngeal wall, and often the circumvallate papillæ of the tongue are invaded. The color of the spots may be white, cream-colored, or yellow.

Treatment.—Dr. Kitchen has suggested hyposulphate of sodium as a means of treatment, especially if allowed to soak in well and applied repeatedly with a swab. Peroxide of hydrogen has also been recommended. Semon claims to have cured a case with chlorate of potash gargle and troches of tannic acid; Seiffert, with iodine and a gargle of borax, but doubt has been expressed as to the correctness of the diagnosis. Alum and sulphur have been found useless; silver nitrate resulted well in two cases that were especially tolerant to its use, but a relapse occurred later. Jacobson recommends a bichloride gargle, 1 to 2,000. Toeplitz found ferric acid useless, and others have had a similar experience with other iron salts. Carbolic acid has produced negative results. All of these agents have proved unreliable, and nearly all of them useless; fused chromic acid has given better results. At best superficial applications like gargles can only affect the top of the growth, while its base remains firmly bedded in the tonsillar crypt, and the forcible rubbing on of solutions may abraid the epithelium and so permit the spread of the disease. Glasgon advocates the destruction of the organism with the cautery, or forcible extraction with the forceps where the growth has assumed a horny, threadlike character. In some cases he advises scraping of the spots with a sharp curette and applying trichloracetic or chromic acid freely to the surface. He has found the application of boracic acid in saturated solution of value in preventing the spread of the disease. The treatment is always tedious, with a tendency to return until all evidences of the disease have been eradicated. The most successful and certain treatment is the use of the thermo- or galvano-cautery. The bacillus frequently penetrates the tissues to the depth of one or two millimetres, hence the cauterization must be deep in order to destroy the germ. The bacillus thrives best in an acid medium. If the negative pole is used for cauterization, with a large positive electrode, there is a deeper action upon the tonsil and the growth is surrounded by alkaline fluids. The point of the galvano-cautery should be thrust into the root of the growth.

I am under obligations to Dr. F. D. Owsley, of this city, for translations from the German of Schech. I am also indebted to the writings of Drs. Fraenkel, Rice, Vanderpoel, Newcomb, Hemenway, Glasgon, and others.

The following case of pharyngo mycosis was kindly referred to me by Dr. Fraenkel, of Berlin:

The history of the case as given by the patient, Mrs. C. B——, is, that during August, 1892, she suffered from a slight irritation of the pharynx. There were white spots on the tonsils, which disappeared after a few days but returned within a couple of weeks. The physicians consulted called the trouble a mushroom growth and said it would require two or three treatments a week for some three months to effect a cure. The treatment consisted of a forcible removal of the exudate by means of forceps. This method of treatment was attended with severe pain and proved unsatisfactory. The patient, becoming discouraged, consulted Dr. Fraenkel, of the Berlin University, in November. At that time he found spots covering the tonsils and extending to the root of the tongue. His treatment consisted of swabbing the throat two or three times a week with a five per cent. solution of carbolic acid, and he recommended that the throat be gargled two or three times a day with pure brandy. Under this treatment the throat seemed to grow somewhat better, but still the disease was not wholly eradicated.

Having been called to this city, Mrs. B—— came un-

der my care January 4, 1893, at which time the pharyngo-mycotic deposit was very extensive upon the posterior pillars of the fauces and invaded the root of the tongue, almost completely covering it, and there were extensive deposits upon the tonsillar substance.

After having confirmed the diagnosis as made by Dr. Fraenkel, through microscopic examination of the deposit, I advised treatment, to consist of thorough applications of the galvano-cautery. The electrode selected was one made for me in Vienna, and consisted of a very fine elongated platinum point, which enabled me to introduce it directly into each one of the crypts of the tonsil affected by the disease, and also to eradicate the punctated growths at the base of the tongue. At first only three or four punctures were made at each treatment, the treatments occurring three times a week. As the patient grew more tolerant of the irritation following the use of the galvano cautery the number of punctures per treatment were increased, until I frequently applied the cautery to eight or ten of the mycotic masses at each treatment. The effect secured has been satisfactory to the extent that the disease has not reappeared in any of the foci cauterized.

My experience in these cases leads me to believe that the galvano cautery treatment for pharyngo-mycosis is the most nearly a specific in the management of this disease of anything we have.

Marshall Field Building.

Clinical Department.

ATROPIA-POISONING FROM EATING TURKEY.

By H. H. SEELYE, M.D.,

Amherst, Mass.

I had what I believe to be a unique experience in the poisoning line last week. In a young ladies' boarding-school in this place fifteen people sat down to their Thanksgiving dinner. When they had been at the table about three quarters of an hour they all began to notice an uncomfortable dryness of the throat, mouth, and lips. Then some noticed a sense of dizziness which was more marked when they left the table and attempted to walk. Vision was so affected in two or three that they were unable to read ordinary print, the lines being blurred. These proved to be girls with a high degree of hypermetropia, in whom accommodation was paralyzed. This led them to look into one another's eyes, and they noticed that, in all, the pupils were markedly dilated. A few had flushed faces and some headache.

I was summoned to visit them about four hours after they had finished eating. Their experiences at the table had not prevented their eating the usual large-sized Thanksgiving dinner. The symptoms described above still persisted, the dryness of the throat and dilated pupils being universal. On inquiry I found that turkey, of which there were two, and water were the only articles on the table of which all had partaken. Some had eaten no dressing and some no gravy. I examined and drank some of the water, which appeared perfectly natural. This led to suspicions of the turkey, and I asked for some pieces to take home to examine. These I received and departed.

That same evening I cut off about an ounce of brown meat, an ounce of the breast, and a small piece of the skin and made a hash of them, which I steeped in a little warm water for about an hour. Then I filtered off some of the liquid and placed a drop in my left eye. I added other drops at intervals of a few minutes. In half an hour I noticed a slight enlargement of the left pupil, and in an hour it was dilated to double the size of the right one. The difference was slight on looking at a bright light, but very marked when directing the eyes toward a dark object. This dilatation continued till midnight, when I retired. On examining my eyes in the morning, I found both pupils alike. When I called that forenoon at the school to report the result, I found most of the dryness of the throats gone and the pupils of natural size, but one or two could not see to read clearly yet.

How to account for the peculiar effects of eating those two turkeys is a puzzle. The butcher who supplied them was not sure whether they were raised in Michigan, Vermont, or Massachusetts. Other turkeys probably came from the same place, but I have not heard of any similar effects being produced anywhere in town. No atropia or other suspicious material had been lying about the kitchen or used by the cook. It seems most probable that the turkeys had fed on some of the leaves or seeds of some plant of the mydriatic group growing on the farm where they were raised. It is a proven fact that birds are not at all affected by atropia in doses that would severely poison other animals. Though the proof is unsatisfactory, it seems that the flesh of these turkeys must have become impregnated with either belladonna, stramonium, or hyoscyamus ingested with their food, in such quantities as to produce physiological effects in thirty or forty people, if they had eaten all of the flesh of these birds. What was left of the turkeys was burned.

A BIFID UTERUS WITH TWINS.

By E. H. SMITH, M.D.,

Santa Clara, Cal.

On the morning of August 24, 1893, I was called to see Mrs. A. T. H——, then in labor. On my way to the house I was told by Mr. H——, "We expect twins at our house, and I will tell you why! My wife's stomach is unusually large. Besides that, she has suffered such awful inconvenience while carrying this child, or these children. She can do nothing at all!" At 10 A.M. I arrived at the house. Upon examination I found the os about two-thirds dilated, the vertex presenting. Turning my attention to the abdomen I found it very large and pendulous. The recti muscles were separated and thin as the integument over them. The uterus, on inspection, seemed to lie to the right of the median line. By palpation two children could be mapped out. The one presenting at the os lay with the back to the left, and breech just below and to the left of the umbilicus. The fœtal heart-sounds could be heard at about the centre of a triangle bounded by lines drawn from the umbilicus to the "symphysis;" umbilicus to the anterior, superior spinous process, and from the latter point to the symphysis. The second fœtus lay with the head above and to the left of the umbilicus; back to the right and breech lying against the internal surface of the ilium. The fœtal heart could be heard on the right side, and several inches to the right of the umbilicus. For a time the pains were not expulsive in character. About 10.30 A.M. they became strong and good. The "waters broke," and at 10.45 the child was born, the shoulders rotating without any apparent cessation of the pain, so that the whole child was expelled at a single pain. (The perineum had been deeply torn at a former delivery and never repaired.) Putting two ligatures on the cord I liberated the child, a well formed girl, weighing five and one-half pounds. The pains ceased for a time, and then began in a weak, unsatisfactory manner. The second fœtus remained in an unchanged position. I tried by external manipulation to bring it to engage in the pelvis, but with no effect. As the patient's general condition was good, and no hemorrhage, I did not attempt to hurry matters. The pains ceased and the patient had a nap. At 1.20 P.M. the pains began lightly, but with growing intensity. I noticed that every pain forced the breech of the child against the ilium instead of toward the pelvic outlet. About 2.30 P.M. the patient began to flow somewhat. I made a careful examination, but could feel no part of the second fœtus presenting, and no sign of the descent of a placenta. Carefully recleansing my hands I introduced my left hand into the uterus. Passing my fingers along the right side of the lower uterine segment I came abruptly to a hole, which felt much like

an os uteri just beginning to dilate. I could, with some difficulty, pass two fingers through it. Between the thumb and fingers I could grasp an intervening wall or septum between the two portions of a bifid uterus. Sweeping my fingers around to the right side of this second compartment, the uterine wall was as thin, apparently, as a gut. I could make out a bag of waters, foot, and breech. I withdrew my fingers and passed them to the fundus of the left compartment, where lay the placenta to the babe already born. I withdrew my hand, and by two pains immediately following the placenta above mentioned came away. The question now arose, Can this second child be brought through that secondary os without danger of rupture? The walls overlying the breech were very thin, and the whole right compartment very tightly stretched over the fœtus, indicating that it was a rudimentary portion of the uterus. I called in Dr. H. J. B. Wright, of San José. After introducing his hand into the uterus he coincided with me in regard to the bifid uterus, and we agreed to attempt to deliver the child. The membranes were ruptured and a foot brought through and down. At 4.30 P.M. the second child was delivered alive. It was a girl, weighing five and three-quarter pounds. It was perfect in every respect. The placenta came away within a few minutes, after which the uterus was thoroughly douched with boiled water to which two per cent. of sodium chloride had been added. The mother made a good recovery and at last accounts both children were alive and growing fairly well.

I will now give a history of three former labors, which history I obtained since the birth of the twins.

Patient married October 24, 1883. Age at marriage twenty-three; strong, healthy girl. Has a cousin who had twins.

First child born December 28, 1885. Labor hard and tedious, lasting twenty six hours. Head of child much misshapen. Pressed much to one side. Child born at term; weight two and one-half pounds. Child perfect though very small, has developed into a strong, healthy girl of average size for her age. This child was carried during pregnancy to the right of the median line.

Second child, a boy, born June 8, 1887. Labor lasted six hours. Child expelled precipitately. Mother was not well before labor. Some œdema of the lower limbs. Sallow and weak after confinement. Became quite well after lactation was suspended. Child perfect.

Third babe, boy, born January, 1891. Labor peculiar. Severe pains one week before labor seemed actually to set in. Labor lasted one hour when child was born. Pains unusually severe, child expelled quickly. Child perfect. These two children weighed nearly seven pounds each. Heads were not misshapen in any unusual manner at birth. Both were carried during pregnancy to the left of the median line.

A CASE OF GAS-PHLEGMON.

By BERNARD WOLFF, M.D.,

LECTURER ON DERMATOLOGY IN THE SOUTHERN MEDICAL COLLEGE, ATLANTA, GA.

J. M. S——, is a carpenter, sixty years of age, of small physique and poorly nourished, but enjoying fair health. One week before applying to me for treatment he had accidentally driven a rusty nail into the back of the metacarpal bones of the little and ring fingers. He experienced considerable burning and throbbing pain during the night following the day of the accident, and on the next morning the whole hand was red, swollen, tender, and extremely painful, the inflammation extended up the forearm and arm to a point just above the elbow-joint. It had rather abruptly terminated at this point when I was consulted at the dermatological clinic of the Southern Medical College on December 5th.

The clinical picture presented was that of a phlegmonous erysipelas, in different stages of development. The dorsum of the hand was red, swollen, hot to the touch, and presented a number of vesicles, some of which were intact and contained sero-pus, while others had ruptured, the contents forming loose crusts. In places the epidermis had peeled off, leaving the corium red and shining, and over the wrist joint fissured and discharging sero-pus.

The inflammation had extended up the forearm above the elbow-joint, and had involved the skin and subcutaneous tissue. There were no vesicles on the forearm or arm, which were markedly swollen and hard and tense to the feel and exhibited an erysipelatous blush. The patient complained of burning pain and itching, and there was some general febrile movement. The skin at the dorsum of the wrist and hand was boggy, and produced on palpation the sensation of fluctuation together with a faint emphysematous crackle.

I made some punctures with an exploring needle, intending to locate the pus and then evacuate it by means of free incisions; but I was surprised to note that the needle punctures brought out no pus but were followed by the escape of gas to such an extent that the bulk of the hand was appreciably diminished on compression. A small incision and repeated deep punctures were made, but there was absolutely no pus present except that found mixed with serum in the vesicles and exuding from the fissures. I had, therefore, to deal with a phlegmonous process which had terminated not in the production of pus, but of gas.

The patient was seen by Dr. J. McFadden Gaston, and agreeably to his suggestion was treated with subcutaneous injections of a 12½ per cent., solution of carbolic acid and has made a good recovery.

This affection, under the name of "Gasphlegmon," has been made the subject of a work by E. Fraenkel,[1] of Hamburg.

It appears from his treatise that a diffuse purulent phlegmon must be distinguished from a diffuse septic phlegmon, for the former is characterized by pus formation, the latter by the formation of gas. The two occurring together, behave as a mixed infection.

This observer, from a study of four undoubted cases, claims to have isolated a characteristic bacillus which grows in nutrient agar and forms chains by junction ot terminal processes. It is stained by the Weigert and Löffler methods.

From experiments on lower animals, particularly guinea-pigs, Fraenkel was able to demonstrate positive results from inoculation. This was followed by the formation of gas in the subcutaneous and inter-muscular tissue, accompanied with the development of constitutional symptoms of a severe type, often with the death of the animal. So long as the inoculation was made with a pure culture of the bacillus there was not a trace of pus-formation present. The author therefore concluded that this so-called "bacillus phlegmonis emphysematosæ" was the cause of gas-phlegmon.

Levey[2] reported a case of "gas-abscess" of the thigh, from which he succeeded in obtaining cultures of a bacillus forming chains. It was very short-lived; grew only at the body-temperature, and was stained by the Gram method. He considered this bacillus as the cause of the formation of gas in his case.

I can find no mention of the affection in Brocq, Besnier-Doyon's "Kaposi," nor in any of the works of the English and American dermatologists conferred with.

I have made no bacteriological examination of the case here reported, but have no doubt on clinical grounds of the diagnosis of gas-phlegmon.

Lamnectomy.—Eve says that the operation, if not almost impracticable, is certainly one of the most difficult in surgery, but this is not borne out by present experience. The operation in itself is neither tedious nor difficult. —LLOYD.

[1] Ueber Gasphlegmon. Eugen Fraenkel. Hamburg, 1893. Reviewed in Monatshefte für prakt. Derm. No. 11. Band xvii.

[2] Ueber einen Fall von Gasabscess. Levey Deutsche Zeitschr für Chir. 1891. Hett, 3 to 4.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street.

New York, January 6, 1894.

THE MEDICAL PROFESSION AND THE HOSPITALS.

THIS is the time of year when the hospitals of the city recite their deeds to the public and ask for money to carry on their work. It is a time when the question of the utility of this work is presented eloquently to everyone. As a rule, New York responds to the amount of about $50,000. No kind or degree of solicitations is able to raise the sum much above this, and it has in the last year fallen off slightly. New York has forty-seven hospitals, perhaps more if we include the private and semi-private institutions. These hospitals have eleven thousand beds, and the number of patients treated annually reaches up toward a hundred thousand. The number of hospitals and patients treated in them is increasing rapidly. It is safe to say that the amount of work done has doubled since 1875, and there is no sign of a decrease. On the contrary, during the past year large sums of money have been expended in erecting new hospitals or extending old ones.

The same rapid growth has been noted and commented upon in other cities, notably Cincinnati and Philadelphia. In the latter city there are, according to the *Medical News*, thirty-seven hospitals with four thousand five hundred beds, costing $1,300,000 annually. It cannot be denied that the medical profession has begun to look upon this movement somewhat critically, not to say coldly. This is due to several causes. First of all, the treatment of medical men by hospital managers has always been arbitrary, and attended with friction and disturbances. Hospital authorities have heretofore often regarded the medical staff as a kind of necessary evil. They have taken advantage of the fact that physicians have desired to become attached to hospitals, to get as much as possible out of them with as little return as possible. The theory that a visiting staff should be paid for its work has been ridiculed, on the ground that plenty of men can be found who will work for nothing. This theory has a certain economic basis, we admit, but it is not an absolute one, otherwise why should it not be applied to positions of honor everywhere. We could get plenty of congressmen, senators, presidents, and even judges, to serve for practically nothing. But a still more cogent reason for the growth of an antagonism to hospitals is the way in which they deal with the question of charity patients. It is becoming more and more the habit for surgical operations to be done in hospitals. Even well-to-do patients are sent there, paying perhaps nothing, or at any rate a fee very inadequate considering their means and the service rendered. As the *Medical News* says: "Formerly the young doctor had a chance of being called to attend an accident case happening in his neighborhood. Many a physician has won his way into a fair practice through the skill shown in such emergencies. But to-day the patrol wagon or the ambulance is as speedily obtained as the nearest doctor, and the case is whirled off to the hospital. It is treated in the dispensary if a slight case, or sent to the wards or a private room, according as the financial condition of the patient seems to warrant. We have known rich men to pay $25 a week for a private room in a general hospital, and demand extra attention of resident and visiting physicians without ever thinking of remunerating one or the other."

In the smaller cities the case is, we are informed, even worse. We have met well educated and experienced practitioners who have done much surgical work, and done it well, until the building of some small hospital, which is generally under some special political or religious auspices. This killed their surgical work at once. The spread of the hospital system is thus tending to throw a larger amount of medical work every year into the hands of corporations, and the trend is toward a nationalization or municipalization of medicine.

Now, this will certainly be disadvantageous to the physician, for it lessens the amount of his remunerative work, and tends to lessen the general skill of the practitioner. It will make the few skilful, the many unskilful and dependent. For all this physicians will have no right to complain, if the general effect is to be beneficial to the public. If it results in enabling more people to get better medical service at a lower rate, without pauperization or loss of self-respect, then we as good citizens must submit to the inevitable.

In our opinion, however, this will not be the result. If the rewards of the profession become less, its honors more uncertain, a poorer class of men will enter it. If advancement is difficult, ambition will be crushed out. In the end, therefore, the public health will be in the hands of a spiritless and mediocre bureaucracy. Surgeons will be but the machinists of corporations, and physicians clinical clerks to co-operative institutions.

We must deplore now, therefore, as we have in the past, the present tendency to the institutionalism of medicine.

The way out of it, as it seems to us, has already in a measure been begun. It consists in physicians themselves having charge of their hospitals and dispensaries, and in controlling their charitable work. Already two of our teaching institutions have their own hospitals; many, perhaps most, of our eminent surgeons have their private hospitals. The association together of a few physicians and surgeons in good practice enables them to equip a hospital of their own, and renders them independent of the favors of lay hospital boards.

Perhaps this is not the only or the best way to fight against medical institutionalism, but it seems the most practicable at present. At the same time physicians, as a body, should demand more just treatment from hospital authorities, and should protest against the establishment and support of superfluous medical charities.

THE CAUSE AND PREVENTION OF THE INSANITIES ASSOCIATED WITH CHILDBEARING.

The refinements of modern psychiatry have made many distinctions among the puerperal psychoses. This name has been given and is often used to indicate not only the insanities of the puerperal period, but lactational insanity and insanity of pregnancy. German writers make two types of this last form of insanity, one occurring usually during the first three months, the other during the last six.

The puerperal insanity takes at least three clinical types—that of an acute and grave delirium, that of hallucinatory insanity, and a stuporous form known as a puerperal katabonic insanity. For practical purposes, however, the distinctions of puerperal lactational insanity and the insanity of pregnancy are sufficient.

We hear much less of the puerperal insanities than formerly. Marcé's statistics showed that previous to 1860 the number of insanity cases per 1,000 accouchements ranged from 1 to 5½. It was at one time very common in England and Scotland. Clouston states that five per cent. of all the insanity of women is of puerperal origin, and that one case occurs to every four hundred labors. The cases of lactational insanity were next in frequency, being four per cent., while the insanity of pregnancy forms one per cent. of the total admissions of female patients. This is much the same ratio as that given by Esquirol, Marcé, MacDonald, and Gorsky, viz., of one hundred cases one-half would be puerperal, one-third lactational, and one-eighth insanity of pregnancy. It would be interesting to know how time and modern obstetrical methods have changed these figures. Among one hundred insane patients Esquirol found 8.2 puerperals in 1838; Parchappe, 5.5 in 1843; Marcé, 3.7 in 1858, Clouston, 5.0 in 1884, and Mr. Faure, 2.1 in 1890. There can be no doubt of the great decrease in the strictly puerperal class during the past decade. The relative proportion of the different forms has much changed also. The struggle for existence and the consequent worry and care of domestic life have tended to increase the relative number of pregnancy and lactational cases. Such is at least the inference from the statistics of Gorsky, who among 133 recent cases found that 22 began during pregnancy, 55 followed parturition, and 57 occurred during lactation.

Among the exciting causes eclampsia has occupied a considerable place. Among one hundred cases Braun has found mental disorder in 8.3 per cent., Wieger in 7.1, and others in a slightly smaller ratio.

Recent writers have all insisted with especial emphasis upon the importance of the infectious element as a cause of puerperal insanity. The average of a large number of statistics gives about seventy-five per cent. as the proportion of insanities due to some form of septic infection. The tendency of modern observers also is to deny that there is any special psychosis characteristic of the puerperium (Gorsky, Worcester). In a case of puerperal mania, for example, the cause could not be recognized simply by a study of the symptoms. The essential factor is considered to be a psychopathic constitution. A puerperal woman with this vicious tendency develops mania through the toxic agents developed by the inflammatory disorders following accouchement. Thus Madame de Gorsky, a pupil of Magnan, found a predisposition among 33 out of 35 cases of puerperal insanity.

It has been our object in the foregoing to call the attention of our readers especially to the causation of the puerperal psychoses. It is in this field that the most progress has been made; and it is here that the practitioner still needs to make careful observations. It has been shown very forcibly by the experience of the past decade that much can be done in the way of preventing the mental disorders associated with childbearing. The responsibility for this work lies now, and always will lie, with the general practitioner. A woman with a bad hereditary history who marries and becomes pregnant has to be looked after with especial care, in order that she may not be subjected during her pregnancy to undue excitement and depressing emotions. During and after labor the strictest antisepsis must be observed. If she wishes to nurse the child, this must be allowed only when lactation causes no severe drain upon her strength. By proper precautions of the character thus suggested we have no doubt that the number of puerperal insanities can be reduced more than one-half.

THE VALUE OF TUBERCULIN AS A TEST FOR TUBERCULOSIS IN CATTLE.

Probably few physicians are aware of the enormous practical value in the animal industry of tuberculin; that is to say, if the position taken by the New York and other State Boards of Health regarding it is correct. A gentleman who has a valuable herd of thoroughbred cows writes us that twice within the last six months his herd has been examined by competent veterinarians and pronounced healthy. A third examination, however, with the aid of tuberculin, caused a condemnation of over one-half the herd. He adds:

"The New York State Board of Health is killing by the hundred animals condemned by diagnosis with tuberculin, and the State is paying full value for them. The veterinarian says that the autopsy shows the diagnosis to be correct in every case. He says also that it is impossible for the best veterinarian to discover tuberculosis by physical examination except in extreme cases. My herd is apparently in splendid condition. Breeders do not know of its existence in their herds. They let a cow remain in the herd until she is unquestionably tuberculous and then remove her, but she has then already infected the herd. A temperature of 103° F. condemns the cow. In a herd of Jerseys, at Troy, of 80 head, he has killed 33, and will kill 20 more of them this week. Autopsies are held in the presence of physicians and veterinarians. There have been 15,000 tests with tuberculin in England. New York evidently believes in this kind of diagnosis, and will probably have to pay $500,000 to eradicate tuberculosis. The veterinarian says the State is full of it in herds both of thoroughbreds and common cows."

We understand from other sources that the State Board of Health fully believes in the certainty of the tuberculin diagnosis. Through its means it has been discovered that some of the best bred herds, supplying high-priced milk, cream, and butter are infected.

DIACLYSM.

PROGRESS is nothing if not progressive. We have had to modify the ancient rite of clysm by various modern innovations until enteroclysms, hypodermoclysms, tannoclysms, gastroclysms, and similar etymological delicacies have become familiar household words in the medical family. A French savant writing in the *Progrès Médical* proposes the "newest and best" kind of remedial clysm, which he designates as diaclysm, though we infer from his strictly limited experience on living human beings that the victims would be more apt to call it cataclysm.

The energetic Frenchman first demonstrated to his own satisfaction that a corpse would not hold more than three, or at most five, quarts of fluid. If more is forced into a dead body something gives way. A break of the stomach or a rupture of the intestines always occurs. But a living person can be made to hold much more than a corpse—at least "*avec un peu de ménagement et d'encouragement de la part du médecin.*" In plain English, by securely plugging and firmly fixing a rectal tube something like eight to ten quarts can be coaxed into a live Frenchman, though the author hastens to add, "when the bowels and stomach get too full the fluid escapes by the mouth and nostrils." While it cannot be called an agreeable pastime, the author has not hitherto had a death to report. This he finds very encouraging, and he advises his colleagues to diaclyse adults, and young people, and even infants, until a fair diaclysmic record shall have been established for the citizens of the Great Republic. We await statistics with eager expectancy.

All new remedies being peculiarly applicable to cholera, Dr. Antoine de Genersich naturally draws special attention to the value of diaclysm in that ordinarily rather serious malady. We are informed that "les expériences que j'ai faites en mon petit cercle avec l'assistance de MM. les Drs. Jean Maisner jeune, Erdödi et M. Urbanetz à l'hôpital provisoire d'ici, peu nombreuses en vérité, ont donné des résultas très favorables." He does not say that anybody was ever cured of cholera by diaclysm, but still the results were favorable—to diaclysm.

The main point seems to be not to yield to the pitiful moans of the patient who is being diaclysed. For just about when the belly "seems ready to burst," and "the agony of the patient appears almost insupportable," just about that time he begins to vomit, and several quarts of fluid are forcibly ejected from his stomach. All of which shows that the ileo-cæcal valve has been paralyzed and that the fluid has really passed from rectum to mouth. There is a great show of scientific enthusiasm in connection with diaclysm, which we trust will not be fulminated beyond its present boundaries. The average American who holds a pint does not care to be forced to take a quart.

We do not wish to appear ultra-conservative, but for the present when an enema is really needed, we are willing to clysm in the good old way. No doubt the palm of clysmatic perfection must be conceded to France, and in any international clysm-as-you-please contest our Gallic friends would surely win. The author modestly calls diaclysm a triumph of positive therapy. And we do not begrudge him the pleasant glow of gratification which such a triumph must needs beget. "Per diaclysma ad astra" is his motto, or will be, if he does not too soon succumb to diaclysmomania.

News of the Week.

The Medical Department of the Newberry Library at Chicago now contains over twelve thousand volumes.

The Late Dr. Charles Warrington Earle.—Speaking of the late Dr. Earle the *Chicago Medical Recorder* says: "The story of his life is much more romantic than falls to the lot of ordinary mortals. Born in Vermont, at the age of nine years he came to Illinois, and at sixteen was in the volunteer service of the late War, where he distinguished himself not only for bravery but by heroically enduring the hardships, and privations, and sicknesses of campaign, including a number of months in Libby Prison from which he escaped through the famous tunnel. Subsequent to the War he took up the study of medicine, and the rest of his life was devoted to professional work, in which he attained eminence not only as a man of extraordinarily good judgment, but by the local profession he was honored with every distinction within their gift. At the time of his death he was President of the Woman's Medical School of Chicago, the College of Physicians and Surgeons, and the Chicago Medical Society." The *Recorder* adds some most eloquent and appreciative words which show that Dr. Earle held a firm place in the hearts of his brethren of Chicago.

Vaccination Matinees in Paris.—Vaccination matinees have become quite the fashion in Paris. Persons belonging to fashionable society co-operate in arranging to have a doctor and a cow at an afternoon tea. The company are all vaccinated from the cow. In some of the large houses on the Champs Elysées, the cow is taken up in the elevator, and is temporarily installed in the dining room. The cards issued bear the words: "*On vaccinera.*"

The David Livingstone Medical College in London.—Dr. Harford Battersby, formerly a medical missionary in the British dependencies along the River Niger has become the principal of a new medical school in London. The object of this school is to furnish, at the lowest possible cost, the training that will be most useful to intending missionaries, very few of whom are able to spare the years of study and waiting that are essential to the regular English school and qualifications.

New Rush College Laboratory.—Preceded by formal exercises, the doors of the new Laboratory of Rush Medical College were thrown open to the students December 4, 1893. The new laboratory is located on the south side of Harrison Street, opposite the old Rush Medical College. It is a five-story and basement structure with a massive stone front, and cost $95,000. In its interior it is modelled after the most improved plans.

The Richardson Memorial Addition to Tulane University.—The dedication of the New Medical College building of the Tulane University took place November 4, 1893. The building is composed of three connected buildings. The centre one contains principally the lecture-room, having over it the amphitheatre and two wings which contain the laboratories, dissecting-rooms, and museum. The basement is well lighted, and contains a study-room for students, a recitation-room, and an embalming room. The microscopical, chemical, pathological, bacteriological, and pharmaceutical laboratories are

supplied with the latest improvements, and form one of the most complete medical institutions in this country.

Medico-legal Society's New President.—For the first time in its history, the Medico-legal Society elected a medical man, Dr. Hubbard W. Mitchell, of this city, to the presidency of the Society, at its last annual meeting.

The Old Excuse for Cheating the Doctor.—Dr. I. Gutman, a reputable physician practising in the lower wards of the city, was called recently to attend a woman suffering from what appeared to be menorrhagia. After prescribing for her and leaving the necessary directions, he did not hear from her until three days had elapsed. In the meantime she had been delivered of a two months' fœtus by a midwife. He delivered the membranes and washed out the uterus, and the patient having been made comfortable he then requested his fee. Its payment was postponed on a flimsy pretext by the husband. The following day the fee was not only refused, but the husband secured the services of a detective who arrested the doctor for malpractice and the production of abortion. As a consequence the daily papers paraded the fact under the usual sensational head-lines, virtually branding the doctor as a quack and a criminal. The doctor was honorably discharged by the judge. These outrageous proceedings are now offset by a suit on the part of the doctor against the detective for ten thousand dollars damages. Under the circumstances who can be considered safe? Those who know Dr. Gutman and can testify to his good standing and high professional attainments, are at a loss to conjecture why he of all others should have been the victim of such dastardly persecution.

Adulteration of Cheap Wines.—The Board of Health is about to begin another crusade against adulterated wines. Sanitary inspectors have been buying quart bottles of so-called Burgundy, Tokay, and port at many of the small shops on the East and West Side. Some of the so-called wines retail at fifteen and eighteen cents a quart. The authorities know that to keep the stuff from turning sour in process of fermentation the merchants add salicylic acid. A stop has recently been put to this practice in European countries, and it is the intention of the authorities to abolish it here.

The American Psychological Association held its annual meeting in this city on December 27 and 28, 1893. Among the papers read were those on the "Meaning of Infancy," "Do we ever Dream of Tasting," "Pain and Pleasure," and "The Case of John Bunyan."

New York City Vital Statistics for the Past Year.—The estimated population of the city of New York is 1,924,300. The death-rate for last year was 23.46 in the thousand, the lowest on record. The rate in 1877 was 23.65. The sanitary inspections in 1893 were 725,244; tons of food condemned, 2,050; vaccinations, 208,000.

	Deaths.	Births.	Marriages.	Suicides.	Homicides.
1893	44,370	51,516	16,144	313	47
1892	44,329	49,447	16,001	241	32

Diphtheria is about the only contagious disease that shows an increase: 1,963 cases against 526 last year. Police arrests, 1893, 85,612; of these 3,759 were excise arrests; arrests for drunkenness, 20,600; disorderly conduct, 17,486, 5,813 being women; disorderly persons, males, 1,692, females, 830; 2,572 lost children restored to parents; $350,000 of stolen property recovered. Fires, 1893, 4,132; loss, $5,630,937. Only forty-nine fires extended to other buildings than the original.

Appointment to the Buffalo State Hospital for the Insane.—Governor Flower has appointed Dr. William S. Tremaine, of Buffalo, manager of the Buffalo State Hospital for the Insane.

Free Vaccination and State Doctors.—Over two hundred thousand persons have been vaccinated for nothing by the City Board of Health during the past year. Many of those vaccinated were able to pay, and some criticism has been aroused by the extensive and gratuitous labors of the Board. To this it may be answered that the city has a right to protect itself against small-pox as well as yellow fever or cholera. It might, however, in many cases accomplish the result by compelling vaccination by the family physician. Still, we suppose that if the people were to vote to establish State physicians who should treat everyone for nothing, it would be within the people's rights. But it would not be wise.

A Medical Cabinet Minister.—Dr. Bacelli, Professor of Medicine in the Faculty of Rome, has been appointed Minister of Public Instruction.

Municipal Hospital of Philadelphia.—The new pavilion hospital and disinfecting tank has just been completed on the grounds of the Municipal Hospital. The disinfecting plant is one of the most complete structures of its kind in the world, and was erected at a cost of $10,172. In this building all articles used in the hospital will be disinfected. The new pavilion hospital was erected at a cost of $15,352. especially for the treatment of cholera cases, and has accommodations for upward of one hundred patients. It is intended to utilize the structure entirely for the care and treatment of cases of diphtheria, which can be kept entirely isolated from patients afflicted with other diseases. The structure has a number of rooms for private patients, where they may be even more comfortable than at their own homes, and will enable many families to allow their sick to be taken there for private treatment.

International Medical Congress.—The undersigned, Chairman of the American National Committee of the Eleventh International Medical Congress, has received the following communications from the Secretary-General: 1. Papers to be read in any of the Sections of the Congress should be announced on or before January 31, 1894, to the Secretary-General, Professor E. Maragliano, Ospedale Pammatone, Genova, Italy. 2. The title of the paper ought to be accompanied with a brief abstract of its contents and conclusions. 3. The programme to be distributed will contain the titles of all the papers announced before August 31, 1893, and since. 4. The reductions granted by the railway companies months ago will be available from March 1 to April 30, 1894.

In the interest of such medical men as will sail for Europe before official cards will have been received from the General Committee, the undersigned proposes to supply, in as official a form as he thinks he is justified in doing, credentials which are expected to be of some practical value. It is suggested, besides, that a passport may increase the traveller's facilities. A letter from

the Secretary-General, dated November 29th, informs me that "travelling documents" will be sent to the address of every subscriber on or before February 15, 1894; and that after that date congressists will have to apply to the undersigned. It also contains the following regulations of former circulars: Members' dues are five dollars (money-order to Professor L. Pagliani, Rome); guests' (wives and adult relations), two dollars; medical students, no fees. All are entitled to travelling documents. Reductions on the Italian railways are available from March 1st until April 30th.—A. Jacobi, M.D., *Chairman National Committee.*

Dr. Francis Minot Weld died in Boston, December 31, 1893, aged fifty-three. He was graduated from Harvard College in 1860, and after receiving his diploma from the medical school entered the navy as a medical cadet, and served as surgeon on the monitor Nantucket and frigate Wabash. In April, 1864, he entered the army as a surgeon, and was with Grant in the campaign from the Wilderness to Petersburg, and with the Army of the James before Richmond, and joined Sherman at Raleigh. After the war he practised in New York until 1887. He was medical superintendent of the New York Hospital in 1876–77. He was a former President of the Harvard Club of New York, and one of the founders of the University Club of this city. He was for twelve years a member of the Harvard Board of Overseers. He was a member of the Union and University Clubs of Boston, and a member of the Loyal Legion.

An Institute for the Prevention and Treatment of Hydrophobia has recently been opened by the city of Marseilles at the Pharo, close to the present School of Medicine. Dr. Livon has been appointed Director of the new institution which is the first of its kind established in the provinces.

Mortality in the State of New York.—The bulletin of the State Board of Health for the month of November, shows that the reported mortality for the month has further decreased from the low daily average of two hundred and ninety in October to one of two hundred and eighty-one, which is the same as that of November, 1892. This is uniformly the healthiest month of the year in this State, the number of deaths daily being less during November by twenty-five than the daily average for the past eight years. Compared with November, 1892, the zymotic mortality and also the infant mortality are lower; both are also lower than during the month of October. Typhoid fever caused the same number of deaths as a year ago, and seventy-five fewer deaths than in October. Scarlet fever continues with little change to be less prevalent than last year. There is an increase in measles since October, chiefly in New York City. Diphtheria caused the same mortality as in last November, but shows a marked continuance of the increase in prevalence since August, causing one hundred more deaths than in October. The same relative increase occurred in 1892. Small-pox exists outside of the metropolitan centre, in Warwick, Greensburgh, and White Plains, where single cases are reported, and at Islip, where two deaths occurred. There were 955 deaths from consumption, against 1,070 in October; there are uniformly fewer deaths from it at this season. Acute respiratory diseases have, as usual, increased, the mortality being 1,242, against 947 in October. Another return of epidemic influenza has occurred, but has not impressed itself upon the mortality of the month, though a few deaths attributed to it were reported. The death-rate for the month from all causes is 15.35, against 15.83 in October.

Governmental Regulations Concerning the Management of Typhoid Fever.—The Government of the Grand Duchy of Baden has recently issued a series of regulations as to the management of cases of typhoid fever, of which the following deserve to be mentioned: Cases of typhoid fever shall be strictly isolated; the patient's stools, as well as all linen and water which have come into contact with him, shall be disinfected; no one shall be admitted into the sick-room with the exception of the relatives of the patient, physician, nurse, priest or minister of religion, and notary. In fatal cases none but the near relatives, physician, and undertakers shall be allowed to approach the body of the deceased. In the event of several cases of typhoid fever occurring in the same house, if the means of isolation appear inadequate and if there be any reason for apprehending an epidemic, the police authorities shall have the right, on application being made by the physician in charge, to prohibit the admission of all strangers into the house; a special notice to that effect shall be posted at the door of the infected house.

Increase of Suicide in France.—A study of the number of suicides in France reveals a most deplorable state of affairs. According to the *Journal Officiel*, during the year 1890 this number reached the formidable figure of 8,410 (6,576 males and 1,834 females). These figures indicate a progressive increase in the number of suicides. In the quinquennial period from 1861 to 1865 the average annual number of suicides were 4,661 (12 per 100 000 of the population); while during the period from 1886 to 1890 the average annual number was 8,226 (or 21 per 100,000). The proportion of suicides among children under the age of sixteen years has also increased. While in the period from 1871 to 1875 the number was 31, it was in 1886, 62; in 1887, 68; in 1888, 65; in 1889, 77; and in 1890, 80.

How School Children Communicate Disease.—Dr. Moreau Morris, of the Board of Health, has presented a report showing the result of his investigation of certain common practices in public schools. Dr. Morris has found that in all the schools he visited the children used the slates and pencils in common. The children are in the habit of putting the pencils in their mouths, and in that way communicate the diseases. Dr. Morris condemned the use of slates in the schools altogether. He also recommends that books which have been used by children who were sick should be destroyed, and that paper book-covers should be substituted for muslin.

New Hospital.—The Baptists of Boston, under the leadership of Rev. Everett D. Burr and Dr. Francis F. Whittier, have determined to establish a hospital under the auspices of that denomination.

An American Dentist for the Czar.—Dr. Wassail, of Chicago, has been appointed court dentist at St. Petersburg, and will go in February to his new post. With him will go his young wife, who writes cleverly and is a musician.—*Journal of American Medical Association.*

Society Reports.

PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, December 1, 1893.

CHARLES L. DANA, M.D., PRESIDENT, IN THE CHAIR.

Instrument for Evacuating and Draining Pelvic Abscesses.—DR. CLEMENT CLEVELAND presented such an instrument, which was a combination of trocar, dilating forceps, and drainage tube.

DR. CHARLES MCBURNEY thought that ordinarily, unless there were serious contra-indications, the general rule which called for removal of the sac of the abscess where this was possible, was a good one—better than that of simple puncture and drainage. There were, of course, as the author had said, cases in which removal of the sac would be attended by special dangers and should not, therefore, be undertaken; in such cases the method of establishing drainage described in the paper would be appropriate. He had not understood the author himself to suggest, but only to raise, the question whether it would not be a valuable substitute for excision of the sac in all cases.

DR. ROBERT ABBE thought the principle a correct one in dealing with large tubal or pelvic abscesses. It was true that pyosalpinx implied stenosis of the uterine end of the tube, but that stenosis might be only temporary. He had seen cases of well-marked salpingeal abscess which had evacuated through the uterine cavity, implying a reopening of the stenosed tube. There was no reason why the pus-sac, even though having a mucous lining, should not heal if the contents were drained off for a few weeks. The principle of the treatment was one which nature endorsed by healing the mucous lining, and if the stenosis on the uterine side should not reopen it was still intelligible that the diseased portion of the sac might, after evacuation and drainage, heal up perfectly. It seemed to him, therefore, that the surgical principle involved was a correct one, and that the method was especially applicable where the abscess was well down in the cul-de-sac. He had had one such case treated by drainage three or four years ago, the opening having been made with a knife, and the patient got well. He thought Dr. Cleveland's instrument an ingenious one and perfect in its way.

DR. R. F. WEIR said his experience with the class of cases under discussion had not been great, but it seemed to him that, ordinarily, puncture and drainage could not take the place of excision of the sac. The drainage in abscess of the pelvis was attended, in the first place, by the difficulty and danger of tapping the sac and inserting the tube. While he regarded the ordinary method of excising the sac the better one, yet cases must arise where this could not be applied, and in them the instrument shown by Dr. Cleveland would prove useful. That its use was attended with some danger was shown by the author's suggestion, to make an abdominal incision in order to be able to appreciate when the end of the trocar had reached the farther wall of the abscess. But it was not always easy to obtain consent to opening the abdomen solely for the purpose of guarding against a possible accident during an operation. The instrument itself had been excellently devised, but the principle was an old one and had been embodied by the French in instruments made to puncture and drain the kidney, etc.

DR. CLEVELAND said he would not be understood as advocating the use of drainage in this way for all cases of pyosalpinx. The statement at the conclusion of his paper had been added merely as a query to call out discussion. The instrument had been devised only for the purpose of evacuating abscesses where the intestinal adhesions were so firm that it would be impossible to remove the diseased tube without causing the death of the patient.

Some Points in the Diagnosis of Appendicitis.—DR. GEORGE F. SHRADY read the paper. (See page 1.)

Importance in Diagnosis of Eliciting Seat of Greatest Pain, and History of Previous Attacks.—DR. CHARLES MCBURNEY remarked that the subject was an extensive one, and he felt like congratulating Dr. Shrady on the thorough manner with which he had covered the ground that he had undertaken to cover. In his own experience he had been very much struck by the fact that, on inquiry being directed especially to the point, the patient very often acknowledged having had repeated attacks, though not violent ones, or they would have been mentioned without inquiry.

It seemed to him that such papers as had just been read spread a knowledge of the subject so far that the diagnosis had come to be very constantly made, even by men practising in the country, where they might be supposed to have very little experience with this special class of cases. But where doctors made a very serious error, not only in the country but also right in New York City, was in estimating the time when action was required. They made the diagnosis of appendicitis; they told the friends what the trouble was; they laid out a plan of treatment which they recognized as appropriate to that particular disease; but then they seemed to stop, failing to take in fresh observations as to the time when an operation should come in. He had seen that occur over and over. Just that day he had operated in a case where one of two physicians wanted the operation held back until the third day, while the other wished to postpone it until the fourth day. Although they did not think the time had come for operation, yet after this was done the pelvis was found to be full of septic fluid. They had recognized the disease, there was no difference of opinion upon that point, but they had no idea that the process had gone on to any grave extent; whereas the entire appendix was gangrenous, an abscess had formed, had ruptured, and the material had drained down on the intestines.

Yet when one tried to write a valuable guide in determining the exact time for operating, he found it exceedingly difficult. The speaker had himself been guided a good deal by the condition of the pulse. In appendicitis with advancing changes it was almost certain to be of a hard, inflammatory character. It had also seemed to him that the point of greatest tenderness, as elicited by careful examination, was of great diagnostic importance. A patient with mild appendicitis might not complain much more on pressure over one point than over another, but when the inflammation became acute he would complain strongly when pressure was made over the right place. Those two facts had aided him greatly in making out the grade of the process.

He cordially endorsed what had been stated in the paper with regard to the value of rectal examination as suggested by Professor Loomis. Dr. Lange had strongly endorsed the value of that procedure, yet Dr. McBurney's experience had led him to believe that it was useless. In one or two cases of old abscess of three or four weeks' duration, rectal examination had shown burrowing down toward the anus, but such cases, of course, were unusual. The danger of bimanual examination, as shown by Dr. Shrady, should not be overlooked. That adhesions around the appendix might be ruptured by such manipulations was evident, from the fact that they sometimes ruptured spontaneously.

A Successful Rectal Examination.—DR. HENRY F. WALKER said that several years ago, before operations upon the appendix were so frequent, a patient was under his care, in association with Drs. Thomas, Metcalf, and Sands, on whom he made a rectal examination and was able to make out a very interesting state of things. The whole pelvis was so filled with effusion that it was walled over as far as he was able to touch, the feeling being precisely like that on introducing the finger into the vagina of a woman suffering from extensive pelvic peritonitis. Everything was bound down by the effusion. This woman recovered.

Dr. Walker had observed as a rule precursory looseness of the bowels rather than constipation in appendicitis. When the disease became fairly established and pain had

set in, constipation succeeded the mild diarrhœa. He had been impressed very much by the epigastric pain as initiatory of the disease in many cases. It became evident on pressure over that region. He had spoken of that to Dr. McBurney, who told him that Dr. Bacon, of New Haven, when exploring the abdomen of a patient under cocaine, made pressure upon the appendix, and immediately the patient complained of pain in the epigastrium. Evidently, therefore, there was a nervous affinity between the two places.

Where the Appendix is Found Healthy, is the Operation Liable to be Followed by Symptoms?—Dr. George L. Peabody inquired of those who were operating frequently whether they had ever witnessed any damage follow an operation in a case of mistaken diagnosis. Some years ago he had requested a prominent surgeon to see a patient with him whom he believed to have appendicitis. The surgeon concurred in the diagnosis and an operation was done, but the appendix was found healthy. Fortunately no harm resulted. Yet the possibility of symptoms arising after operative procedure was suggested by a case in which, at his request, a surgeon operated and found gangrenous appendicitis and abscess, and the patient returned six months afterward, complaining of pain in the region of the scar and of indigestion. There was no hernia. Would not intra-abdominal adhesions account for the pain in that case?

Dr. Robert Abbe said the points in diagnosis had been so well covered in the paper, that he would only mention one on which he had laid a great deal of stress, namely, the condition of the pulse as indicating the gravity of the case. It was distinctly hard and snappy in the graver states. Regarding rectal examination, he had made this pretty uniformly, and had found that in the exceptional cases where the inflamed appendix hung over the brim of the pelvis, it could be felt with the finger introduced into the rectum, as could also abscesses which had descended into the pelvis.

Dr. R. F. Weir thought the paper contained a very graphic description of a disease which, according to his observation, had come to be pretty uniformly diagnosticated in and around New York. The main features, including especially rigidity of the abdominal walls in the right iliac fossa, gave quite a satisfactory basis for diagnosis. The author, however, had mentioned one other point in connection with diagnosis which seemed of some importance. It was one which men had floundered over ever since the subject of appendicitis had come to the front, namely, that many cases which the practitioner saw recover were not appendicitis but cæcitis or typhlitis. It had seemed to Dr. Weir for many years, that if this were so he would occasionally, on opening the abdominal cavity for supposed appendicitis, find not appendicitis but cæcitis; yet as a matter of fact he had not met with a single case of the kind, neither in his own practice nor that of his colleagues. He would also say, as a matter of observation, that he had seen the cæcum filled with fæces in only one case. Ordinarily the cæcum had been comparatively empty, or distended moderately with gas or with some fluid or soft fæces.

The diagnostic point with which Dr. McBurney's name had been associated was, to his mind, a very valuable one, with this particular restriction, that the point of greatest pain be brought out by pressure with the tip of a single finger. In his opinion it was not so important that the seat of greatest pain be elicited at one particular point between the umbilicus and anterior superior spinous process, for the reason that inflammation, the cause of pain, was more likely to involve the appendix at some distance from its fixed point, which was the root.

While the matter was somewhat aside from the subject of discussion, diagnosis, yet when "the red rag of appendicitis" was raised before surgeons, they could not resist the temptation to impress the fact that the point of greatest importance to the public was early operation. The objection was made by physicians, that when the surgeon operated early the patient was not given a chance to throw off his trouble without such interference. As bearing on this question, he had taken some pains to collect statistics of cases treated medically, and others treated surgically, and compared their mortality-rate. The number of cases which he had thus far collected was too small to base upon them positive conclusions, but he had found that in one hundred and thirty cases of appendicitis treated medically, the mortality had been five per cent. In about two hundred cases operated upon early, say within forty-eight hours, by surgeons of experience, the mortality had been also about five per cent. This showed, he thought, that the surgeon did not diminish the patient's chances of recovery by operating too early. This brought him to the question which Dr. Peabody had raised, whether the surgeon did not find from time to time a healthy instead of a diseased appendix. Personally, he had not met with that experience. He did once remove a healthy appendix in conjunction with an abscess of unknown origin, thinking that it might possibly have been the cause of trouble, or would be in the future. Aside from that case he had never removed the appendix whose diseased condition did not justify the resection. On inquiry among his colleagues, he had not found that they had met with mishaps of the character alluded to.

The Inconstancy of Collapse in Perforation.—Dr. Weir agreed with Dr. McBurney, Dr. Abbe, and Dr. Shrady in laying a good deal of stress upon the condition of the pulse in deciding when to operate. Some time ago a physician in this city stated quite positively, as medical men were apt to do when it came to surgical matters, that one ought to be able to tell, and he could himself always tell, when there was perforation of the appendix by the shock, collapse, etc.; yet those who did the operating saw a great many cases of gangrene and of perforation where there was no marked collapse. There might have been localized pain or some very tender spots, but many patients did not have collapse. He had seen very few cases where there was such an amount of shock as to give warning that something very serious had taken place.

With regard to the question of general pain, it was true that frequently there was for some hours so much general pain over the abdomen that one could not make an exact diagnosis: but by waiting, though not longer than forty eight hours, localized pain would either show itself, making the diagnosis positive or there would be diminution of the symptoms, making an operation unnecessary, or an aggravation which would decide an operation at once. When he found the temperature going down, the pulse becoming more moderate, the vomiting having ceased, the abdominal tenderness less marked, he would withhold the knife. But there must be coincident improvement throughout the whole circle of these symptoms to lead him not to operate. If all improved but one, or especially two—if, say, the pulse and temperature kept up, it would mean operation.

Regarding pain subsequent to an operation for appendicitis—the question raised by Dr. Peabody—Drs. Weir, Abbe, and McBurney said they had not encountered it. Dr. Weir thought Dr. Peabody's explanation of the pain in the case to which he had referred, was probably the correct one, namely, that it was due to the formation of adhesions.

Dr. Shrady being called upon to close the discussion, said he thought the remarks which had been made were corroborative of what had been stated in the paper. At least he had no particular objection to make to them. With reference to the matter of recurrence, of course that had been recognized in the paper as one of the main indications, and had been incidentally referred to in connection with the different diagnostic indications. It had always been a matter of importance in his opinion, yet one must expect at some time to meet with a case during the first attack, when the symptoms were such as to call for an immediate operation. Dr. Walker's remarks with reference to pinching the appendix, whereupon the pain

was referred to the epigastric region only, proved that it was a reflex pain, as had been stated in the paper.

The character of the pulse being snappy, referred to by Dr. Abbe, he had always looked upon as indicating progressive inflammatory trouble, and had taken it as a pretty good guide for operation. A sudden change in the pulse, coincident with other grave symptoms, was a very important element in diagnosis.

He had been not a little surprised to hear that Dr. Weir did not believe so much in cæcitis as other people do, but he supposed it was to be explained partly on the ground of his luck in not having run across the condition in his many abdominal operations.

Dr. Weir interjected that he had not seen it when operating for appendicitis, but he had observed it in other inflammatory conditions.

Dr. Shrady went on to say that he had seen cæcitis in five cases within the last two years, and the patients got well without operation, although this had been thought of. Three of the cases were in elderly females, two in adult males.

He had expected some one would question the diagnosis of the appendix by touch through the abdominal walls, for he had not supposed this possible until it had been suggested to him to make steady pressure until resistance was encountered from the posterior walls, when, if the appendix were present in that locality, it might be felt as a cord rolling under the finger. Probably this would be possible only where the appendix was turgid and bulbous, as it was in one case in which he mapped out its location, and on cutting down found it directly under the mark made on the abdominal wall, about two inches and a quarter from the anterior superior spine, in line with the umbilicus.

Surface Hyperæsthesia Corresponding to Disease of Internal Organs.—The President, Dr. Dana, said that an English observer had studied a large number of cases in trying to map out what he called reflex hyperæsthesia from disease of the viscera in the thorax and abdomen. The article, a voluminous one, was published in *Brain* about a year ago. Charts and figures were given to indicate the change in the condition of the skin or dermal nerves corresponding to lesions in different parts of the intestine, in the kidneys, spleen, liver, and thoracic viscera. The theory advanced was that in serious inflammatory or irritative condition of the viscera, careful tests would show a change of reaction of the nerves on the surface, so that, for example, if the blunt end of a pin was carried carefully down from the upper part of the thorax to the lower part of the abdomen, an area of pain or discomfort would be found corresponding to visceral disease marked on the map. The President had been able, by the seat of the chronic pain in one case which corresponded to a certain region pointed out in the map, to locate the disease in the kidney, and subsequently Drs. Polk and Edebohls both diagnosticated prolapsus of that organ. The method had also been of some value to him in certain other cases, and it had occurred to him that in doubtful appendicitis it might be found of use. In the chart referred to, however, no reflex area had been given for the appendix, but perhaps by careful tests one might be found.

Hemorrhage is a very common accompaniment of malignant disease of the tonsils. A solution of antipyrine, 1 part in 50, may be used as an hæmostatic. Should such treatment not succeed, then ligature of the base of the tumor, either by one ligature or by several, may be resorted to, or cauterization by the thermo- or galvano-cautery. In the event of none of these means succeeding, ligature of the lingual and facial arteries may be required, or, as a *dernier ressort*, the carotid may be tied.—Newman.

The Boutonniere operation should be performed in enlarged prostate only where the catheter cannot be introduced, or where septic urine must be let out. If cystitis, do the suprapubic operation.—Vignard.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, November 8, 1893.

H. P. Loomis, M.D., President, in the Chair.

Van Gieson's Picro-acid Fuchsin as a Selective Stain for Connective Tissue.—Dr. George C. Freeborn presented the following communication on this subject, with illustrative specimens:

In 1889 Van Gieson[1] described a method of staining the peripheral nerves and sections of the central nervous system with a mixture of picric acid and acid fuchsin. He prepared his staining fluid by adding a saturated aqueous solution of the acid fuchsin to a saturated aqueous solution of picric acid, until a deep garnet-red colored fluid was obtained. This staining fluid stained the ganglion cells, axis cylinders, neuroglia, and sclerotic areas red, and the myelin yellow.

Ernst[2] has used this fluid for staining the central nervous system, and recommends it highly. This recommendation is seconded by v. Kahlden.[3] Ernst[4] also found it a useful stain for hyalin degeneration, which is stained deep red. This reaction for hyalin has been confirmed by v. Kahlden,[5] who also found that hyalin and colloid could be differentiated in the same section, hyalin staining a deep red, while colloid is but slightly tinged, or is stained yellow.

Van Gieson's fluid was not made up with any definite proportions of the acid fuchsin solution, consequently the results obtained with each new sample of the fluid differed from those obtained with the previous ones. In order to fix the proper amount of acid fuchsin to be added to the picric acid solution, I commenced a series of experiments. While conducting these experiments I found that the acid fuchsin showed a selective action for fibrillated connective fibres, staining them a bright red. This led me to try the action of the staining fluid on other than nervous tissue, and I found that in all organs the connective fibres always gave the same reaction; no matter how fine, they were stained a bright-red color.

As the results of my experiments I have succeeded in establishing the following formulæ for the staining fluid:

For connective tissue the proportions giving the best results are 5 c.c. of a one per cent. aqueous solution of acid fuchsin to 100 c.c. of a saturated aqueous solution of picric acid. For sections of the central nervous system the proportion of the acid fuchsin has to be increased and that of the picric acid diminished. The elements in this tissue stain more slowly, consequently the prolonged action of the picric acid removes the hæmatoxylin from the nuclei. The proportions of the staining agents that have given me the best results are 15 c.c. of a one per cent. solution of acid fuchsin to 100 c.c. of a half-saturated solution of picric acid.

Sections of tissues hardened in Müller's fluid or mercuric chloride solutions—alcohol hardening does not give as brilliant results—are first deeply stained in hæmatoxylin (v. Kahlden recommends alum carmine), and then well washed in water. They are then placed in the picro-acid fuchsin fluid for from one to three minutes. Sections of the central nervous system require fully three minutes, those from other organs, as a rule, require only one minute. After removing the sections from the staining fluid, they are washed in two alcohols. I find that the addition of a small amount of picric acid to the second alcohol increases the brilliancy of the yellow stain. The sections are cleared in oil of origanum cretici and mounted in balsam.

This staining fluid, when used as above described, stains connective-tissue fibres a bright red: protoplasm, muscular tissue, and red blood-cells, yellow. The hæmatoxylin stain in the nuclei is usually changed in color: sometimes it shows purplish red, at other times black.

I present the following sections in illustration of the

[1] New York Medical Journal, July 20, 1889.
[2] Virchow's Archiv, cxxx., 1893, p. 279.
[3] Centralblatt f. Allgem. Pathol. u. pathol. Anat., iv., 1893, p. 456.
[4] l. c., p. 377. [5] l. c., p. 457.

action of this staining fluid; normal spinal cord, cerebellum, syringo myelia, and tabes, in which the tissue-elements are stained as described by Van Gieson. As illustrating its action on connective tissue, pig's liver, in which the connective tissue bands between the lobules are brought out sharply, even to the naked eye. Human liver, human prostate gland, in which there is a sharp differentiation between the smooth muscle and the connective tissue. Human skin: in this preparation the deep-red papillæ stand out sharply against the yellow colored epidermis. Corpus luteum of pregnancy. Carcinoma of the mamma. Large spindle cell sarcoma. Fibro-myoma of the uterus, in which there is a sharp differentiation between the smooth muscle and connective tissue. Intra cartilaginous development of bone; this section gives the most brilliant picture of the series. The matrix of the hyaline cartilage is stained a light purple color, the cells yellow with purplish nuclei; the calcification zone is of much more deep purple as well as the cartilaginous remains enclosed by the new-formed bone, which is of an intense red; the connective tissue is of a lighter shade of red than the bone, and the red blood-cells bright yellow.

Appendix.—Since reading the above, Kantorwicz[1] has published the results of his use of this staining fluid. He finds that the proportion of the acid fuchsin added to the picric acid is of importance and gives the following formula of the solution used in the laboratory of Dr. Schurhoff, in Frankfort-on-the-Main: Saturated solution of picric acid, 150 parts; saturated solution of acid fuchsin, 3 parts.

He recommends that the sections be stained in Delafield's hæmatoxylin for half an hour, and then in the picro-acid fuchsin for from three to five minutes. He has also found the stain useful for tumors, the nuclei staining a purple, protoplasm a bluish yellow, necrotic tissue yellow, connective tissue red. In carcinoma he found that the connective-tissue fibres between the cell-nests were brought out sharply. He also recommends the stain for cell-inclusions. The inclusions stain darker than the protoplasm and stand out sharply.

The President asked with reference to the permanency of the stain.

Dr. Freeborn replied that he had had some specimens upward of two years, and the coloring had not faded. Sometimes prolonged immersion in the oil of origanum would bleach out the acid fuchsin.

Carcinoma of the Cardiac Orifice of the Stomach.—Dr. Hodenpyl presented a specimen of carcinoma of the cardiac orifice of the stomach, which had been removed from a case in which there were some unusual symptoms during life. A man was found in the street spitting blood. He was brought to the hospital in an ambulance, and died in about fifteen minutes. Just before his death he vomited a large quantity of fluid blood. At the autopsy, it was noted that he appeared to be about sixty-five years of age, and possessed an unusually good physical development. All the organs were exceedingly pale. The stomach and upper portion of the small intestine were greatly distended with clotted blood, and the stomach was filled with a clot having the shape of this organ. An ulcerating carcinoma measuring four by three inches completely encircled the cardiac orifice, and the opening only admitted the tip of the finger. The head of the pancreas was also the seat of an ulcerating carcinomatous mass. The interesting point in the case was the entire absence of emaciation.

Hypertrophic Cirrhosis of the Liver.—Dr. Hodenpyl also presented specimens from a case of hypertrophic cirrhosis of the liver. The patient was a man, thirty-eight years of age, who, although very intemperate, had been in fairly good health up to three months ago, at which time he began to have jaundice and anasarca. Subsequently he complained of nausea and headache, and he developed ascites. On admission, two days before his death, there was extreme abdominal dropsy. He was tapped, and a large quantity of fluid removed. He then passed into a condition of stupor, which quickly deepened into a coma from which he never roused. At the autopsy, the principal object of interest was the liver, which weighed nine pounds. It was very rough, jaundiced, and cut like paraffine

A section of the liver was exhibited under the microscope. It had been stained by Van Gieson's method, and showed the connective tissue well.

Congenital Syphilis.—Dr. R. G. Freeman presented specimens from an infant, aged about six weeks, who died in the Foundling Asylum. It was in poor condition when admitted on October 17th. On October 27th, there was slight dulness over both lungs posteriorly, the respirations were 90, the pulse 150, and the evening temperature 101.4°F. For the next three days the respirations remained about 90, and the temperature, though elevated, did not exceed 101.5°F. A diagnosis was made of pneumonia over the posterior portion of both lungs, and there was a suspicion of tuberculosis. At the autopsy, it was found that the posterior portion of all the lobes of both lungs was consolidated in a peculiar manner, and that the liver was the seat of numerous small nodules resembling tubercle. A microscopical examination of these showed them to be small gummata. The other portions of the liver showed marked fatty degeneration.

Malformation of Hands and Feet.—Dr. Freeman also exhibited specimens taken from an infant, aged two months, who had suffered from marasmus. All the fingers of the left hand were webbed, and there was a rudimentary finger. Each foot had six toes, and four of these were webbed.

Bevan Lewis's Staining for Ganglion Cells.—Dr. Ira Van Gieson presented specimens showing the results obtained with Bevan Lewis's method of staining ganglion cells in the cortex.

He said that the fundamental importance of technical methods was nowhere better shown than in the successive eras of development of the anatomy of the nervous system. Every important advance in this department had had for a basis some valuable improvement in instruments or in staining. To-day, we know that the cortex is one vast wilderness of processes, protoplasmic and neural, derived from the ganglion cells. The ganglion cell had received rather tardy recognition from biologists. This cell consists not only of protoplasm and nucleus, but is a very complex cell. We are beginning to homologize all these intricate parts of the ordinary cell in the ganglion cell, and as a result of regarding the ganglion cell from this standpoint may be instanced the brilliant work of Hodge, who has been able to formulate a sort of mechanical equivalent for the work done by a ganglion cell during fatigue and the recovery after fatigue.

In view of all these rapid advances in our knowledge of this cell, both as to its form and physical structure, we can realize how imperfect are the methods by which we endeavor to ascertain the more delicate changes in cortical pathology. The conventional method is to harden large masses in Müller's fluid. This very crude, perhaps even worthless, method only shows the cell body of the ganglion cell. Müller's fluid was long ago shown to be a very poor preservative of the ganglion cell; the shape, processes, etc., are not shown at all in a specimen thus prepared. In the specimens stained according to Bevan Lewis's method, on the contrary, the structure of the protoplasm and nucleus is nearly perfect. The cortex is so impervious to fluids that, in large masses, active degeneration takes place in the interior of the specimen before the fluid reaches this part. Professor Donaldson has found that portions of the cortex increase in volume twenty-five per cent. during their immersion in Müller's fluid, probably because the myelin and the ganglion cells both absorb water from the fluid.

The method described by Bevan Lewis in his book, and also published in the *Journal of Insanity* for July, 1892,

[1] Centralb. f. Allgem. Pathol. u. pathol. Anat., October 31, 1893.

is very simple. Portions of the cortex are frozen; then transferred to a one-fourth per cent. solution of osmic acid for ten seconds; rinsed with water, and stained for half an hour or one hour in a one fourth per cent. solution of aniline blue black. Then the specimens are dried overnight on a slide, or more quickly, in an oven. The freezing is quite simple at the present time, because liquefied carbonic acid gas is now readily obtained. Specimens may be frozen with it in half to one minute in a freezing microtome provided with a shallow chamber.

The cerebellum and the spinal cord do not behave well with this method; the former becomes fragmentary, and the myelin of the spinal cord swells up in the osmic acid solution.

Dr. Freeborn said that aniline blue-black was an old and favorite stain with Bevan Lewis, who many years ago published a method which showed the ganglion cell much more sharply than had been done up to that time. The plan was to over-stain the specimens in aniline blue-black, and then to place them in oil of cloves and chloral until, when viewed under the microscope, the intercellular substance was found to have been bleached out. He had himself prepared a number of very satisfactory specimens in this way; he thought, however, the acid fuchsin fluid would act very similarly to the aniline blue-black, but would probably give a more brilliant stain. It is certainly most admirably adapted to photographic work.

Tubercular Appendicitis.—Dr. H. S. Stearns presented specimens from an obscure case of appendicitis of tubercular origin. The patient was a man, thirty-six years of age, both of whose parents had died of phthisis. He was first taken sick on August 4th, with a chill, and severe headache and backache, and considerable epigastric pain. In the course of the next few days there were repeated slight chills, followed by fever, and increased and more general abdominal tenderness. About two weeks later he developed an obstinate diarrhœa of a typhoid character. On September 12th the morning temperature was 101° F., and the evening temperature 102° F., and the pain was more marked in the right inguinal and lumbar region. Appendicitis was thought of, but was excluded because of the widely diffused tenderness. A diagnosis was made of typhoid fever. The diarrhœa resisted all medication, and on November 4th the patient died. At the autopsy the brain, heart, liver, and kidneys were found normal. Both lungs were studded with miliary tubercles, and the left lung contained an old cavity, and was very firmly adherent to the costal pleura at its apex. The spleen was twice the normal size, and contained many miliary tubercles. Tubercular ulcers were found in the lower portion of the ileum, and in the cæcum and ascending colon. The appendix was considerably swollen at its lower end, and contained about a drachm of dark-colored pus. Its interior showed numerous miliary tubercles.

The question naturally arose, would the patient have been benefited if an early correct diagnosis had been made, and an operation performed?

Dr. Hodenpyl thought miliary tubercles were not infrequently found in the appendix, but he did not think this condition often gave rise to the symptoms ordinarily associated with what is called appendicitis. He could not see how an operation would have benefited the patient.

Dr. George P. Biggs thought it quite possible that there had been an appendicitis at some remote time without marked symptoms, and that subsequently there had been a deposit of tubercle. Quite recently he had seen a case of intestinal tuberculosis in which the appendix was enlarged and the mucous membrane ulcerated.

The President said that he had watched the progress of the case now under discussion, which was of interest clinically from the fact that the patient was supposed to have typhoid fever up to the sixth week of the illness.

Cerebral Hemorrhage.—Dr. E. D. Fisher presented a brain removed from a man sixty one years of age, who was admitted to Bellevue Hospital on October 21, 1893. There was no distinct history of syphilis, and he had not been intemperate for many years. On October 16th, while driving, he suddenly lost control of the muscles of the left arm and hand. This was quickly followed by complete hemiplegia, facial paralysis, and loss of consciousness. When admitted to the hospital he was comatose, and the left side of the body was cold. His pulse was 70, and full; respirations, 24, deep and stertorous; temperature, 95.8° F. It was not possible, owing to the condition of the patient, to say positively whether or not there was marked anæsthesia. For several days there was a low, muttering delirium, and finally distinct rigidity of the muscles of the back of the neck. Later on he developed large bed-sores, the pulse became rapid and feeble, and the temperature rose; and he finally died on October 30th. The speaker said that he at first made a diagnosis of thrombosis or slight hemorrhage, but as the symptoms increased he concluded that there had been a renewal of the hemorrhage. The autopsy showed extensive œdema of the pia mater covering the cortex and convolutions, and extensive arterial degeneration and calcareous deposits in the arteries of the base. There was a blood-clot about two inches in diameter, involving the posterior portion of the internal capsule and lenticular nucleus, and extending to, but not involving, the optic thalamus. There was yellowish-brown softening of the surrounding parts. The heart and aorta were the seat of atheroma; the lungs were emphysematous, and the kidneys cirrhotic.

Considering the size of the lesion, the symptoms corresponded very well with the situation of the clot. The speech was not so much impaired, or the paralysis so extreme, as in cases where the lesion is more anterior. It is just possible that there was first a thrombosis, and that the consequent softening deprived the diseased blood-vessels of their proper support, and led to the hemorrhage. The œdema is probably explained by the compression exerted by the blood-clot, causing exudation of the watery elements of the blood.

Dr. H. P. Loomis presented two brains taken from persons who before their death had complete paralysis with loss of sensation and motion on the left side. The first specimen was from a woman, thirty-six years of age, who died two hours after admission to the hospital. The lesion in this case was a pachymeningitis hæmorrhagica interna. The second specimen was removed from a woman, forty-four years of age, who was well up to three days before her death. At this time she became suddenly paralyzed, and was partially comatose when brought to the hospital. On the following day she developed a typical Cheyne-Stokes respiration. The autopsy showed an internal hemorrhage which had destroyed the corpus striatum, internal capsule, and part of the optic thalamus.

The Society then went into executive session.

Excision of Rectum.—(Kraske.) The incision commences in the middle line beneath the coccyx, and terminates about the centre of the sacrum, inclining slightly to the left. Enucleate the coccyx; remove with cutting pliers a fragment of the left side of the sacrum, at first very little, subsequently enlarging if more space is required. Go straight to the rectum through the cellular tissue, tying the vessels. Open gut and remove diseased parts by fragments with care. Resect in totality. If peritoneum is opened, close with points of suture. Suture severed extremities of intestine together.—Richelot.

Strangely Marked.—Of the many strange results of impression reported from time to time few equal the following from the *Indianapolis Sentinel:* Previous to the child's birth the mother refused to speak to her husband for several weeks after they had quarrelled; when the boy began to talk it was noticed that he never spoke to his father. Punishment failed to elicit a word, and not even a cry. The boy is now ten years of age, and although on friendly terms with his progenitor, finds it impossible to address a word to him.

Therapeutic Hints.

Gonorrhœa.—

℞. Antipyrin..... gram. 10
Bichloride of mercury..... centig. 10
Water..... gram. 1000
Sig.: Inject and let remain in canal for half an hour.

—Watier.

Parenchymatous Orchitis in variola is not at all rare. Its development keeps pace with the exanthem upon the skin, and so is probably of the same nature.—Chiari.

To Abort Gonorrhœa.—Wash out anterior urethra for four days with 1 to 4,000 permanganate of potassium.—Jamin.

Impotence in sexual neurasthenia, suspension in Sayre's apparatus. In masturbation and pollutions, hypnotic suggestion.—Gvurkovecky.

Vulvo-vaginitis in Young Girls.—

℞. Sulphate of copper..... gram. 2
Glycerine..... " 20
Water..... " 80
Inject with small syringe.

—Baginski.

Aspiration of the Bladder.—In hæmaturia with formation of clots, a metal evacuator was introduced through the urethra, and forcible aspiration effected by means of a syringe. Boric acid solution was then introduced and drawn out till it returned clear several times and free from clot fragments.—Noguès.

Irritable Bladder with enuresis in young women may be cured by the faradic current with the bipolar electrode in the bladder, and the secondary current of moderate strength.—Grapow.

Phimosis.—A practical hint with regard to the treatment of phimosis, never known to fail: Use thin strips of gentian root as wedges, inserting some six or eight between the glans and prepuce. The gentian probably acts in a twofold manner, as an expanding wedge, deriving its moisture from the secretion, and also perhaps doing good as an astringent.—East.

Enlarged Prostate.—Where there is an elongated prostatic urethra, it is generally associated with a rectal tumor of large size, and the increased length of the prostatic urethra and the consequent increased perineal distance, is approximately indicated by this fact, and by measuring the distance with a catheter from the meatus to the point where urine is obtained.—Wishard.

Vulvitis in young girls is rarely caused by mechanical irritation, while one of the eruptive fevers, typhoid, eczema, or impetigo may originate it.—Comby.

The Female Urethra through the Urethroscope.—1, The mucous membrane of the canal is traversed with radial folds; 2, the urethral orifice appears in the shape of a darkish spot; 3, with regard to color, the urethral mucous membrane closely resembles the oral; 4, muciparous glands are invisible.—Ebermann.

Injection in Gonorrhœa.—

℞. Permanganate of zinc..... gram. j.
Distilled water..... " 700.

—Hertz.

Lupus.—Inject one or two drops of following into each tubercle. Ten injections can be made at a sitting:

℞. Acid. cinnamylic.,
Cocaine muriat..... āā gram 1
Spirit vini..... " 18

—Landerer.

Seborrhœal Eczema of the Lips.—Tar and sulphur, Dubreuilh; liquor potassæ as a caustic, Kaposi; scarification, Hallopeau; naphthol and yellow oxide of mercury, Brocq.

Seborrhœal Eczema of scalp, psoriasis, and favus.—

℞. Alumnol..... 0.5
Aq. dest..... 1.5
Glycerin..... 3
Lanoline pomade..... 15

—Chotzen.

Onychia is a form of disease about the nails. In its simple form it is called run round, or superficial whitlow; it occurs as a slight suppuration about the root of the nail, followed by the raising up of the epidermis; a yellow deposit of pus and abscess, which runs down along the side of the nail. The remedy is free incision; washing out; and it gets well.—Cheever.

Burns.—

℞. Anhydrous lanoline..... 10 parts.
Benzoated lard..... 20 "
Lime water..... 30 "

—Unna.

Pediculi Pubis.—

℞. Hydrargyri bichloridi..... 1
Acidi acetici diluti..... 300
Sig.: Use a lotion. This lotion not only kills the lice, but detaches the nits.

—Brocq.

Pityriasis Versicolor.—One friction with essence of turpentine will effect cure if clothing are disinfected.—Hericourt.

The Treatment of Warts.—Professor Kaposi, of Vienna (*La Semaine Médicale*, No. 52, 1893), recommends, when the warts are solitary, removal by the knife, but when multiple, and especially on the face, he employs the applications of thuya occidentalis or fuming nitric acid. Vegetations are best treated by dusting with resorcin or salicylic acid, or a plaster of ten to twenty per cent. Resorcin, if applied for a long time, acts as a caustic, and may irritate the surrounding normal skin. These same topical applications are also excellent in keratosis palmaris and plantaris, even when they are not wartlike. In multiple warts of the face he employs the following:

℞. Flowers of sulphur..... gram 20 (℥ v.)
Glycerine..... " 50 (℥ jss.)
Pure con. acetic acid..... " 10 (℥ ijss.)
Apply locally to each wart.

They dry up, become bluish, and drop off. Continue this for several days. In mollusciform nævi electrolysis is the best treatment, except when the tumors are voluminous, when the galvano-cautery or caustic may be used. —*Clinique*.

Antispasmine.—This salt is a double salicylate of narceine and soda, occurring in the form of a white powder slightly soluble in water. It is a good hypnotic and sedative. The following formula is advantageously followed:

℞. Antispasmine..... gram 1
Water of bitter almonds..... " 10
Sig.: Fifteen drops once or twice daily in sweetened water.

The remedy is especially recommended for pertussis in very young children.

Pruritus.—

℞. Acetate of lead..... gram 1
Dilute hydrocyanic acid..... " 5
Rectified spirits..... " 15
Distilled water..... " 250
Use as lotion.

Chronic Constipation.—Ewald recommends four or five grains of a combination of caffeine and chloral dissolved in water. The remedy is given by injection, and he states that he has failed only once in thirteen trials in obtaining thin stools.

Earache.—If without indications for operative treatment, drop into the ear several times daily a little of the following: Menthol and camphor, of each twenty grains in one ounce of albolene.

Correspondence.

OUR LONDON LETTER.

From our Special Correspondent.

THE SURGICAL BRADSHAW LECTURE—ASTLEY COOPER AND HIS WORK—ARE ACCOUCHEURS SURGEONS?—OBSTETRIC PHYSICIANS AND SURGEONS—MEDICAL SOCIETY OF LONDON—DR. H. R. SPENCER'S FIRST FIFTY OVARIOTOMIES—ARE THESE OPERATIONS SURGICAL OR GYNECOLOGICAL?—DEATH OF DR. EDIS, F.R.C.P.

LONDON, December 16, 1893.

I HAVE previously mentioned the Bradshaw Lecture at the College of Physicians. The surgical Bradshaw was delivered at the College of Surgeons on the 7th inst., by Sir William Maccormac, who took for a subject "Sir Astley Cooper and his Surgical Work." The life and work of this great surgeon in relation to the surgery of to-day is certainly an interesting topic, and future lecturers might well follow with semi-biographical subjects. It is more than fifty years since Sir A. Cooper went over to the majority, but his memory is still green among us. Of his surgical work your readers are competent judges—at least those of them who do not confine their attention to the work of to day, but take pleasure in tracing the progress of our art through its stages toward its actual condition. Sir A. Cooper was a careful observer and patient recorder of what he observed. His carefulness and accuracy may be judged of in his writings, and are the more remarkable when we remember the many advantages and helps we now enjoy which were not available seventy or eighty years ago. But this "Prince of Surgery," as he was called, was a man who would have shone in any sphere. A man of noble form, handsome and intellectual appearance, and courteous manners he would have won his way in other professions, but his gentleness and sympathy were eminent qualifications for the great surgeon prior to the era of anæsthetics. Of his kindness and consideration for others the stories are innumerable, and they still pass from mouth to mouth, so that the traditions of his good nature and skill are learned almost as soon as a student begins his work. So good a judge as Brodie declared that "his published works will transmit his name to posterity with those of Sydenham and Hunter as a benefactor to the human race."

Are accoucheurs physicians or surgeons? In itself the question is of little consequence, yet something hangs by the answer, viz., the further question—should abdominal operations be performed by the obstetric physicians or the surgeons of our hospitals? This question came up at the Medical Society of London on Monday, and was treated with a certain degree of acrimony. The progress of abdominal surgery has not tended to remove the jealousy with which surgeons saw ovariotomy taken from them by the so-called obstetric physicians. The latter gentlemen managed to "eat their cake and have it too," for they retained the prestige of physicians and yet performed ovariotomy and other surgical operations. Moreover, they remained in the College of Physicians, and so helped to leaven the horror with which that ancient corporation regarded the use of the knife and looked down upon midwifery. Again, these ovariotomists were assuredly specialists, and yet our ancient college keeps up its foolish prejudice against specialism; indeed its leaders never tire of fulminating against the evils of specialism, as if their own college, if composed, as they assume, of those who practised "pure medicine" and excluded surgery and midwifery, were not in reality a corporation of specialists. Howbeit the once despised men-midwives, having developed into obstetric physicians, are now proclaiming their rights to be also abdominal and not mere pelvic surgeons. Not that this is the first time the claim has been made, for I took part in the discussion raised on the point among the staff of one of our great hospitals more than twenty years ago, when one of the surgeons proposed that the obstetric men should not be allowed to use a knife, but should be restricted to scissors as a proper weapon for ladies' men. In his turn he was asked to tell his colleagues how often he had done hysterectomy.

The discussion which has led me to these remarks arose on a paper by Dr. Herbert R. Spencer, detailing his first fifty ovariotomies, and which he made a plea for the performance of this operation by obstetric physicians. Dr. Spencer succeeds Dr. John Williams as obstetric physician to University College Hospital, and claimed for that institution the gratitude of others for the example of permitting the obstetrician to operate, and yet methinks at least one hospital was equally liberal at an earlier date. Dr. Spencer urged that it is illogical for Cæsarean section—exceedingly difficult when complicated—to be left to the obstetrician and yet to deny him the right to deal with a simple ovarian cyst. If ovariotomies were divided among the surgeons to a hospital each would get very few, and Dr. Spencer thought patients would decline to come to inexperienced surgeons and go to special hospitals, and this he appeared to consider rather shocking, which, as belonging to a general hospital himself, was perhaps a natural prejudice, though he did not pretend it would be worse for the patients. In hospitals where both parties operate he had heard that the difficult cases are sent to the obstetrician and the easy ones kept by the surgeons. As teachers of obstetrics and gynecology also he claimed for his colleagues the operations in their specialty. Further, he spoke of the errors in diagnosis of surgeons who had opened the healthy pregnant uterus and asked if it is "fair that the obstetrician who can diagnose a tumor and remove it should be prevented from operating by a surgeon who is only competent to remove it." There was more in the same direction in this paper, and it naturally evoked discussion which has spread beyond the meeting.

Dr. Routh defended special hospitals from the covert attack of the paper, and held that to them belonged the credit of improved diagnosis and low mortality. He rather chaffed the surgeons with their mistakes in diagnosis, and scoffed at their "exploratory incisions" as covers for blunders. Mr. P. Gould said gynecologists owed much to surgeons—especially Lister. With the advance of abdominal surgery no doubt the diagnosis had receded. He saw an operation by a distinguished obstetrician who had diagnosed ovarian tumor and found it to be renal; on the other hand, he had operated for an obstetrician who thought the case surgical and found it to be ovarian. In either case it would have been absurd for the operator to stop and hand over the case to his colleague. Whoever opened the abdomen ought to be ready to deal with whatever he met with, and either surgeons or accoucheurs might be allowed to operate.

Dr. W. Duncan held that the art of obstetrics was surgical, and its practitioners should really be called surgeons, and he insinuated that the obstetric physicians usually had cleaner hands than the surgeons. Mr. Harrison Cripps held there was room for further division of obstetric physicians into those who operated and those who did not. Those who did should be trained as surgeons, and competent not only to open the abdomen but to deal with whatever might be found. He had felt the advantage of consultation with obstetricians who did not themselves operate. Dr. Playfair admitted that gynecology was a surgical art, but that enlightened Fellows of the College of Physicians (so some are unenlightened?) thought that obstetric physicians should be permitted to do necessary operations.

Surely this discussion shows the absurdity of our divisions, and the history of ovariotomy aptly illustrates it. "The father of ovariotomy" in England was at first a general practitioner, and became perforce a specialist. He was "Clay of Manchester," whose work was referred to by one speaker.

Let not your readers suppose the scientific aspect of Dr. Spencer's fifty ovariotomies was lost sight of by the speakers. Many noteworthy observations were made, but my available space is disposed of.

Dr. Arthur W. Edis. the eminent gynecologist, died last week after an operation for hernia. He was only fifty three years old, but last year was able to give up hospital work in order to attend to private practice only. His "Manual of Diseases of Women" must be well known to your readers, and also his various papers on obstetrics and gynecology. His remains were cremated on Monday.

OUR BERLIN LETTER.

(From Our Special Correspondent.)

VIRCHOW'S FIFTIETH DOCTOR JUBILEE—THE SUTURES AND THEIR RELATIONS TO CEREBRAL LESIONS—METASTASES IN ACUTE INFECTIOUS DISEASES—TABES AND SYPHILIS—PROFESSOR JACOBI'S CALL TO BERLIN.

BERLIN, December 16, 1893.

MEDICAL work seemed to begin this fall with the celebration of Virchow's fiftieth anniversary as doctor. Numerous ovations were tendered and all refused save the presentation of a bouquet by the Medical Society of Berlin.

Professor v. Bergmann, as second chairman, laid special stress on the accomplishments of Virchow, emphasizing that physicians were honored socially by their standing professionally. He enumerated his more special work on pathological anatomy, ethnology, and in sanitary matters. Finally he handed Virchow a diploma as honorary president of the Medical Society and proposed three cheers, which were heartily given. Virchow responded feelingly, thanked one and all, insisted that he had always united medicine with his scientific endeavors, and that he always tried to secure for medicine that position which it really deserved. He was highly flattered at the great ovation tendered to him, in the form of an address, by the city of Wurzburg through one of his pupils, now Professor von Rindfleisch. Although he was but thirty years of age he attained great prominence in 1856, and although his politics were disliked, he was recalled to Berlin in the same year. It will be remembered that he had to leave Berlin in 1848 on account of his political antagonism to the government.

Professor Rindfleisch exhibited a skull with very pronounced sutures. He mentioned the fact that Virchow, in 1851, in a paper read at Wurzburg, demonstrated the great importance of the ossification of the sutures and their relation to the brain and its development. He pointed out that in very rare instances the brain is influenced, in most cases it is not affected at all. He showed a skull with abnormal ossification of the sutures, more especially the sagittal, lambdoidal, mastoidal, etc., although with perfectly normal brain functions, intra vitam.

Next followed a highly interesting announcement of Professor Ponfick, of Breslau, also a former pupil of Virchow, who mentioned the important literary contributions of Virchow, especially those relating to thrombosis and embolism. which, according to the old belief, were due to cell-degeneration, but now to micro-organisms. He referred in that connection to nature's efforts at elimination of poisons by the different emunctories, and alluded to the fact that in such cases we frequently find albumin in the urine. This has been regarded as a product of the bacteria acting on the epithelium of the kidney. He found, furthermore, in the course of his investigations, that the action of bacteria is frequently transmitted to the bones, and in post-mortem examinations of typhus patients he found disease of almost all the bones.

In advanced phthisis, where mixed infections take place, we find diseased bones. The milder cases may be cured, the others result in thickening of the bone remaining permanent. The animal cells destroy the vegetable cells. He then referred, in passing. to the celebration of the doctrine of the honored guest of the evening.

Until recently the healing of tuberculosis, tetanus, diphtheria, and hydrophobia was attempted by specific treatment. Recently, however, two Hamburg physicians, Eugene Fraenkel and Th. Rumpf, have attempted to cure typhus abdominalis by a specific method.

Both attempted it in different ways. Fraenkel tried the method of Brieger by using thymus and typhus bouillon cultures. From this thoroughly sterilized bouillon, which had been previously tested as to its poisonous properties on guinea-pigs, Fraenkel injected 0.5 c.c. very deep in the gluteal regions. Very little change resulted therefrom, but on the following day the dose was increased and injected on the other side. On the third day of treatment a distinct falling of the temperature was noticeable, and twenty-four hours later the temperature fell one half or even a whole degree below the temperature at which the febrile process begun. If a cure has been attained then the treatment is discontinued, if not the dose is increased 1 c.c. every second day. In this manner we can easily interrupt the fever and convert it into an intermittent variety. As soon as the remissions are attained a general improvement is manifest, profuse perspiration and diuresis occur, and the patients appear as though in a convalescent stage. The remedy does not protect against complications, nor against relapses; the latter, however, get well by the use of the same remedy.

An entirely different method was employed by Professor Rumpf. The latter had micro organisms, which had no relation to the patient, as a culture of pyocyaneus which he had developed on sterilized thymus juice. After being sure of its sterility, 0.5 c.c. was injected in the same region as of Fraenkel's culture. In some cases there was a rise of temperature following the injection. which subsided on the second day; very seldom was a reduction of temperature perceptible, but a distinct reduction occurred two days after the injection of 1 c.c., at the same time the subjective condition seemed to improve. On the fourth day of treatment patients appeared to be convalescing. To attain a cure the treatment must be continued until 6 c.c. is employed. Under this method we have results which have never previously been attained by other methods of treatment.

With this method we also have complications and relapses. The most important point which has been learnt is that we are capable of modifying and curing a disease which owes its origin to certain pathogenic germs which we recognize by micro organisms entirely foreign to the disease under consideration. Even now Sohernheim found the same condition in regard to cholera by investigations at the Bacteriological Institute of Marburg. They were able to cure guinea-pigs of cholera by injecting dead bacteria and their products.

In the last meeting of the Berlin Medical Society Professor Gerhardt read a paper on the spine in syphilis. He favored the view of those who believe tabes dorsalis and syphilis as one and the same disease etiologically considered; at least in one-half of the cases they were able to find antecedent syphilis.

In the discussion following the paper it seemed to be the general opinion that the author's views were sound. Professor Mendel found syphilis in seventy per cent. of cases of tabes. Professor Senator found syphilis also in about seventy per cent. of cases of tabes. Virchow called attention to the frequency and importance of visceral lesions in syphilis which are rarely, if ever, met with in tabes.

Finally, I desire to call your attention to something unusually interesting for Americans; that your prominent pædiatrist Professor A. Jacobi, was first mentioned and invited to fill the chair of pædiatrics recently vacant. It shows you that the great authorities which have left Europe, especially Germany, are being temptingly invited back—but we hear that, to our sorrow, he will not leave his lucrative and prominent positions in New York.

As a matter of fact, there is a distinct scarcity of pædiatrists in Germany, and we believe it will be a long time ere we can replace that most eminent of all European pædiatrists Edward Henoch.

Periostitis, when acute, permits of no delay after its nature is known. Cut to the bone at once.

RECKLESS USE OF CHLORAL.

To the Editor of the Medical Record.

Sir: Your worthy editorial in the Medical Record of December 16th was most timely and instructive.

There recently came under my care a man giving a history of chronic alcoholism, who for a period of three weeks had been in the habit of nightly taking eighty grains of chloral at a single dose. During the day he would take none.

He told me he had frequently taken as high as one hundred and twenty grains on retiring, feeling no ill-effects, but thoroughly refreshed on awakening in the morning. As the habit was rapidly gaining, he put himself under treatment.

A gradual withdrawal of the drug, substituting sulphonal for the retiring dose, putting him on large doses of strychnia, iron, etc., with occasional use of bromides, regulating his habits, and giving diversion, has thus far vanquished the habit.

F. R. Searles, M.D.

Plainfield, N. J., December 22, 1893.

TUBBING IN TYPHOID.

To the Editor of the Medical Record.

Sir: It is now more than twelve years ago since I walked along one of the busy streets of a German town with a teacher of mine—a man who has done good and lasting work in his special ways. We were returning from a lecture he had just delivered, and our ambulatory conversation had been the subject of this lecture. The Herr Professor, well pleased with himself, became personal and asked me what I thought of his lecture and the methods he had employed for inculcating the facts, etc, he had wished to force home on his hearers. I, as a student, had felt my needs better than he could think or fancy them, and I told him in what respects, from my point of view, his lecture fell short—not that it had been wanting in learning, matters of fact, good reasoning, and solid logic, and the other literary virtues a teacher has cause to be proud of, but wanting in the needs of satisfying my crying wants. The Herr Professor took my criticisms very kindly, and I was much gratified that he did so. It was one more kind act added to a hundred others for which I felt and feel deeply indebted to him. "Ah," said he, as we stopped at the corner of another street to say our "ades," "if we could only know always what you students needed to know most, how much better we could teach." Well, this episode was recalled to my mind by reading Dr. Baruch's interesting letter in to-day's Medical Record. "What an ingenious letter," said I, "and how unsatisfactory!"

The Doctor knows so much about typhoid fever and tubbing, and he wishes to convince those in doubt about the efficacy of tubbing, and yet—not forgetful of what I know about typhoid fever, besides what I have seen and heard concerning its treatment by tubbing—I am, (in spite of Dr. Baruch's letter, which seems to have been written in a jocund mood, his brains a little raised, perhaps), not convinced that tubbing is the treatment for typhoid fever under every and all circumstances. One cannot always fall into being convinced by easy methods of argumentation, and, it seems to me, Dr. Baruch has used the easiest methods imaginable just because they were nearest to hand. He speaks of the force of "rationale," and reason, and statistics in a high sounding way, as opposed to sentiment. Without sentiment civilization were impossible! In scientific medicine, it is true, sentiment is sometimes an evil, but it can be done away with in many hard though reasonable ways, and successfully. But in practice, private practice, even among the poor and needy, sentiment is not so easily annulled. Neither should it be forgotten that sentiment lets in science, even at the doors of the élite. A taking "rationale of treatment," braced up by statistics and reason, and garnished with the halo of respected and honored names, makes a fine appeal in favor of tubbing for typhoid fever. But that is not all that is needed to convince a man who may be prejudiced and misled. It would not be in good taste for me to tell such a man as Dr. Baruch would have us believe him to be, what is more essential than "rationale" "reason," "statistics," and names. It is certainly not true that "There is need of more positivism in medicine." We have positivism, and enough to spare, thrust at us every day. We want facts, but want facts and definition. Besides, in medicine as in æsthetics, bad reasoning and faulty logic are not synonymous sins. However, we may go wrong in expecting too much—even from Dr. Baruch. It was Plato who said, "Him will I call a god who can rightly divide and define." If we cannot be expected to be gods, we can, with a little effort, at any rate be modest. Dr. Baruch quotes the hospital experience of some New York and Philadelphia men, physicians whom we respect. But hospital experience is not the best guide for the demands of private practice. Statistics and experience emanating from hospitals very frequently lack definition, and in so far they are apt to be misleading. Physicians and surgeons feel themselves freer to treat disease in hospitals than they do in private practice. In private practice, necessity obliges us—the possibly prejudiced and misled practitioners—to treat the patient as well as the disease or diseases he is suffering from, and here sentiment helps as well as science and art.

From what Dr. Baruch says, one concludes that he is a lucky man, besides all else that his letter more or less impliedly claims for him; but, at the same time, one cannot suppress the query: Has he never tubbed a patient, who, after some trials, obstinately refused to be tubbed more, even preferring a bad prognosis to a promised good one, if the condition be tubbing, and yet, in spite of all, the patient get well? Cases of this kind should be brought to light, as well as such that he has quoted, although they would not look so well in a letter purposing the saving of practitioners from prejudice and error.

All the above thoughts are only a few of those suggested by the perusal of Dr. Baruch's letter, and they are not sent to your honored journal as a refutation of the contents of that letter, but merely in illustration of how one train of thoughts may start another—in short a psychological experiment that may be as interesting to others as it has been to me, and may possibly be to Dr. Baruch himself.

Very Respectfully Yours,

Adolph Rupp, M.D.

406 West Thirty-fourth Street,
December 25, 1893.

THE REAL FUNCTIONS OF A LUNACY COMMISSION.

To the Editor of the Medical Record.

Sir: From time to time in the past, efforts have been made in Michigan to create a public sentiment favorable to the appointment of a lunacy commission. The superintendents of State asylums have discussed the matter to some extent, and I think it has been conceded that in certain lines the services of a commission, or, perhaps rather, a single commissioner of high medical and legal attainments, might be extremely useful. Matters pertaining to the sufficiency of orders and the medical examinations of patients previous to their admission to an institution; the illegal or unnecessary detention of patients; the circumstances attending commitment, where conspiracy, fraud, or wrong is alleged; the investigation of complaints of patients in institutions; recommendations in respect to the commitment of patients to asylums, where the public weal is concerned, but where interested parties for one reason or another fail to act; expert services in court; investigation of questions pertaining to the property and estates of patients; attention to their legal claims when wrongfully deprived of their just rights

in legacies or bequests; the creation of a healthy public sentiment concerning hospital treatment for insanity, and the inculcation of reasonable views as to the nature of insanity itself; these, and numerous other perfectly legitimate and proper functions, might be assumed by a commission in lunacy alive to the interests of patients and the welfare of progressive psychiatry. It has never been deemed, however, by those who have felt an interest in the appointment of such a commission in Michigan that, if appointed, it would concern itself about the purchase of provisions for hospitals, or the distribution of blankets or tobacco among patients. These are subjects for the trustees and officers of individual asylums to pass upon. They are the only competent judges of the necessities of the case. It strikes an unbiassed observer that a lunacy commission is exceeding its proper limitations, that concerns itself with matters of this character.

Very respectfully,

C. B. Burr,

Medical Superintendent, Eastern Michigan Asylum, Pontiac, Mich.

New York City, December 23, 1893.

New Instruments.

A NEW SURGICAL STERILIZER.

By EDUARD BOECKMANN, M.D.,

ST. PAUL, MINN.

I present to the medical profession the following sterilizer, which is the result of several years' busy and costly experimenting. It consists of three separate parts, viz.: A, the boiler; B, the cover; C, the receptacle.

The boiler has the shape of an ordinary pan, three inches deep, perforated in the centre of the bottom, where a tube, three inches long, is inserted. Underneath the bottom, at a distance of a quarter of an inch, is fastened, by aid of screws, a plate of galvanized iron.

The cover is pitched, perforated on top, where a short tube is inserted. Its depending flange is made so long that the lower rim will rest on the bottom of the boiler, when the receptacle, hereinafter mentioned, is properly inserted. The diameter of the cover is the same as that of the boiler bottom.

The receptacle has a pitched bottom, perforated at the lowest point, where a tube, three inches long, is inserted. Inside the receptacle, a little distance above the perforation, is placed a metal plate, and a little farther up a diaphragm of galvanized iron. The receptacle is provided with a loose, pitched cover, perforated and adjusted, with a short tube on top (not illustrated on cut). The diameter is one inch less than that of the cover.

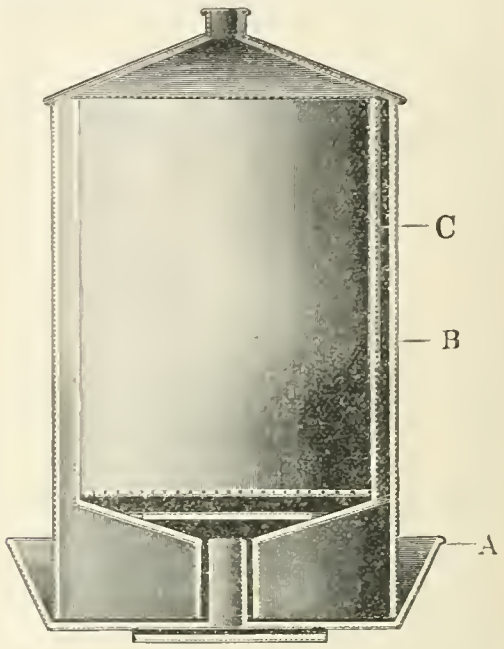
With this simple apparatus we are enabled to sterilize with surgical steam (saturated, low, streaming, oversteam), with hot air, and with boiling water.

For steam sterilization the boiler is half filled with water and placed on any good fire (stove, gasolene, or gas). The receptacle is filled with articles to be sterilized and placed in the boiler, whose central tube will exactly fit inside the corresponding one on the receptacle throughout its whole length. The cover is then put on and a cork is inserted in the tube on top.

When the water boils, the steam generated will ascend between the cover and the receptacle, being prevented from escaping above by the cork and below by the water itself. The steam is forced, therefore, to work itself down through the receptacle and its contents and make its escape through the bottom perforation. Reaching the heated plate under the bottom, the steam will disappear into the air as an invisible gas (superheated steam). Steam the articles for half an hour, remove the cork, and after a short time everything inside the receptacle is perfectly dry and sterilized.

For hot-air sterilization place the apparatus on the fire without the cork in the upper tube. While the receptacle in this way will be surrounded by steam of 212° F., freely escaping through the upper tube, hot air will, as a matter of course, enter the receptacle from below. The temperature of this heated stream usually is about 400° F. when entering the receptacle, consequently scorching.

I have applied inside the metal plate, which will absorb the strong heat and again radiate it in such a manner that the temperature at the level of the wire diaphragm will register about 284° F., the necessary degree of dry heat to destroy spores in three hours.



For boiling water sterilization place the articles to be sterilized in the boiler, and adjust the cover with the cork in the upper tube.

This apparatus is made of tin or copper, and in different sizes to suit different demands. It will certainly fill a long-felt want, as its reliability is indisputable, its practicability evident, and—last, but not least—its price low.

236 East Seventh Street.

LID ELEVATOR AND EYE DOUCHE.

By E. L. OATMAN, M.D.,

NYACK, N. Y.

This lid elevator, made at my suggestion by Tiemann & Co., is in shape like the ordinary elevator, but being hollow, with open ends, it serves the additional purpose of a douche. It is of service in severe cases of purulent or gonorrhœal conjunctivitis where frequent inspection of the cornea is necessary, and its preservation dependent in



a great measure on the thoroughness with which the eye is cleansed.

When in use connect the handle of the elevator to the bag of a fountain-syringe by a few feet of rubber drainage-tubing, which, owing to its flexibility, is the best for this purpose.

Having elevated the lid and inspected the cornea, the eye may now be thoroughly irrigated, especially in the fold of transmission, which is inaccessible by ordinary methods of cleansing. The flow of the irrigating fluid is best controlled by having the nurse raise and lower the

syringe reservoir. The elevator shown in the cut is made of rubber; but if the expanded portion which enters the eye was platinum, it could be more readily sterilized after use.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 30, 1893.

	Cases	Deaths.
Typhus fever	0	0
Typhoid fever	6	4
Scarlet fever	117	7
Cerebro-spinal meningitis	0	2
Measles	292	12
Diphtheria	208	61
Small-pox	14	2
Cholera	0	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0

Veterinarians and the Spoils System.—At the late Congress of the United States Veterinary Medical Association at Chicago, Dr. W. Horace Hoskins, of Philadelphia, introduced the following resolutions:

Whereas, The many rapid and uncalled-for changes recently occurring in the veterinary corps of the Bureau of Animal Industry, and the grave dangers following in their train to the true recognition and proper advancement of veterinary science, call from us an expression of opinion at this time, in congress assembled; therefore, be it

Resolved, That we deplore the degrading of this service in this department of our national Government, and in all others where the veterinarian is recognized, to the shameful basis of the "infamous spoils system," that has done so much toward hindering the proper and true growth of our country; and further, be it

Resolved, That we call upon the proper officials of our Government to rescue this service from the grave dangers now threatening the health and wealth of our nation by the appointment of incompetent, unqualified officials to enforce the wise laws provided, which have been so fruitful of good results in the past and have so well accomplished the removal of the embargoes against our food-products in the foreign nations of the world; and further,

We call upon every veterinary organization, body, society, and member of the profession to array himself against the perpetuation of this un-American, unwise, and degrading system of entrance to public service, which should be the emulation and pride of every true citizen.

The resolutions were adopted with only one dissenting voice, and Dr. Hoskins, their author, was later unanimously elected president of the Association for the coming year.

A Study of the Effects of Modern Bullet Wounds.—The chief surgeon of the Roumanian army has been making grewsome experiments with the new Männlicher rifle, with which the forces are being equipped. He placed a number of human bodies in rows, like soldiers on the field of battle. At six hundred metres five bodies were placed a half yard behind each other. A single bullet went through three bodies in succession. Upon the soft parts of the bodies the wounds were perhaps less serious than those inflicted by the old fashioned rifles, the hole made by the bullet being smaller and more even; but on the whole the injuries are far more terrible. The range of the new rifles is about two and a half miles.

Nasrol: A New Diuretic.—In a paper read at the recent session of the Society of German Naturalists and Physicians, at Nürnberg, the author expressed his opinion that digitalis and similar medicaments are not really diuretics, although they increase urinary excretion in some kinds of dropsy, by invigorating the cardiac muscle and improving circulation. Aside from certain vegetable products, and the alkaline, mercurial, and antimonial salts, di- and tri-methylated xanthine—theobromine and caffeine—are mentioned as true diuretics. However, as experience proves, their effects are not absolutely certain, because both caffeine and theobromine possess the undesirable property of contracting the blood-vessels and increasing the blood pressure, and of thus paralyzing the action upon the renal cells. Schroeder enhanced the diuretic effect of caffeine by administering with it (to increase blood-pressure) a corresponding dose of chloral hydrate (which decreases pressure and dilates the blood-vessels). This, however, did not prove to be of therapeutic value, since chloral hydrate was contra-indicated in patients suffering from kidney or heart disease. Dr. Liebrecht prepared several caffeine derivatives, such as bromo-caffeine. But this substance, it is stated, evinced, like the caffeine-chloral combination, too much of the unpleasant by effects of caffeine; and other caffeine preparations proved impracticable. Experiments with nasrol (sodium caffeine-sulphonate), however, showed that this combination did not excite the vascular nervous system; blood-pressure remained unchanged, even with doses of 0.5–1 gramme (7½–15 gr.), while urinary secretion was surprisingly increased. In one patient, who took daily 2,880 grammes (100 fl. oz.) of fluid and passed on the average 1,650 grammes (about 55 fl. oz.) a day of urine, the urinary secretion, after the ingestion of 4 grammes (1 dr.) of sodium caffeine-sulphonate, increased to 3,200–3,400 grammes (say 112 fl. oz.). In another patient, ingesting daily 3,200 grammes (106 fl. oz.) of fluid and excreting 1,700–1,800 grammes (say 60 fl. oz.), the quantity of urine, after the administration of 4 grammes (1 dr.) of lithium caffeine-sulphonate, increased to 3,600 grammes (about 120 fl. oz.). While sodium caffeine-sulphonate—nasrol proper—dissolves in water rather sparingly, the lithium and strontium salts are readily soluble; and the solvent action of the lithium is said to be greatly increased by the caffeine-sulphonic acid. The same acid is also likely to increase the diuretic action of strontium. Since solutions of sodium caffeine-sulphonate (nasrol) stronger than five per cent., do not keep long, and are of a rather bitter taste, it might be better to administer this new remedy in capsules.—*Heinz.*

Gold and Sodium Chloride in Chronic Bright's Disease.—Gold and sodium chloride, being at the same time a diuretic, diaphoretic, and alterative, the author was induced to employ it in the treatment of chronic parenchymatous nephritis, in which the skin is usually dry and the quantity of urine diminished. This treatment, it is said, always yielded excellent results, excepting in cases of far advanced or very complicated Bright's disease (hydrothorax or hydro-pericardium of long standing). The author has, in fact, employed the treatment thus far only in the idiopathic forms of chronic parenchymatous nephritis, not having had an occasion to test it in cases in which Bright's disease supervenes in the course of other affections. He administers it in 1.60 aqueous solution, giving ten to twelve drops six times daily in adults; less in children, according to age. If the renal affection is complicated with gastro-intestinal disturbances, it is advised to commence with small doses, two drops four to six times a day, the dose to be increased as the digestive functions improve. The treatment is continued until albuminuria is completely suppressed—even for months. Its effect is first felt after varying periods of time, sometimes not even for a month. It manifests itself by the re-establishment of the sudoral function, increase of diuresis, diminution and final disappearance of albumin in the urine, and disappearance of the general symptoms of Bright's disease. The improvement in the author's cases

has been so considerable that the patients have been able to resume their occupations, and have been considered cured. No recurrence has thus far supervened in these patients, it is reported. The curative action of the gold and sodium chloride being very slow, the medicament is not serviceable in cases with acute uræmic symptoms. The uræmia must first be combated by drastic purgatives (calomel and jalap), before the chloride is resorted to. As to diet, the author permits his patients mixed nourishment, provided it is sufficiently nourishing and contains many vegetable substances, which seem to exercise a favorable influence upon the metabolism in such patients. Should diarrhœa supervene, the patient is subjected to absolute milk-diet until the intestinal disturbances have entirely disappeared.—*Dowkontt, in the Medical Week.*

On the Death of a Young Physician.—Mr. William F. Lucas, of London, died recently from diphtheria contracted in the discharge of his professional work. He was a young man of great promise, who had fully equipped himself for a medical career in which great success was assured to him. His death was, however, like that of many others whom we have seen fall by the way. It illustrates the dangers of our calling and the peculiar sadness attached to the sudden removal of those for whom so much is hoped. The memory of Mr. Lucas is celebrated in a Latin poem which we print here, because it is touching and beautiful, and because it may easily be applied to some of those who have been suddenly taken from the medical and social circles of this city. We trust that many of our readers still remember enough of their early learning to appreciate the pathos of the lines. We do not ourselves pretend to determine the elegance of the Latinity.

In Memoriam.

Arbor frondibus decora,
Novis floribus odora
Ante diem cæditur.
Portu vix egressa ratis
Subita vi tempestatis
Fluctibus summergitur.

Teque magno cum dolore
Flemus in ætatis flore,
Moribus amabilem,
Acerba sorte interceptum
Tuorum oculis ereptum,
Cordibus superstitem.

Heu ! juventus animosa,
Vitaque laboriosa,
Vividum ingenium,
Sine fructu perierunt,
Nihil mores profuerunt,
Nil amor sodalium.

Verba ne edas profana,
Vita non est illi vana,
Si quis bene vixerit.
Partes suas bene gerens,
Aliisque opem ferens,
Pulchra morte concidit.

Is qui vitam sic transivit,
Plenus fide obdormivit,
Non omnino moritur.
Tutum ratis tenet portum,
Arbor in cælestem hortum
Frugifera transponitur.

The Child.—The first three years of life constitute the most important epoch of human existence. During the period from birth to the beginning of the fourth year, the special senses unfold, the moral nature develops, articulate speech and locomotion are acquired, control is gained over all the muscles, and attention, memory, comparison, imagination, generalization, judgment, and reason are gradually made manifest. The new-born infant, it must be remembered, does not start at zero, and add all these significant figures during the first three years of life. Before birth it has already existed as an individual, and been subjected to many influences as yet imperfectly understood. Whatever their development, the germ of human faculties is in every new-born child. The organized human being lives and develops conformably to its hereditary pre-dispositions, to its natural individual constitution, and to its environment. "At birth the gate of gifts is forever closed." The difference between the faculties of a little child and those of a grown person is quantitative rather than qualitative. As human personality and human power are roughly blocked out during antenatal days, what then remains for education to do? What part of the human creature is most susceptible to the influence of training and surroundings? It is the moral sense that is the inherited faculty most susceptible to the influence of education and to individual culture. Race culture does not insure personal morality. It is a special, definite, individual thing, and must be awakened and trained in each child separately.

As material prosperity is the basis of all civilized morality, the first thing to do is to find out what constitutes the material prosperity of childhood. Hygiene, in its widest sense, covers the whole ground. Plenty of sleep, fresh air, and sunshine, physical exercise out of doors, proper food, warm clothing of light weight that is not too fine for games and romps, companionship of other children of the same age, the training of the senses, and the formation of habits conducive to law and order, may be said to be the material prosperity of childhood, that constitutes the basis of a morality sufficient to meet and surmount the shocks of a lifetime. This hygiene or material prosperity of childhood is pleasantly and practically treated, in the simplest manner possible, in a little book called "The Child," by Bertha Meyer. While it contains much that everybody knows, it also contains valuable suggestions not in the common stock of knowledge. The absence of all technicalities is an advantage to the average mother, who naturally prefers thoughtful advice to the senseless traditions of Mesdames Brown, Jones, and Robinson. "Life is bounded by physical conditions," says the author. "The body contains all the elements that are necessary for the development and forming of the mind." Disease and suffering in infancy and childhood prevent the mind from attaining the full development and exercise of its powers. The strong body in infancy renders the future reasonably secure. And ten chapters are devoted to directions concerning ventilation, exercise, food, the forming of good habits, the cultivation of the æsthetic sense, the sharing of happiness and responsibility by children and parents, together with some account of German philanthropy that has for its end the amelioration of childhood among the poor. There is a plea for the largest liberty in the nursery and for unrestrained intercourse with nature, for frolicking out of doors, for regular tasks, and for the full development of the left hand, for justice and simplicity, for the training of the senses, that later all inharmonies of form, sound, and color, and all noxious odors may be avoided, and the sensible advice is given that a physician should always be called in to inspect any rash that may appear upon a child's body, or to pronounce upon any unusual condition of the limbs or trunk. "The Child" cannot fail to be a comfort to the ignorant yet loving mother, whose name is legion.

Slow Promotion.—Kaposi and Neumann, after twenty-seven and thirty-two years of service respectively in the University of Vienna, have been made ordinary professors of dermatology.

A Grim View of It.—The death of an ossified man in Tennessee is reported. He died hard.—*Chicago Tribune.* [This is as bad as the man who swallowed a thermometer and died by degrees; it suggests also the case of the consumptive undertaker who died of a coffin.]

Chance or Chancre.—The *Pittsburgh Medical Review* makes Jonathan Hutchinson say, in speaking of the beauties of circumcision: "I have never seen cancer of the penis in a Jew, and chances are rare." Does it mean that the learned gentleman has few opportunities of observing the condition, or that Hebrews have few chances of acquiring it?

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 45, No. 2.
Whole No. 1210.

NEW YORK, JANUARY 13, 1894.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

A FOURTH CASE OF AMPUTATION AT THE HIP JOINT BY THE AUTHOR'S BLOODLESS METHOD.

BY JOHN A. WYETH, M.D.,

NEW YORK.

PROFESSOR OF SURGERY AT THE NEW YORK POLYCLINIC; SURGEON TO MOUNT SINAI HOSPITAL.

W. M. F—— came under my care through the courtesy of Dr. O. I. Halbert, of Waco, Tex., in February, 1891. He was then twenty-five years old, with a history of "hip disease" since his fourth year of life. The left lower extremity was much smaller in development than the right, and shorter by about five inches. The femur was adducted about fifteen degrees and flexed on the abdomen to about sixty degrees, and was immovably anchylosed with the pelvis. There were ten or twelve openings scattered over an area of a foot in diameter, on the trochanteric surface of the thigh, in the groin, and over the sacrum and rim of the ilium. He was waxy in appearance, much "run down," and evidently anæmic from prolonged sepsis. The diagnosis was chronic hip disease (tuberculous osteo-arthritis) with involvement of the bones of the pelvis in the vicinity of the acetabulum.

In February, 1891, under ether, I incised these sinuses, curetted with Volkmann's spoon, and introduced drainage tubes in various directions. One tube entered near the anterior superior spine of the ilium, passed by the acetabulum, and emerged near the anus. This thorough drainage, with frequent irrigation with sublimate solution, 1 to 5,000, brought about considerable improvement in his general condition. I advised him to return home and come to me whenever the drainage was not efficient.

This he did in November, 1893, and on the 20th of this month, having satisfied myself that a cure could never be effected without removing the useless limb and thus enabling me to reach the diseased bones, I amputated by the bloodless method. By reason of the anchylosis and malposition of the hip the amputation was more difficult than usual. I could not break the femur loose from the adhesion to the pelvis, and was compelled to chisel it away. *This was done, and all vessels secured with the tubing constrictor or tourniquet still in situ.* Silkworm gut sutures were inserted, the wound packed with warm sterilized gauze, and the sutures partly tightened over this packing. There was no hemorrhage except that which oozed from the chiselled bony surfaces. The patient rallied without a symptom of shock. Forty-eight hours later the dressing was changed, the temporary packing removed, and the sutures finally tightened. The patient recovered, and was out on crutches at the end of the third week. The operation lasted forty minutes.

As set forth in a recent paper read before the New York State Medical Association, and published in the *Medical News* of December 9, 1893, I have, as a result of the experience of other operators and myself, improved upon the technique of this operation, as given in the earlier publications. Under strict antisepsis it is as follows:

1. With the patient in the usual position for a hip-joint amputation, the limb should be emptied of blood either by elevation of the foot and lowering of the trunk, or by the Esmarch bandage applied from the toes to the trunk. Under certain conditions the bandage can be only partially, or may be, not at all, applied. When a tumor exists, or when septic infiltration is present, pressure should only be exercised not quite to the diseased portion for fear of driving septic matter into the vessels. After injuries attended with great destruction, crushing, or pulpification, of course the Esmarch bandage is not applicable, and one must trust to elevation to save as much blood as possible.

2. While the member is elevated, or before the Esmarch bandage is removed, the rubber-tubing constriction is applied.

The object of this constriction—and it is the chief point in the method—*is the absolute occlusion of every vessel at the level of the hip joint safely above the field of operation, permitting the disarticulation to be completed and the vessels secured before the tourniquet is removed.*

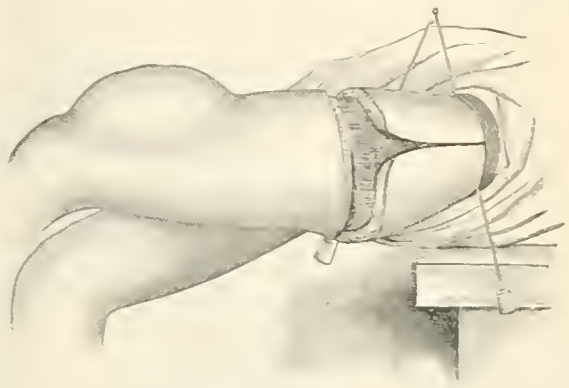


FIG. 1.—The needles and constrictor applied. Circular and longitudinal incisions for skin-flap.

To prevent any possibility of the tourniquet slipping I employ two large mattress-needles or skewers, about three-sixteenths of an inch in diameter and ten inches long, one of which is introduced one inch below the anterior superior spine of the ilium and slightly to the inner side of this prominence, and is made to traverse superficially the muscles and fascia on the outer side of the hip, emerging on a level with, and about three inches from, the point of entrance.

The point of the second needle is made to enter one inch below the level of the crotch internally to the saphenous opening, and, passing squarely through the adductors, comes out an inch below the tuber ischii. The points are at once shielded by bits of cork to prevent injury to the hands of the operator. No vessels are endangered by these skewers. A piece of strong, white-rubber tube, half an inch in diameter and long enough when tightened in position to go five or six times around the thigh, is now wound very tightly around and above the fixation needles and tied. If the Esmarch bandage has been employed, it is now removed. Dr. Lanphear succeeded in holding the construction in place with only one (the outer) needle. Dr. Deaver was equally successful in holding the tubing well up by two strips of roller bandage, one before and one behind, held by an assistant, and thus dispensing with the needles. Since the needles are, however, absolutely safe, easy to obtain, and inexpensive (a piece of telegraph wire, even, will suffice) and entirely out of the way, I do not see any benefit to be derived from their disuse. On the contrary, I should be afraid to operate without them.

3. In the formation of flaps the surgeon must be guided

by the condition of the parts within the field of operation. When permissible the following method seems ideal:[1] About six inches below the tourniquet a circular incision is made, and this is joined by a longitudinal incision commencing at the tourniquet and passing over the trochanter major. A cuff that includes the subcutaneous tissues down to the deep fascia is dissected off to near the level of the trochanter minor. At about the level of the trochanter minor the remaining soft parts, together with the vessels, are divided down to the bone by a circular cut, and, in order to facilitate the search for the vessels, the soft parts are rapidly removed from the femur for several inches below the line of the divided muscles. At this stage of the operation the larger vessels, veins as well as arteries, should be tied with good-sized

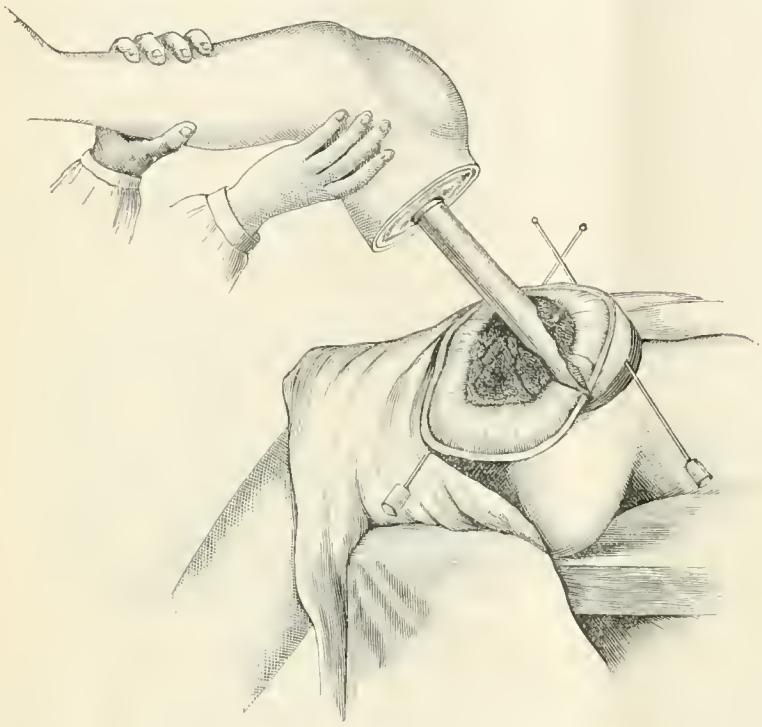


FIG. 2.—Cuff of skin and subcutaneous fat turned back, muscles divided at level of small trochanter, bone partly stripped, and large vessels exposed for deligation.

catgut.[2] As suggested by Professor Murdoch, of Pittsburg, I now leave the entire extremity intact and use the full length of the limb as a lever in dislodging the head of the bone.

When the larger and easily recognized vessels have been secured, the muscular attachments to the upper extremity of the bone are lifted off with scissors or knife, keeping along very close to the bone. Holding the soft parts away with retractors, the capsular ligament is exposed and divided in its circumference. Forcible elevation, abduction and adduction of the thigh permit the entrance of air into the socket, and, at the same time, rupture the ligamentum teres, and the disarticulation is thus easily and rapidly effected.

Properly conducted up to this point, not a drop of blood has escaped, except that which was in the limb below the constrictor when this was applied. If now the tourniquet be carefully and gradually loosened each bleeding-point may be determined and the forceps applied as required until the tube is entirely removed.

Should any difficulty be encountered in the effort at enucleation (which is scarcely possible), the same precaution in securing all bleeding points should be exercised in removing the tourniquet, and enucleation completed with the tourniquet out of the way.

4. There remains the closure of the wound, with the usual precaution of drainage. I prefer silkworm-gut for suture material, and one good-sized rubber drain from the acetabulum out at the most dependant part of the wound.

When by reason of the proximity of a neoplasm or the destruction of the parts by accident or disease, this ideal method is not practicable, any modification may be practised, preference being given to the incision that keeps furthest from the tumor or gives the healthiest flaps. When there is not sufficient material for perfect closure it is even safer to err on the side of an unclosed wound and trust to granulations or grafting for ultimate closing of the wound.

Before concluding the consideration of the technique I wish to emphasize a point of great importance. When, by reason of severe hemorrhage before operation, or when from any pathologic anæmia or condition of weakness, the operation should be rapidly completed and the small amount of blood that will necessarily be lost from capillary oozing should be saved, suturing of silkworm-gut should be rapidly introduced, the wound packed with hot sterilized plain gauze (not iodoform or bichloride gauze), and the sutures temporarily tightened for snug compression of the wounded surfaces. This packing at once controls all oozing and can be removed, and in from twenty-four to forty-eight hours after reaction the sutures finally secured.

The case herewith reported, with an additional successful case performed by Professor J. M. Holloway, of Louisville, for sarcoma, just made known to me by private communication, make a total of 42 cases by this method, with 9 deaths, a death-rate of 21.4 per cent., as against Ashhurst's table of 633 cases in which the total death-rate was 64.1 per cent.

NOTE.—In the issue of the MEDICAL RECORD of December 16, 1893, Dr. W. H. Buechner, in writing of Amputation at the Hip-joint, remarks: "The Volkmann operation, of which Wyeth's is a modification," etc. I was not aware, until I read this, that the great surgeon, Volkmann, had ever done an operation at the hip of which mine was a modification. So far in the German literature at my command I have failed to find any reference to it. In the *Deutsche Klinik* for 1868 are three hip-joint amputations by Volkmann, but in each of these a preliminary deligation of the femoral was done. Dr. Billroth and Luecke, *Deutsche Chirurgie;* Von Pitha and Billroth, *Handbuch der Chirurgie;* nor in the works of Koenig, Linhart, Heinecke, or Esmarch, nor in *Centralblatt für Chirurgie* or *Klinische Vorträge*, of which Volkmann was an editor, can I find any description or mention of any such operation. My operation, as originally brought out, is a modification of an American operation by Dr. Walter Brashear, done at Bardstown, Ky., in 1806, before Volkmann was born. He placed his tourniquet high up, amputated the thigh well below, tied all the vessels, and then made a longitudinal incision over the trochanter and remainder of the femur, and disarticulated. When I did my first three hip-amputations I did not know of the Brashear or any other similar procedure, but I am proud to discover that a Southerner and American was the pioneer in this method which has been claimed for Dieffenbach and other foreigners. My bloodless method as perfected permits the use of this old circular and longitudinal incision or any other method of forming flaps.

[1] At Bardstown, Ky., in August, 1806, Dr. Walter Brashear amputated at the hip, in a negro lad, seventeen years old, on account of a severe fracture of the femur and laceration of the soft parts. A circular incision was made, the muscles divided well below the hip-joint, and the vessels secured as the operation progressed. Then a longitudinal incision along the outer side of the limb exposed the remainder of the bone, which, being freed from its muscular attachments, was disarticulated at the socket (Professor D. W. Yandell, in American Practitioner and News, 1890). Dieffenbach's name has been prominently associated with this operation among surgeons, but Dieffenbach did not take his degree in medicine until 1822, sixteen years after the pioneer Kentuckian had performed his operation, the first hip-joint amputation performed in the United States.

[2] I employ catgut in all cases and have never had a secondary hemorrhage.

The claim I insist upon is this: *with the two needles properly inserted the elastic cord occludes every vessel at the level of the joint and permits the complete disarticulation with the tourniquet still in place.* No compression over the pelvic or abdominal regions is required. No tissue or organ is endangered. This method is original, and, I believe, novel. I honor Richard Volkmann above most surgeons, for his great work ended too soon for the good of science, but I cannot give him credit for what an American surgeon did.

OPERATIVE SURGERY OF THE GALL-TRACTS, WITH ORIGINAL REPORT OF SEVENTEEN SUCCESSFUL CHOLECYSTENTEROSTOMIES BY MEANS OF THE ANASTOMOSIS BUTTON.

By JOHN B. MURPHY, M.D.,

CHICAGO, ILL.

PROFESSOR OF SURGERY, COLLEGE OF PHYSICIANS AND SURGEONS; PROFESSOR OF SURGERY, POST-GRADUATE SCHOOL AND HOSPITAL; ATTENDING SURGEON, COOK COUNTY HOSPITAL; ATTENDING SURGEON, ALEXIAN BROTHERS' HOSPITAL; CONSULTING SURGEON TO HOSPITAL FOR DESTITUTE CRIPPLED CHILDREN; VICE-PRESIDENT OF NATIONAL ASSOCIATION OF RAILWAY SURGEONS, ETC.

Of the many absorbing topics of medical literature, of the many changes in the art of surgical treatment made in the last two decades, of the many glorious achievements attained in this period under aseptic and antiseptic methods, of these in which the results are still imperfect and offer great reward for honest experimental and clinical research, one of the youngest, and yet a very interesting and inviting one, is the surgery of the gall-tracts. All of its achievements are the fruit of very little over a decade of labor; and probably we have only just begun to make progress in this direction. Great possibilities are before us. In drawing your attention to this subject to-day, it is not my desire so much to enumerate the steps already accomplished, as it is to ask your assistance for its further advancement. The scope of this paper only includes the operative element of the surgery of the gall-tracts; I will therefore not go into details as to the lesions which produce the necessity for the operation, but will only refer to them cursorily, as indications for the special operation to be performed. We will first devote a few minutes to the surgical anatomy of the region in which they are situated, as well as to the tracts themselves. Second, we will consider the functions or physiology of the gall-bladder and gall-tracts; for good surgery is based on good physiological principles, and good operations must be executed on good anatomical lines. Third, we will take up the individual operations and the special indications for each.

The Gall-bladder.—The fundus of this organ lies opposite the ninth costal cartilage, close to the outer edge of the rectus; the body itself is situated in a fossa on the under surface of the right lobe of the liver, having the quadrate lobe to its left. It is in immediate contact with the hepatic flexure of the colon and the first portion of the duodenum. The gall bladder is of pyriform outline, and when full is seen projecting beyond the anterior border of the liver, coming in contact with the abdominal wall at the cartilage of the ninth rib. It extends almost directly backward, deviating only a little to the right and upward; it measures from two and a half to four inches in length, and one and a half inch in diameter at the widest part, and holds about one fluid ounce. It is always found full, except where some external pressure is brought to bear upon it. It is attached to the liver by connective tissue, the lower surface is covered by peritoneum, though occasionally it entirely surrounds the viscus and forms a sort of mesentery to attach it to the liver. The neck of the gall-bladder gradually contracts until it forms the cystic duct. This duct is a tube, an inch to an inch and a half long, which connects the neck of the gall bladder with the hepatic duct, and both combine to form the common duct, or the ductus communis choledochus. The cystic duct is directed backward and to the left as it runs in the lesser omentum; the hepatic artery being to the left and the portal vein behind. The hepatic artery passes behind the hepatic duct and between it and the portal vein. This is a very important point to remember, as it assists the operator in differentiating between the duct and the vein in operations. The duct and vein both having the same color, and being situated in close proximity, it is very important to recognize the duct in this situation above the ar-

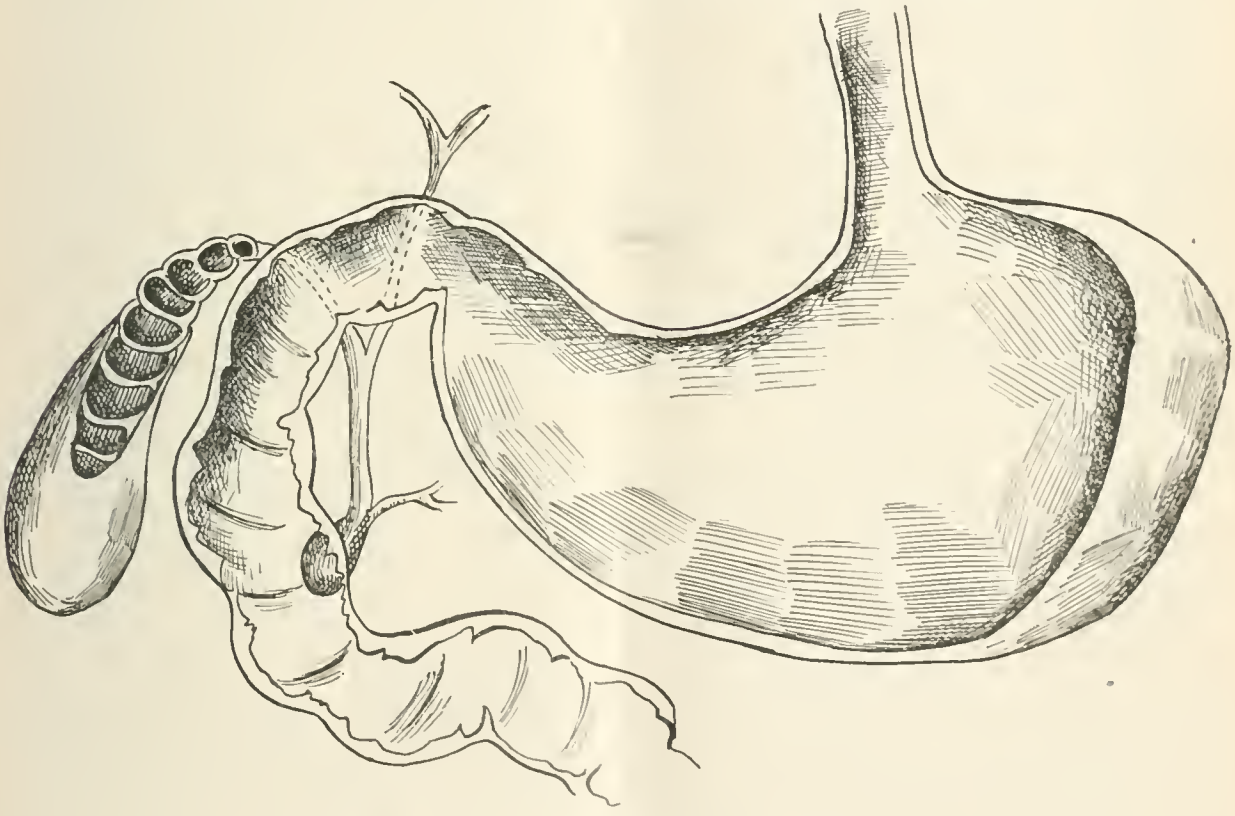


Fig. 1.

tery, and the vein below it. The hepatic duct is formed by a branch from each lobe of the liver in the transverse fissure, and is directed downward and to the right in the lesser omentum, the hepatic artery being to the left at its first part, and then behind. It is not quite two inches long, and joins with the cystic duct to form the common duct. The common bile duct is about three inches in length: it passes down between the layers of the lesser omentum, immediately in front of the portal vein, and to the right of the hepatic artery; it then passes behind the first part of the duodenum, then between the second part and the head of the pancreas, and ends at the lower part of the second segment of the duodenum by opening into that part of the intestine, on its left side and somewhat behind. It pierces the intestinal wall very obliquely, running between the muscular layers for about three-fourths of an inch. The pancreatic duct enters the common duct just before its termination. Immediately below, where the pancreatic duct opens into the common duct, there is a dilatation of the common duct, called the ampulla of Vater. There is a slight constriction at the terminus of the duct, the papilla. This papilla in the duodenum is about four inches from the pylorus. The common duct has a diameter of two lines, its width at the ampulla is three lines; it is narrowest at its outlet into the duodenum. The cystic and hepatic ducts are a little narrower than the common duct. The diameter of the ducts is a matter of considerable practical importance; that of the cysticus and choledochus being so near alike that a concrement that will produce obstruction in the former will do the same in the latter, though of a lesser degree, until it reaches the ampulla, where there is considerable more space. Stones are frequently retained in the ampulla, as the orifice of the duct in the intestine is much smaller than any portion of the tract. Calculi retained in this position, buried behind the duodenum, produce very grave symptoms, as jaundice, and a septic fever of a typical intermittent character.[1] Obstruction at this point, on account of its location, is so very difficult to reach and remove that the surgeon, in place of attacking the obstacle producing the obstruction, selects a method of circumventing it, and allows the bile to enter the duodenum through another tract, viz., by cholecystenterostomy. It will be seen that the distance from the fundus of the gall-bladder to the opening of the duct in the duodenum, is made up of the combined lengths of the gall bladder, ductus cysticus, and choledochus, measuring in all from six and a half to eight and a half inches. This should be remembered in sounding the ducts for obstructions with a bougie or probe. The gall-bladder consists of three coats, the serous, the fibrous and muscular, and mucous. The serous coat covers only about two-fifths of its surface, that on its under side. The mucous coat is raised in rugæ, bounding polygonal spaces, which are largest about the body. (These rugæ play an important part in the formation of hepatic calculi.) The mucous membrane is lined with columnar epithelium, and contains many mucous glands. At the neck the mucous membrane forms folds projecting into the interior, acting as valves (Heister's). This layer contains an anastomosis of blood-vessels and a fine plexus of lymphatics (the presence of these lymphatics accounts for the formation of secondary abscesses and septic manifestations from infective lesions of the gall-bladder). The fibrous and muscular coat consists more of fibrous than muscular tissue, and has but very little power of contraction, since I found in the healthy gall-bladder of the dog, by ligating the ductus cysticus, that only a small quantity of bile (average thirty drops) was forced out by the automatic contraction of the gall-bladder through a cannula placed in its wall; this quantity representing only about six per cent. of the contents of the gall bladder.

Physiology.—This leads us to a consideration of the physiology of the gall-bladder. The gall bladder is credited by physiologists with being the storehouse for the bile. Landois states that "the gall is secreted continually, but part is stored in the gall-bladder, and poured out copiously during digestion." This expresses the accepted theory of the functions of the gall-bladder. I desire to question the correctness of this theory, and in order to place the issue more clearly before you, make the assertions, bold as they may seen, first, that the gall-bladder is not for the purpose of storing the bile and delivering it into the intestines on demand; second, the gall-bladder is the controller or governor of tension of the bile circulation. When we consider that the amount of bile secreted daily is 40 ounces (Murchison), 566 grammes (Westphalen), or 652 cubic centimetres (John Ranke); or about 105 minims to each pound of body-weight; we can readily see what little difference it would make in the quantity and current of bile entering the intestines at the time of digestion, even if the gall-bladder should contract and empty its whole contents, one ounce, into the intestine during the period of two hours of time, *i.e.*, the two hours between three and five hours after the ingestion of a meal. For instance, the bile flows most rapidly at two periods, viz., between three and five hours, and between eleven and thirteen hours, after the ingestion of food; in those two periods about ten ounces of bile is discharged. If the quantity of bile forced out of the gall-bladder by its inherent contraction, one-half drachm, be added or taken from this ten ounces, would it make any perceptible difference in the current? It can be readily seen that it would make no appreciable difference in the whole quantity discharged, *i.e.*, ten ounces. We are then forced to the conclusion that the liver secretes at these periods this large quantity, and that it is not "poured out" by the gall-bladder as stated by Landois. Again, if the function of the gall-bladder were to contract and expel its contents during the act of digestion, would we not frequently find an empty and physiologically contracted gall-bladder, either ante-mortem or post-mortem? I have yet to find one, notwithstanding I have observed them on the living and dead subjects, at all hours before and after eating; and I have yet to learn of a surgeon who has found a physiologically empty gall-bladder. That the gall-bladder does not empty and fill with each digestive act, is further supported by the fact that the bile in the healthy gall-bladder is of much greater specific gravity than that in the hepatic, cystic, and common ducts of the same subject. The bile in the cystic duct is like the bile in the hepatic and common ducts, and differs from that in the fundus of the gall-bladder. If the gall-bladder emptied and filled with bile several times in each twenty-four hours, *i.e.*, after each meal, the bile should have the same specific gravity as the bile in the cystic duct, which is not the case. Further, the bile in the cystic duct has the same specific gravity as that in the hepatic and common ducts, which shows that only this small quantity changes with the contraction and dilatation of the gall-bladder. This degree of contraction and expansion is very limited, depending upon the degree of tension of the bile circulation. After ligation of the cystic duct at its junction with the gall-bladder, and extirpation of the latter, it has been found that in a number of months the cystic duct becomes much dilated, resembling a miniature gall-bladder (Oddi). I have verified this by one experiment.

Experiment III. May 14, 1892.—Dog, male; weight, thirty-five pounds; cholecystectomy; silkworm gut ligature of adhesions to liver; subsequent section; silkworm gut ligature of ductus cysticus top sewing peritoneum. The dog was sick for the first forty eight hours, after that he rapidly improved, and in four days he was apparently as well as ever. No jaundice.

June 12th.—The dog has become very fat and is the most playful dog in the laboratory.

August 31st.—Dog killed. The cystic duct was found to be dilated to a globular sac, five-eighths of an inch in diameter.

After a gall-bladder and intestinal fistula has been established, gradual contraction occurs; the gall-bladder contracts to a tube not much larger than the cystic duct,

[1] See Dr. W. E. Quine's excellent monograph on this subject.

as the element of tension is here entirely removed. This change requires several weeks. I do not know that dilatation of the cystic duct after cholecystectomy has been observed in man; it is possible that it does not occur, since in man there is no sphincter muscle at the opening of the common duct into the intestine, as in the dog. The tension theory of the gall-bladder is further supported by the mechanical relations of the gall-bladder and cystic duct to the hepatic and common ducts. It will be noticed that they occupy the same relative position to the current of bile passing along the hepatic and the common ducts, that the air-chamber in the fire engine does to the stream of water flowing from the pump to the hose. The elasticity of air in the small air-chamber contributes greatly toward producing a continuous instead of a pulsating stream, as would occur with the strokes of the piston were there no elastic chamber. In place of the air, in the case of the gall-bladder we have the elasticity of the walls of the viscus itself, which keeps up the continuous pressure by its expansion and contraction, and thus acts as a tension controller of the bile circulation. It performs the same function as the second bulb in an atomizer in regulating the uniformity of the spray. The gall-bladder is congenitally absent in a considerable number of animals and men, and its absence appears to have no appreciable effect on the health of the organism. I have gone into the details of this somewhat thoroughly, because a clear understanding of the physiological principles is necessary in order that we may better judge the most desirable operations to be performed under given circumstances.

The various pathological conditions of the gall-tracts which necessitate operative interference requiring laparotomy, to which line of operations this paper will be confined, I will only mention by name, and will not go into the details of each. In the order of frequency with which they produce disturbances they should be classified as follows:

1. Cholelithiasis, gall-stones: *a*, in the gall-bladder; *b*, in the ductus choledochus; *c*, in the ductus cysticus; *d*, in the ductus hepaticus; *e*, in the diverticula; *f*, ulcerative perforation into the peritoneal cavity. 2. Cholecystitis, empyema, hydrops. 3. Cancer of the pancreas. 4. Neoplasms involving the ducts. 5. Carcinoma of the gall-bladder. 6. Traumatism.

Operations.—The operations on the gall-tracts after the abdomen has been opened will be divided into ten classes, viz.:

1. Puncture of the gall-bladder.
2. Incision into the gall-bladder without further operative procedure.
3. Suture of the gall-bladder to the abdominal wall with secondary incision (cholecystostomy, two sittings).
4. Suture of the gall-bladder in the abdominal wall with immediate incision (cholecystostomy, one sitting).
5. Incision of the gall-bladder, removing its contents, immediate suture of the gall-bladder, and suturing it in the wound of the abdomen (cholecystotomy).
6. Incision of the gall-bladder with immediate suture and reposition in the abdomen (cholecystendysis, ideal cholecystotomy).
7. Cholecystenterostomy, gall-bladder, and intestinal fistula.
8. Cholecystectomy. Removal or amputation of the gall-bladder.
9. Choledocho-lithotripsy, or crushing of gall stones in choledochus.
10. Choledocho-lithectomy, with subsequent suture of duct.

Individual Operations.—1. *Puncture of the Gall-bladder.*—The puncture of non-adherent gall-bladder after opening the abdomen has been performed but a very limited number of times (twenty-five), and through error in diagnosis in the greater number of cases. Eight times the operation was performed for its therapeutic effect, after the abdomen had been opened. Four of these eight were supposed to be circumscribed hydrops of the peritoneum; two of these cases terminated fatally. In the other four the diagnosis was clear, and the object of treatment was to relieve the patient by aspirating the gall-bladder. The cause of the dilatation was in three cancer of the pancreas, in one it was due to calculus in the cystic duct. The final outcome in one case was unknown, one of the cases died of exhaustion after repeated puncture; in the other two cases cholecystotomy was performed; one of the two died. We have here, then, a fatality of twenty-five per cent. from simple puncture of the non-adherent gall-bladder. In the other seventeen cases the puncture was purely explorative. Puncture of the gall-bladder from the surface of the abdomen, without incision, was suggested by G. Harley, for the purpose of sounding for gall-stones. He pronounced it an easy and safe method for sounding for impacted stones, but his patient died twenty-four hours after the operation, of "enteritis and peritonitis." This operation is to be condemned, first, because there is great doubt that a diagnosis can be made with a needle, even if a stone is present. Second, a needle puncture of the gall-bladder is dangerous because the opening remains patulous (as I have frequently seen following aspiration preparatory to insertion of the button), from an absence of, or very limited, contractile power of the tissues of the wall of the gall-bladder, and from tension by the bile pressure within. Third, if the contents of the gall-bladder in the case should be septic, we would have as a result a septic peritonitis. Courvoisier says, "that a surgeon should even hesitate to aspirate a case where the diagnosis of gall-bladder lesions was even suspicious, and never except where no other means of diagnosis is left, a laparotomy being a much more rational and safe method."

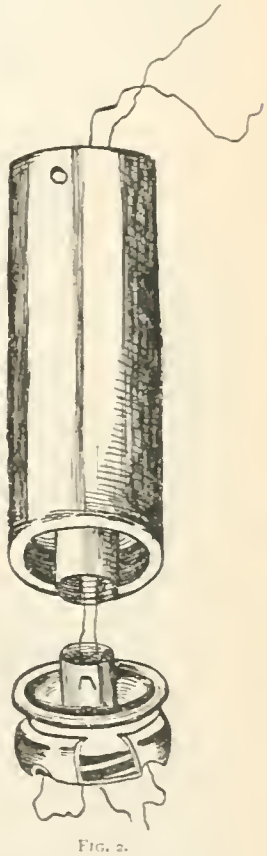


Fig. 2.

2. *Incision of the Gall-bladder Without Further Operative Procedure.*—This operation is performed for, and should be limited to, cases where the gall-bladder, on account of gangrene of its wall or extensive adhesions all around it, render it impossible to either suture it to the abdominal wall or approximate it to any portion of the intestinal tract, and where it is compulsory to secure drainage of the bladder, or to use the bladder as a canal to allow the escape of bile in obstructive jaundice that jeopardizes the life of the patient. A drainage-tube may be inserted in the incision of the gall-bladder and packed around with gauze (Maurice H. Richardson), the omentum drawn about it in a few sutures to prevent the fluid passing into the peritoneal cavity, or what is still better, my method of insertion of a "button tube drainage" of the pattern I here present. This has the advantage: 1, That it can be easily and rapidly inserted deep in the abdominal cavity, though the gall-bladder may be very much contracted: 2, that it prevents with certainty the contact of the gall-bladder contents with the abdominal viscera until such time as adhesions have formed around the tube; and 3, that it leaves a large opening, when the instrument is withdrawn from the gall-bladder, through which calculi may be extracted. The operation with the "button tube" is performed as follows: An incision is made in the abdominal wall in the usual position for operations on the gall-bladder, beginning at the ninth costal cartilage, parallel to the external border of the rectus

muscle for a distance of two and a half inches. The gall-bladder is located, a sufficient surface of its wall exposed, the contents aspirated, the purse-string suture inserted, the gall-bladder incised, male half of button inserted, purse-string tied and cut short; the tubular portion of the button is then pressed into position; the tube is then drawn out as far as the gall bladder will permit, and held there with a pin passed through the openings in the side. During the time the pressure atrophy in the portion of the gall-bladder clasped between the button is taking place, a cicatricial wall is being formed about the tube which acts as the walls of a sinus after its production, and insures continued protection to the peritoneal cavity.

The following operation was performed: Mrs. K——, aged thirty five; several children. This case was referred to me by Dr. J. H. Hoelscher, who furnished the following history: Four years ago the patient was first attacked with severe pain in the region of the gall-bladder, which was soon followed by nausea and vomiting. This pain lasted several hours, and a few days after the onset the patient became very much jaundiced. Tenderness continued over the gall-bladder for ten days or more after the attack. These attacks occurred at frequent intervals during the past four years; after some of the attacks she passed gall-stones, and has a collection of them on hand. About two years ago she had one very severe attack, lasting much longer than the others and accompanied by more pain, fever, and tenderness. It took her a long time to rally from this attack. The last attack, ten days before operation, was followed by jaundice and a few stones were passed. Not more than half of the attacks were followed by jaundice. She suffered very much most of the time from digestive disturbances and a constant aching in the side.

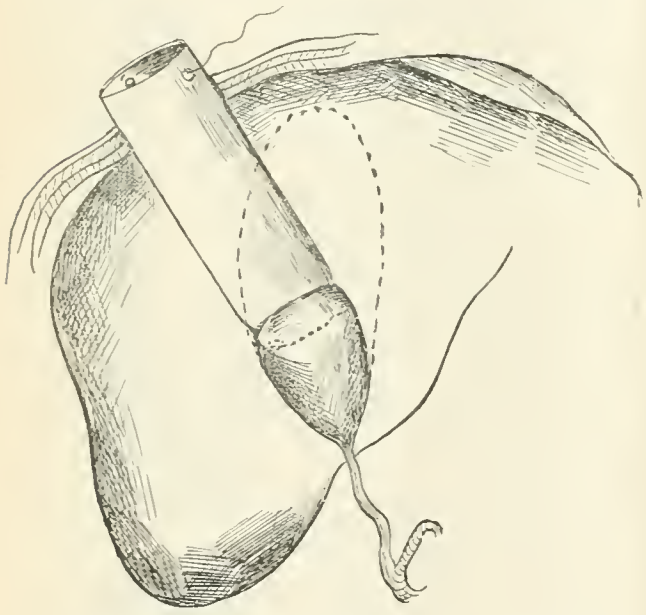


Fig. 3.

Present Condition.—Patient a well-nourished, stout, healthy-looking individual. On examination we find a large sensitive tumor extending down about three inches below the right ninth costal cartilage. This tumor can be felt separate and distinct from the kidney, and presses against the abdominal wall in front. It moves synchronously with the diaphragm in respiration.

Diagnosis.—Cholelithiasis with pericystitis. Operation by Dr. Murphy, assisted by Drs. Hoelscher and Lee. Present, Dr. J. McFadden Gaston, of Atlanta; Dr Quinby, of Jersey; Drs. Cole and Owings, of Montana; Dr. Jelks, of Hot Springs; Drs. Wittwer, Hartmann, E H. Lee, Conley, and Oswald. The usual incision was made at outer border of rectus. The gall-bladder was completely surrounded by adhesions and contracted; it was impossible to approximate it to the abdominal wall or to any portion of the bowel. It was decided to put in the drainage button-tube. A portion of the fundus of the gall-bladder was exposed sufficiently large to insert the button and to place it in position. A number of calculi were removed and many allowed to remain. The tube projected above the wall of the abdomen, and the wound outside was packed with iodoform gauze. The button-tube liberated itself on the seventh day and a number of stones followed. The patient made an uninterrupted recovery and is now in excellent health: has a small sinus, but no bile is escaping (August 20, 1893). Sinus closed September 15, 1893.

Case II.—Mrs. M——, aged fifty, Indianola, Neb.

Diagnosis.—Cholelithiasis, impaction in choledochus. Had had repeated attacks of gall-stone colic accompanied by jaundice in the last four years. For the last year the jaundice has been continuous.

Operation.—November 1, 1893. Found gall-bladder very much contracted; filled with a dozen calculi. Firmly adherent throughout; evidence of old pericystitis. Duodenum adherent. As the approximation to duodenum could not be made, the gall-bladder was incised. Stones removed and the drainage-tube button inserted and packed around with iodoform gauze. The button tube liberated itself on the tenth day. Two calculi followed it, which evidently had been returned from the ducts into the bladder. Jaundice disappeared. Sinus closed on twenty-first day. Patient about the ward on twenty eighth day. Discharged from the hospital December 6th.

The number of cases of operation by incision and drainage, in literature, is twenty-three, with four deaths, a mortality of about eighteen per cent. As this is not an operation of election, the peculiarities of the individual case will be the guide to the surgeon as to when it must be performed.

3. Suture of the Gall-bladder with Secondary Incision—Cholecystostomy in Two Sittings.—The serous surface of the gall-bladder is united to the margin of incision in the abdominal wall, and a sufficient time is allowed to elapse for adhesions to take place, from five to fifteen days; then an incision is made into the gall bladder and its contents allowed to escape. The operation was first suggested by Carri, and executed by Blodgett and Kocher in 1878. Courvoisier collected 32 cases. Riedel operated in this manner 34 times, 11 of these are included in Courvoisier's report. I find in the literature from June, 1890, at which time Courvoisier's report was published, to February 28, 1893, but 4 cases, with the exception of those of Riedel (23 cases), making a total of 59 cases with 6 deaths, or a mortality of ten per cent. Of the patients that left the hospital about thirty-four per cent. were discharged with a fistula, these had an average treatment of two and a half months. Riedel has championed this operation from the beginning and has persistently adhered to it, while other surgeons have taken up the operation of one sitting, as shown by the statistics, only four operations of this kind being reported since June, 1890. Bardenheuer, Langenbuch, Mikulicz, and Lauenstein have been strong advocates of this operation in the order mentioned, but have all deserted it, notwithstanding its favorable statistics, leaving Riedel alone its great advocate. The indications for this operation are the same as for cholecystostomy of one sitting, to be mentioned hereafter.

4. Cholecystostomy in One Sitting—Suture with Immediate Incision.—The first operation of this kind was performed on July 15, 1867, by Bobb, who was making a laparotomy on the diagnosis of ovarian tumor, this being the first laparotomy-opening of the gall-bladder and cholecystostomy of one sitting. Without a knowledge of this case, in the years 1878 and 1879, Marion Sims, W. W. Keen, and Lawson Tait performed the same operation without previously diagnosticating the case. This operation was named by Lawson Tait "ideal cholecystostomy;" it would be more appropriately termed unnatural cholecystostomy, as it is not natural for the gall-bladder

to empty on the surface of the abdomen. The term "natural cholecystostomy" should be reserved for the operation known as cholecystenterostomy, because the bowel is the natural receiver of the contents of the gall-tracts. From that time there have been collected by Courvoisier 120 cases, by Riedel 12, and by myself 69, making a total of 201 cases. The histories of many of these cases are very defective, first, as to the previous conditions; second, as to the *status præsens* and clinical history; third, as to the condition when discharged. Tait operated upon 57 of these cases. In the very great majority he leaves out all the particulars above mentioned. In many he does not mention whether the fluid contents of the gall bladder was gall, hydrops, or pus, and in others he does not mention even the presence or absence of stone, though this item is less frequently omitted. I find in 163 cases, stones reported in 112, and in about seventy-five per cent. of these the stones were situated only in the gall-bladder; in about twelve per cent. in the gall-bladder and cystic duct; eight per cent. in the cysticus alone; three per cent. in the choledochus and the balance scattering. In all cases where found, the stone was extracted from the gall-bladder at the time of operation. In other cases where stones were situated in the ducts, a lithotripsy was performed, either by the fingers, by forceps, or by passing a needle through the wall of the duct and fracturing the stone. In other cases the stones were pressed onward out of the duct into the intestine or back into the gall bladder; in still others they were cut down on in the duct and removed through its wall. Of this I will speak later. The mortality in the two hundred and one cases of cholecystostomy, while the patients were still under treatment, was thirty-nine, or about nineteen per cent. The number of cases discharged with fistula cannot be approximately determined, as Tait's report is incomplete and excluded. From other statistics we have discharged with fistula about thirty-one per cent., and with the same exclusion as above, complete recoveries fifty-one per cent. We see that the mortality in the one-sitting was less than in the two-sitting operations, in one case being ten per cent., and the other nineteen per cent.; but still the outcome as to the ultimate complete recovery is approximately the same as in the operation of one sitting, and not a promising one for the patient. Still, some surgeons have had brilliant results; Dr. H. O. Marcy, of Boston, says: "It is safe to predict that the future history of operative measures for the relief of biliary obstructions will furnish one of the most brilliant chapters in surgery. One of the most serious of all the abdominal diseases, as evinced by acute pain, prolonged suffering, and great mortality, confessedly without remedy by internal medication, cholecystostomy offers help to the hopeless with an attendant danger in the hands of an experienced surgeon of as small a percentage as in ovariotomy."

Cholecystostomy by Means of the Murphy Button.—This operation can be performed with the anastomosis button in much less time and with much greater safety than with suture, in the following manner: The gall-bladder is secured and one-half of the button is inserted the same as in cholecystenterostomy; an artery forceps is then pushed through the parietal layer of the peritoneum, one-half inch to the side of the incision, grasping the stem of the button inserted in the gall-bladder and drawing the stem through the opening made by the artery forceps; pass the traction cord through the other half of button and press the button together. Sew up original opening in the peritoneum with catgut. You have now secured a firm, permanent approximation of the surface of the gall-bladder to the parietal layer of the peritoneum, as shown in Fig. 4. The gall-bladder will drain through the button, and if the button drainage tube is used the discharge can be brought to the surface without coming in contact with the wound. This operation has the advantage over the suture approximation, 1, in the great saving of time; 2, simplicity and ease with which it can be accomplished; 3, it insures perfect coaptation and no danger of leaking at the side, or giving way, as is the case with the suture, which occasionally causes death; 4, it leaves a large opening. As soon as the pressure atrophy is completed gall-stones may be extracted through this opening and a perfect drainage kept up. I am always in favor of performing cholecystenterostomy where it is possible, still if the pathological conditions require a cholecystostomy, this is by far the most simple, rapid and safe means of operating.

5. Incision of the Gall-Bladder, Removing its Contents, Suturing it to the Abdominal Wall with Immediate Extra-peritoneal Suture of the Incision Made in the Gall-Bladder.—I am unable to find but four cases of this kind reported. The operation has never found great favor with surgeons. Of the four cases operated on, three terminated successfully and one fatally, a mortality of twenty-five per cent. It was intended to take the place of cholecystendysis and to diminish the danger by having the suture in the gall-bladder extra-peritoneal, so that if the suture should give way or leak, the contents would escape on the surface instead of into the peritoneal cavity.

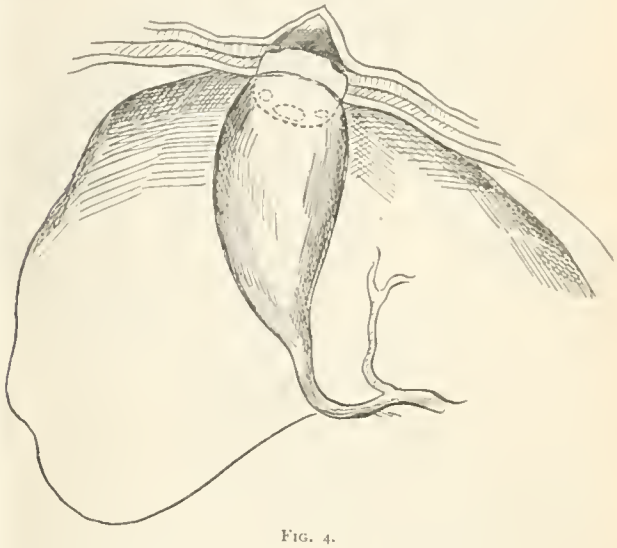


Fig. 4.

6. Cholecystendysis.—Incision of gall-bladder with immediate suture and reposition into abdominal cavity; ideal cholecystotomy. This operation on the gall bladder is a natural outgrowth of the desire of laparotomists to immediately and permanently close the abdomen at the time of the operation, as in the intra-abdominal treatment of pedicles in gynecological operations. I find 35 cases of this kind in the literature, with 8 deaths and 27 recoveries, a mortality of twenty-three per cent. The cause of death was: In 1 case collapse, in 2 cases anuria with collapse, 3 with high fever and peritonitis. All of the immediately fatal cases (6, or seventeen per cent.) terminated within seventy-two hours after the operation. The remaining 2 terminated later. What was most feared in this operation was that the stitches would give way under the tension of the gall pressure, and that the contents of the gall-bladder would escape into the peritoneal cavity. Langenbuch and Tait were very loud in their declaration that this accident would occur, and Tait, in his article in the *Edinburgh Medical Journal*, October, 1889, stated that the operation terminated fatally in every instance, while in reality up to that time there had been sixteen operations with ten recoveries, and in not one of them did the accident, "giving way of sutures," as Langenbuch and Tait had predicted, occur. This is a very noticeable illustration of an error of common occurrence. It shows how erroneous the opinion of great men in surgery may be on operations, suggested and performed, which are not in line or in harmony with the ones they are accustomed to perform; the calamity which they so forcibly predicted and deemed inevitable was the one that never occurred. While the cause of death was not

from giving way of sutures, the mortality was great, being about one third of all the cases operated on. This great mortality has rapidly told against the operation, so that it is now rarely performed and is not to be recommended.

7. Cholecystenterostomy. Gall-bladder and Intestinal Fistula—Gall-bladder and Intestinal Anastomosis.—The idea of this operation was suggested by nature in establishing pathologically a fistula between the gall-bladder and the intestine. In this way the surgeon was guided to the best means of relief where an occlusion of the duct was produced by the pressure of an impacted concrement, a neoplasm, a cicatricial band, or any pathological lesion which would render the common duct impervious. While nature had thus blazed the way, surgeons were slow to take advantage of its suggestion. The first one to advise this method was my late friend, the lamented von Nussbaum, of Munich, in 1880. He expressed himself in the following words: "When the escape of gall through the natural duct is no more possible, the question arises, can we not make an artificial connection between the gall-bladder and intestine through which the gall can again escape into the intestinal tract," etc.

The first to work out a feasible plan for the attainment of this ideal result was von Winiwater. Between July 20, 1880, and November 14, 1881, he had under his care a man with occlusion of the ductus choledochus, on which he operated six different times, and finally succeeded in establishing a fistula between the colon and the gall-bladder, after sixteen months of labor. His original plan was to perform the operation in two sittings, but all sorts of difficulties beset his way. It is wonderful what energy and persistence both the operator and patient showed to overcome all impediments. After the publication of his most difficult task it was six years and a half before a surgeon was found who had the courage to undertake a similar operation, when Kappeler undertook to follow in the footsteps of Winiwarter, but to do the operation in one sitting.

In the meantime there were several experiments made on animals, with the hope of discovering a means of making a communication between the gall-bladder and the intestine at one sitting. Dr. J. McFadden Gaston, in 1883, experimented on five dogs, with elastic suture, which was so placed as to approximate the gall bladder and intestine, and around this a row of serous sutures to protect the peritoneum. He hoped by the elastic pressure to produce an atrophy and establish a fistula. The results were unfavorable. In one the dog escaped; two ended in peritonitis; one in abscess between coils of intestine—here the ligature sloughed through into the gall-bladder and left but an extremely small opening; and in one, at the end of the eleventh day, there was found sufficient adhesion and the fistula was established, the ligature being found in the intestine. In 1884 he used a similar ligature on a young dog, in the same manner, with a good result. In 1886 he made several similar experiments, with the addition of ligating the common duct, but the dogs only lived a few days, dying of extensive gall infiltration in the liver. He deserves great credit for energy and ingenuity as a pioneer in this field.

G. Harley suggested the approximation with the formation of fistula from the gall-bladder to the intestines by means of sutures and caustic potash. He arranged a number of sutures in a small circle, about the size of a dollar, holding the gall-bladder to the bowel, but before completing the circle mentioned, cauterized the centre with caustic potash, then completed the circle with sutures, and in that way hoped to produce a fistula of the gall-bladder and have an adhesion by plastic exudation surrounding it. He claims to have had good success in animals.

Colzi, in 1883, put in a circle of sutures similar to Harley's, but before the final suture made an incision in the centre into the gall-bladder and duodenum, also ligating the choledochus. The animals tolerated the operation without any apparent disturbance in the digestive functions.

De Page, in 1887, performed the same experiment as Colzi, on three dogs, without ligating the choledochus. In one the dog ran away; another died of peritonitis; the third was killed at the end of six weeks, and showed an atrophy of the gall-bladder, but no fistula. Finally, Dastre, in his communication to the Physiological Congress at Basel, in 1889, published his experiments, wherein he succeeded in uniting the gall-bladder to the intestine for the purpose of studying what effect it would have on digestion. Of this I shall speak later.

So that we see to the date above mentioned experiments represented three different types: 1, The formation of fistula by chemical destruction; 2, By pressure atrophy—the elastic ligature; 3, Careful suturing, with subsequent incision within the circle produced by the sutures.

The priority of the operation certainly belongs to Monastyrski, for he performed his operation about a month before Kappeler, but did not publish it until eleven months after the operation. Of the seven operations performed, four were for carcinoma of the head of the pancreas, one for carcinoma of the duct at its orifice, and two were for impaction of gall-stones—those of Terrier and Courvoisier. The technique in all of the above described operations was somewhat similar, the suture being used as the means of approximation; Terrier used a rubber tube to keep the opening patulous, which was passed on the eighth day. The seat of the operation in Terrier's case was the duodenum; in Monastyrski's case, the jejunum, 2 m. below the duodenum; in Kappeler's 226 ctm. above the cæcum; in Fritzsche's case 3 m. below the pylorus.

There remained the cases of Bardenheuer, who performed two operations, where he united the gall-bladder to the small intestine with an elastic suture in the centre and a single row of silk sutures around it, expecting that the elastic suture would produce a pressure atrophy, and that a fistula would remain. The first case, impacted gall-stone, terminated fatally at the end of four weeks, and the fistula was not yet established, *nor had the gall-bladder adhered to the intestine*, a biliary fistula opening into the peritoneal cavity. The second, he writes to Terrier, was done in the same way, with the same result. To this list, taken from Courvoisier, may be added two by Czerny, one of which died of hemorrhage, and the other from exhaustion; one of Körte, one by Helfreich, and one by Redus, making, up to date, November, 1892, in all, thirteen cases of cholecystenterostomy of one sitting. Of these six died as the result of operation—Fritzsche's, two of Bardenheuer, two of Czerny, one by Körte; five died as a result of the malignant diseases from which they were suffering, and two survived, Terrier's and Courvoisier's, making a mortality of forty-six per cent. as an immediate result of the operation. Including the above I have collected in all twenty-three cases with eight deaths as the immediate result of operation; mortality, thirty-five per cent.

The various operators, in commenting on the technique of the operation, all agree that it is one of extreme difficulty, and while the experience of the others was not as trying as that of Winiwarter, it was always most difficult of performance with suture, and occupied an hour or upward to complete the operation.

While reading of the great difficulties experienced by the operators mentioned in performing this operation, I realized that the profession was sorely in need of some more simple and perfect means for the approximation of the gall-bladder to the intestine, and, after trying several devices, I succeeded in producing and perfecting the anastomosis button, which I think fulfils all of the indications. The button is inserted in the following manner:

An incision is made from the edge of the rib, two inches to the right of and parallel to, the median line, extending downward three inches. The gall-bladder is drawn into the wound, also the duodenum. The duodenum is cleared of its contents by gentle pressure with

the fingers. My short intestinal compression forceps are placed upon the duodenum to prevent the escape of gas and fluids after the incision is made. A needle with fifteen inches of silk thread is inserted in the duodenum directly opposite its mesentery, and at a point near the head of the pancreas. A stitch is taken through the entire wall of the bowel, one-third the length of the incision to be made. The needle is again inserted one third the length of the incision from its outlet, in a line with the first, and brought out again, embracing the same amount of tissue as the first. A loop three inches long is held here, and the needle is inserted in a similar manner, making two stitches, parallel to the first, in the reverse direc-

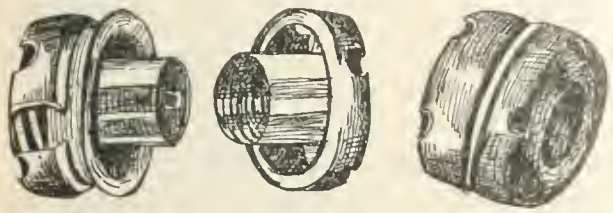


Fig. 5.—Button.

tion, and one-eighth of an inch from it, coming out at a point near the original insertion of the needle. This forms a running thread, which, when tightened, draws the incised edge of the bowel within the cup of the button. In the gall bladder a similar running thread is inserted. An incision is now made in the intestine, in length two-thirds of the diameter of the button used. The button (one part of it) is slipped in, the running string tied, and the button held with the forceps. An incision is then made in the gall-bladder the same length, and between the rows of sutures, the button (the other part of it) is inserted in a similar manner, and the running string tied. The forceps are removed and the button parts are held between the fingers and pressed together. A sufficient degree of pressure must be used to bring the serous surfaces of the gall-bladder and intestine firmly in contact and compress the tissues. The elastic pressure of the spring cup of the button produces a pressure atrophy of the tissues embraced within the cup, and leaves an opening as

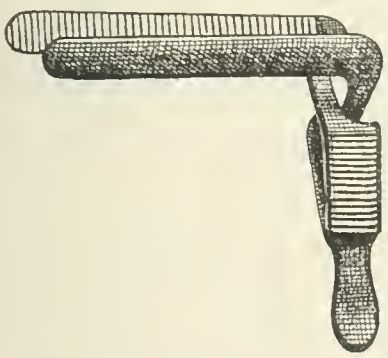


Fig. 6.

large as the button, the button dropping into the bowel and being passed through the intestines.

It takes about as long to describe the operation as to perform it. The time occupied with the first patient on whom I operated was eleven minutes from the entering of the peritoneal cavity until the closing of it. On dogs I was from eleven to eighteen minutes in performing the operation, the latter time being on the first dog, before I had made the various improvements in the technique and button. The operation is more difficult to perform on the dog than on man, as it is more difficult to bring the gall-bladder into the wound.

To show that this operation is one that the busy surgeon will be frequently called upon to perform, now that the technique is simple, we have only to reflect on the number of cases of chronic jaundice from obstruction of the common gall-duct, requiring some operation for relief, and to draw attention to the defects of the operations now in vogue, namely, the unpleasant and sometimes dangerous sequence of cholecystostomy, and external biliary fistula, which may of itself be a menace to life, and require a second operation even more critical than the first (as is shown in the reports by Courvoisier): also the difficulties and dangers of cholecystectomy and cholecystendysis.

When we consider that in cholecystostomy patients re-

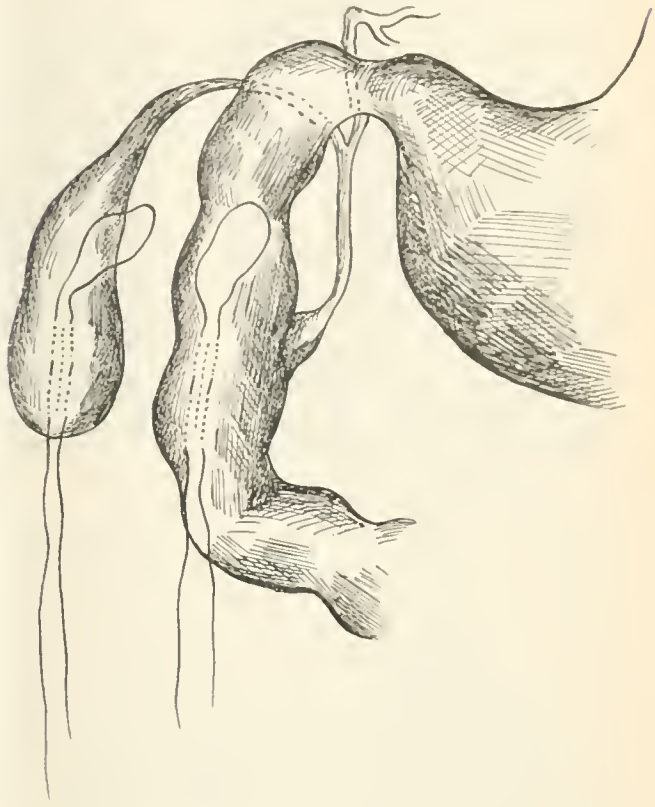


Fig. 7.—Sutures in Gall-bladder.

quire two operations, and that the quantity of bile discharged in each case requires at least two dressings a day for two and a half months, representing an enormous amount of labor for the surgeon and attendants and a very protracted and unpleasant convalescence for the patient; also when we consider that but fifty-one per cent. left the hospital with complete recovery, we can see how very much the profession is in need of some better plan



Fig. 8.—Gall-bladder Buttoned.

of treatment of the lesions of the gall-tracts than the cholecystostomy by one or two sittings. Take into consideration also the injurious effects of a permanent fistula and we have another very potent reason for abolishing the external opening.

The effect of a permanent fistula of the gall-bladder and constant escape of bile secreted, as frequently follows

cholecystostomy, is different, depending, first, on the quantity of bile that escapes from the opening, and, second, on what proportion is admitted into the intestinal tract. These facts have been lost sight of by many of the surgeons that have operated and had an external fistula remain, which accounts for the great differences of opinion as to the gravity of a biliary fistula. Where the fistula of the gall-bladder allows only a portion of the bile to escape, the patient and animal, as in Dastre's experiments, can live without suffering from the loss; that is, they are capable of digesting with a much smaller quantity of bile than they naturally secrete. But if we let the entire quantity of bile escape through a fistula the patient soon succumbs. This is thoroughly demonstrated by the twelve cases collected by Courvoisier. All patients died when the entire quantity of bile secreted escaped through the fistula, and where a large proportion escaped the patients became emaciated and sick. Therefore a safe means of allowing the gall to re-enter the intestine should be welcomed by the surgeon and patient. This operation will produce the same favorable revolution in the surgery of the gall bladder, that the intra-abdominal treatment of the pedicles did in the treatment of cysts of the uterine appendages.

Why should a gall bladder be sutured to the abdominal wall and drained any more than an ovarian cyst should be treated in this manner?

There are reported in all, up to December, 1893, 23 cases operated on in one sitting, all by means of sutures, with a mortality of thirty-five per cent., or 8 deaths in 23 cases. Since June 11, 1892, up to date, December 1, 1893, there are 17 cases of cholecystenterostomy operated on for gall-stones, by means of the anastomosis button, with 17 recoveries, one hundred per cent. One each by Dr. E. W. Lee, of Chicago; Dr. W. J. Mayo, of Rochester, Minn.; Dr. Fabrique, of Wichita, Kan.; Dr. Alex. H. Ferguson, of Winnepeg, Manit.; Dr. W. B. Rogers, of Memphis, Tenn.; Dr. Luken, of Chicago; two by Dr. F. S. Hartman, of Chicago; one by Dr. Laine, of Media, Pa.; and eight by myself. In all of these cases the result has been a complete restoration of health and no recurrence of symptoms, as will be seen by the following histories. I have had all of my cases and those of Drs. Lee and Hartman visited quite recently, and they are all in excellent health; in not one did the symptoms return as was feared by Dr. Abbé. There was one operation by this method, by myself, in which the lesion was carcinoma of the pancreas, case referred to me by Dr. Keefer, of Sterling. The duodenum was involved in the carcinoma and could not be used in approximation; a loop of the small intestine was drawn into the opening in the abdomen and approximated to the gall-bladder with the button, and the patient died at the end of the fourth day. The post-mortem showed the button in position. It was found that the bowel had been twisted upon itself in the operation and a complete obstruction produced, the same as in volvulus. This accident is an impossibility if the duodenum is used for the approximation, and I wish to call special attention to its possibility, as it is so easily avoided when it is anticipated. There was a cancer in this involving the greater portion of the pancreas, including the duodenum and the common duct. The period of convalescence was in all cases very short, and the patients were not seriously sick immediately after the operation.

This operation is indicated: 1, In all cases where it is desirable to drain the gall-bladder for accumulations therein; 2, in all cases of perforation of choledochus into abdominal cavity, where the duct must be obliterated by the reparative process; 3, in all cases of cholelithiasis where obstruction of duct is present, or where the reflex disturbances of digestion are marked; 4, in all cases of cholecystitis either with or without gall stones; 5, in all profusely discharging biliary fistulæ, either following operations or as sequelæ of pathological changes in gall-tract.

The cases in which this operation should not be performed are: 1, All cases where the gall-bladder is too small for the insertion of the button; 2, where the adhesions are so extensive that the bowel cannot be brought into contact with the gall-bladder without kinking; 3, where the ductus cysticus is obliterated, in which cases the operation of cholecystectomy should be performed where there is an absence of adhesions around the gall-bladder; 4, where we have an enormously enlarged gall-bladder with an elongation of the ductus cysticus, and without an obstruction in the ductus choledochus, in which case cholecystectomy should be performed. If the ductus choledochus be occluded, the gall bladder should be amputated just above the neck, leaving a sufficient portion in which the button can be inserted in the end and the approximation made to the duodenum in the usual way. By this operation we provide again a channel for the escape of the bile into the intestinal canal.

(To be continued.)

CRIMINAL ANTHROPOLOGY.[1]

By JAMES WEIR, Jr., M.D.,
OWENSBORO, KY.

Criminal anthropology is a science the study of which is almost universal in Europe, and which in recent years has attracted marked attention both in England and in the United States. The English literature on this subject is very meagre, and I do not know of a single American writer who has written even a newspaper article that is wholly devoted to this very important science. To Professor Cesare Lombroso, of Turin, is the world indebted for the first clear exegesis of this interesting science. In 1876 he brought out his first book on this subject, "L' Uomo Delinquente," which received immediate recognition. In this work Lombroso considers the criminal, anatomically and physiologically, an organic anomaly. Heretofore he had been regarded as a psychological anomaly. "L' Uomo Delinquente" has met great antagonism, and it has happened, as Lombroso himself prophesied, that not one stone has remained upon another, yet a better edifice than the one he erected has been built from its ruins. Let us consider the criminal anatomically and physiologically. Let us consider crime a psychical deformity that shows itself clearly in certain abnormal changes in the anatomy of the criminal. The psychical being undoubtedly moulds the physical being to a certain extent, and the mind does leave its impress on the body. This article deals with the instinctive or congenital criminal alone; the so-called occasional criminal and the insane criminal belong elsewhere. The criminal's head has abnormalities peculiar to itself. The average size of criminals' heads is about the same as normal people's heads, though the smaller and larger heads exist in greater proportion than the medium sized heads. A negro criminal's head is generally more dolichocephalic than the normal negro head, and the head of a brachycephalic criminal is generally more brachycephalic than normal. In a word, the cephalic indices are exaggerated in the criminal head. There is a marked tendency toward oxycephalism in almost every instinctive criminal. This sugar-loaf form of head will be at once noticed in the sketches of the various criminals presented in this article. These sketches were made at different times, as opportunity offered, and are drawn from life. They are not selected types, but are taken at random from several dozen sketches of convicts and criminals made by myself during the last three or four years.

Lauvergne writes of the oxycephalic head as follows: "When it is complete, that is to say, when it presents a prominent base supporting an inclined pyramid, more or less truncated, this head announces the monstrous alliance of the most eminent faculty of man, genius, with the most pronounced impulses to rape, murder, and theft."

[1] Wherever the word "criminal" is used in this paper, unless otherwise specified, I mean the congenital recidivist.

A close and shrewd observer, Benedikt, regards the bilateral elevation of the sagittal suture as indicating perversity of brain function.[1] This abnormality is rare, and I have only seen it three times. It is imperfectly shown in the photograph marked Fig. 4. There is marked enlargement of the orbital arches in almost every instinctive criminal This is well shown in Sketch 1. Most criminals have receding foreheads and shallow brain-pans. Prognathism is often a prominent feature. In point of fact, six out of ten criminals' faces show it to some extent. The squareness and heaviness of the lower jaw can be readily seen in the photograph of W. C—— (Fig. 4). Prominence of the cheek bones is another well-marked feature in most instinctive criminals. Marro found it as being thirty per cent. against twenty-two per cent. in normal persons, in the case of sexual offenders. I have noticed that it is present in all kinds of instinctive criminals. The photographs illustrating this article show that all five of the instinctive, habitual criminals have it in a well-marked degree. Fig. 3 is not a recidivist, but is an occasional criminal, and does not show it. These photographs are borrowed from the cabinet of Major Owens, chief of detectives, Louisville, Ky., and are not selected types. The facial outline of a typical criminal's skull is decidedly pithecoid in character. The skull of P. J——, a violator and murderer, is strikingly like that of the pithecoid man found in the Neanderthal cave near Düsseldorf. I have drawn the skull for comparison, and the resemblance can be seen at a glance. This skull of P. J—— points, beyond a shadow of a doubt, to an atavism or reversion to an ancestral type. The Calaveras skull and the skull of the Man of Spy[1] are pithecoid skulls, and are startlingly like the skull of this modern violator and murderer.



Fig. 1.—Photograph.



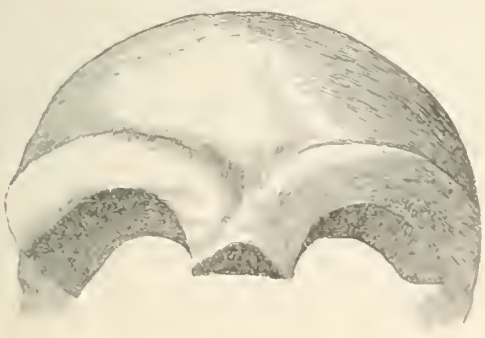
Fig. 3.—Photograph.



Fig. 4.—Photograph.

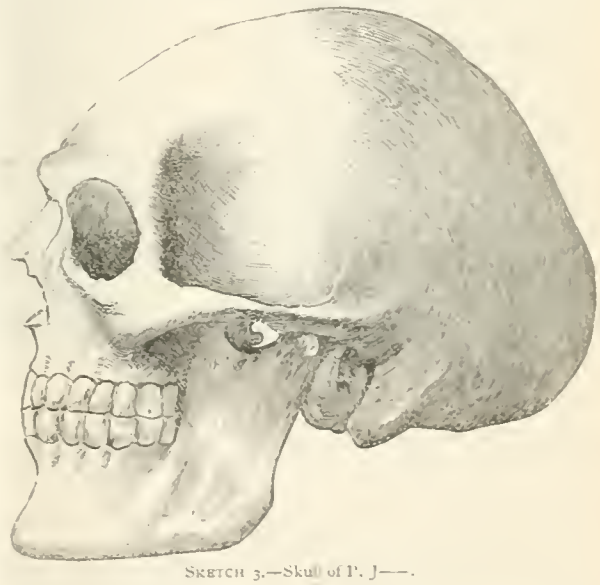


Sketch 1.



Sketch 2.

There are several abnormalities noticeable in the ears of criminals. Some criminals have large, outstanding ears like those of a chimpanzee or nshiego-mbouve, while others have small ears, closely applied to the skull, like those of a gorilla or orang-outang. Ottolenghi says that fully eighty per cent. of criminals have abnormal ears, and that large ears indicate a murderous tendency, while small ears indicate a thievish nature.[2] My observations lead me to coincide absolutely with Ottolenghi. I have never seen a large ear in an habitual thief, nor have I ever seen a small ear in a murderer. I have reference to white criminals alone; the criminal anthropology of the negro will be treated elsewhere. The small ear of



Sketch 3.—Skull of P. J——.



Sketch 4

[1] Benedikt: Kraniometrie und Kephalometrie, p. 196.

[1] Vide Fig. 81, p. 277, Man in the Glacial Period. Wright.

[2] Archivio di Psychiatria, 1880.

the thief is well shown in the Sketch 4, and the outstanding type of the same ear is seen in photographs Figs. 1, 4, and 5. When the thief has murderous tendencies the ear is modified and becomes elongated like the ears of Figs. 5 and 6. The criminal histories of these two last mentioned criminals testify to the truth of this statement. They are both marked in the ledger, "Dangerous: will shoot."

We have all noticed how a horse droops his ears when fatigued. Galton says that a certain school-mistress tells when her pupils are fatigued by the condition of their ears. If the ear is white and pendent the children are fatigued; if they are relaxed, but red, they are nervous.[1] This shows us how sensitive the ear is to vaso motor influences, and how intimately it is connected with the brain. Associated with an abnormal brain we may always expect to find an abnormal ear. Wardens and keepers of penitentiaries have often told me that they could tell a thief from a murderer by the size and shape of the ears.

Some anthropologists claim that certain abnormalities are found in the noses of criminals. Ottolenghi says that the criminal's nose is rectilinear and undulating, with a horizontal base; also that it is asymmetrical and always large. Professor Héger confirms many of Ottolenghi's conclusions "with reference to the nasal aperture in the cranium, by examination of the skulls of Belgian murderers."[2]

Dr. Ottolenghi may be correct in his deductions, but the measurements and observations made by myself in this direction, do not warrant an unqualified endorsement of them. I have failed to establish their truth, after making several hundred observations. Owing, probably, to cerebral congestion the criminal has very marked pallor. This, however, may be due to confinement, but I think not. A pallid criminal never sunburns, nor does he regain color after his release from confinement. His pallor, in all probability, is due to vaso-motor disturbances occasioned by habitual cerebral congestion. During the last fifteen years I have examined the brains of 23 criminals, 20 of whom were instinctive and habitual malefactors. In 19 of the brains examined I found marked abnormalities. In one, that of a negro hung for murder and attempt at rape, the cerebral fissures were very confluent, and the cerebellum was not covered by the cerebrum. In two others—murderers—there were very few convolutions, and these were lacking in depth, with little gray matter. All of these brains were deficient in weight. Some of the other brains had four anterior frontal convolutions: and one had fusion of the first and second convolutions, an abnormality peculiarly rare and striking. I have noticed in aged criminals, especially those confined for murder, a peculiar triangular fold or wrinkle at the inner canthus of the upper eyelid. This wrinkle is rarely absent in convicts over sixty years of age. This fold is also present in the aged chimpanzee, two instances of which I have noted. The precocious and aged appearance of youthful criminals is often very noticeable. This is due, in part, to the wrinkles about the eyes, nose, mouth, and temples. Here the resemblance to the anthropoid ape again crops out. I know a young lad who is an expert thief, and who is also a gambler and a drunkard, who is more wrinkled than most men sixty years of age.

In commenting on wrinkles and their invariable appearance in criminals, Ottolenghi says: "It is worthy of note, that the part of the face which, by the prevalence of wrinkles, shows most active expression in criminals, as in other degenerated persons, is that corresponding to the regions of the nose and mouth—that is to say, the less contemplative, the more material part of the face; and, in fact, we see that, with the exception of some murderers, who have surly and corrugated foreheads, the typical delinquent presents habitually in the more contemplative and rational part of his face the least degree of active expression, this corresponding to his limited psychical sensibility."[1]

A distinguished detective ("Yankee" Bligh, formerly chief of detectives, Louisville, Ky., now dead) once, in talking with me about the characteristics of criminals, spoke of a certain fixed look or stare that most malefactors have. He regarded this look as an absolutely safe diagnostic point in the making up of his criminal diagnosis. He called this stare the "ape-eye." "Look," said he, "at the next ape you see, and you will know what I mean." This peculiar stare is seen in the photographs marked Figs. 1, 4, and 6. The eyes of a thief are generally set close together; he has but little beard; the movements of his head and hands are quick and curiously ape-like. The eyes of a murderer are set farther apart; the movements of his head and body are slow and deliberate. I have often noticed this apparent sluggishness in men who have murderous tendencies. They resemble the gorilla in this respect, which is slow and deliberate until aroused.

Lombroso says that those who are guilty of rape have bright eyes; the voice is rough or cracked; the jaws large; the cheek-bones prominent; the lips and eyelids thick. The eye of the instinctive homicide is glassy and cold, the jaws strong, the beard thin. "The born criminal," says he, "has projecting ears, thick hair, a thin beard, projecting frontal eminences, large jaws, a square and projecting chin, high cheek-bones, and frequent gesticulation. It is, in short, a type resembling the Mongolian or sometimes the Negroid."[1]

Criminals show a great lack of sensibility to pain.



Fig. 2.—Photograph.



Fig. 5.—Photograph.



Fig 6.—Photograph.

[1] Havelock Ellis: The Criminal, p. 69.
[2] Ibid., foot-note, p. 70.

[1] Havelock Ellis: The Criminal, p. 72.
[2] Lombroso: L' Uomo Delinquente, p. 216.

This is shown by the extent to which tattooing is carried; criminals tattoo the most sensitive parts of the body, not even sparing the sexual organs. Physicians in charge of prisons have informed me that they have repeatedly performed minor operations without administering an anæsthetic; the criminals preferring rather to suffer the small amount of pain. The rapidity with which criminals recover from wounds has been repeatedly noticed and commented on. In this respect they are like the lower animals. A physician once told me that sick convicts reminded him of the lower animals, by the uncomplaining, patient way in which they passed through severe illnesses. Out of two hundred convicts, I found sensibility below normal in one hundred and forty six, as shown by the æsthesiometer. Wardens and keepers of prisons and penitentiaries, who have long been in office, say that criminals all look alike. One general type embraces the whole body of prisoners. A keeper in an Eastern prison (Sing Sing) once told me that "twins, triplets, quadruplets, and even quintuplets were to be found in every prison." This general type is easily recognized by most men. I showed the six photographs illustrating this article, before I had written on their faces the criminal offence, etc., of the individual photographed, to one hundred men, with the following request and explanation: "Here are six thieves; five of them are recidivists, and one of them is an occasional thief, *i.e.*, one influenced by circumstances to steal; pick out the occasional thief." Ninety-five picked out Fig. 3; three hesitated between Figs. 3 and 6; one chose Fig. 2; and one chose Fig. 5.

A criminal lawyer of Cincinnati boasts that he is able, at a glance, to tell a criminal from an innocent person.

Professor Enrico Ferri, an Italian anthropologist, once examined several hundred soldiers, and found only one whom he would judge to be a criminal from his personal appearance. This man had, in fact, been found guilty of murder.[1]

Women are excellent physiognomists, and rarely make a mistake. A young girl was introduced to a man; she refused to speak to him. On being asked by her relatives why she treated him so cavalierly, she answered, "If he is not already a murderer, he will become one." This man was Francesconti, who committed a most atrocious murder some time after. She told Professor Lombroso that she knew he was a murderer from the appearance of his eyes. Lombroso once showed portraits of twenty thieves and twenty moral men to a class of thirty-two young girls. Eighty per cent. of these girls recognized the first as "wicked people, the second as good."[2]

Everyone who has had anything to do with criminals, knows that the criminal carries on his face the imprint of his peculiar individuality. Those who watch over and restrain him in the large cities, recognize him at once without analyzing the different parts that make his whole.

"It is a matter of observation that this criminal class constitutes a degenerate or morbid variety of mankind, marked by peculiar low physical and mental characteristics. They are, it has been said, as distinctly marked off from the honest and well-bred operatives as 'black-faced sheep are from other breeds,' so that an experienced detective officer or prison official could pick them out from any promiscuous assembly at church or market. Their family likeness betrays them as fellows 'by the hand of nature marked, quoted, and signed to do a deed of shame.'"[3]

I think that I have clearly shown that the instinctive criminal is an abnormal individual. He is anti-social simply because he is morally and mentally an atavism. Or, to speak more plainly, he is morally imbecile because he has no knowledge of morality, and because he has no feeling within himself that his anti social actions are wrong. Atavism has hurled him back thousands and thousands of years, and has placed him beside his pithecoid ancestor. He is a savage in the midst of civilization. His emotions and desires, his responsibilities and religion are those of an autochthon, born and dead centuries and decades of centuries ago. We send our intellectually insane people to asylums where they are presumably treated with kindness and consideration. We incarcerate our moral imbeciles in penitentiaries, prisons, and workhouses. We feed them on poor food, and drive them to their tasks in the shops or the mines, with the fear of the whistling lash, or the maddening terrors of the dungeon ever lurking in their hearts. We bind them to the chair of death, and rend their souls from their bodies with the lightning's stroke; or we place ropes about their necks, and hurl them into eternity through the falling doors of the scaffold. Poor unfortunates! Are they to be held responsible for Nature's vagaries? Enlightened humanity has a difficult problem to solve, when it is asked the question, "What will you do with the Criminal?"

[1] Havelock Ellis: The Criminal, p. 78.
[2] Lombroso: L'Uomo Delinquente, p. 236.
[3] Maudsley: Responsibility in Mental Disease, p. 20.

ELONGATED CERVIX UTERI—OVARITIS—OSMOTIC TREATMENT.

By WALTER S. WELLS, M.D.,
NEW YORK.

The subject of this sketch has been married about two years, and came to this city last spring for surgical treatment, having previously been under medical treatment in her Western home.

In addition to the abnormal cervix mentioned as complicated with ovaritis of the left side, there was also anteversion, and endocervicitis, with erosion, as correctly diagnosed by a St. Louis physician formerly in charge.

The natural dread of undergoing a surgical operation, with its attendant dangers from anæsthesia and possible secondary complications, restrained her from submitting to the ordeal, so that it was postponed from time to time.

In the meantime it happened that the writer was successfully treating, by the osmotic system, a case of uterine tumor in the person of a friend of the patient—subject of this sketch—to whom she explained the method, and finally effected an interview. The osmotic treatment was the more readily accepted after it was further explained that it would certainly relieve the inflammatory conditions complicating, and place the case in a more favorable condition for future recourse to the surgeon's knife, if necessary.

The history of the case antecedent to marriage, as given by the patient, was one of dysmenorrhœa from the inception of menstruation, the painful condition of the left ovary scarcely fully subsiding between the menstrual epochs. No professional examination *per vaginam* previous to marriage, but the patient had felt, by introducing her finger a short distance, a fleshy substance, seemingly about the size of the finger itself, quite firm, and yielding only a moderate movement at its base, as her finger manipulated its end. Maiden modesty and the supposition that it was natural repressed any disclosure, and it was not until long after marriage that dyspareunia, profuse leucorrhœa, and a general aggravation of the ovarian engorgements each month, prompted an examination, which discovered the remarkable cervical elongation.

Our first examination was digital, the patient standing; and the sensation conveyed was identical, as to the size, with that previously described, only rendered more definite by our being able to trace it to its base, which the limited reach of the patient's finger had not permitted. It seemed to our sense of touch to be at least two and a half inches long, and to be fully as large as stated. It was hard and firm, not easily yielding to efforts to bend it from its rigid line of projection, but was slightly capable of yielding at its junction with the body of the

uterus. The displacement, which had existed before her arrival here, still remained.

The speculum disclosed the elongated cervix of dimensions to fully confirm the digital impressions, together with its surface in the condition of erosion, doubtless maintained by the attrition of coition. The cervical canal was so contracted that the smallest sound could not penetrate without causing great pain and bleeding.

The os was filled with a protruding mass of stringy, tenacious discharge, characteristic of cervicitis. There was considerable leucorrhœal discharge also, occasioned by the engorged vaginal mucous surfaces, and this flux, together with the Nabothian exudation, and that contributed by the erosions, came away quite profusely upon using the fountain syringe. In short, there was chronic inflammation and engorgement of the mucous membrane of the vaginal, cervical, endometrial, and Fallopian tracts, up to and involving the left ovary, especially aggravated each month as the menstrual period approached.

In the treatment of this case the first indication was to overcome this condition of inflammatory engorgement. Selecting an osmotically prepared sponge, of size suitable to act also as a pessary while effecting endosmosis and exosmosis, we saturated it with a solution composed of three fluid drachms of zymocide, one drachm glycerine, and an ounce and a half of warm water. The sponge was then introduced through the speculum, directly in apposition with the os, and surrounding, by its cup-shaped depression, the cervix, and was left *in situ* for twenty-four hours.

At the end of this time the patient, as instructed, removed the sponge by its string attachment, and having noted its condition, as to the discharges, thoroughly cleansed it and returned with it for renewed medication. Her report was that the sponge, when removed, was loaded with the glairy, tenacious excretion, and others of a puriform and mucous character.

Upon the second examination the mucous surfaces brought to view, and the erosions, were found much improved in appearance, and continued to improve as the osmotic treatment progressed. At the end of half a dozen applications of the osmotic sponge, saturated as described, the erosions were healed, the leucorrhœal discharge was very much abated, and the cervix was tangibly softening. This treatment had intentionally been commenced soon after the cessation of a menstrual period, and continued, every third day, up to the monthly recurrence.

When this supervened, instead of being accompanied by the suffering which had characterized the ordeal each month, for years, the menses escaped with so little pain that the patient could scarcely realize the fact, until ocularly demonstrated. Of course, the treatment was discontinued during the menstruations. When treatment was resumed after their cessation, examination, both digital and specular, discovered other improvements. The cervix was softened and quite flexible, very materially shortened, and its canal admitted a bougie three times the size it did at first, with no accompanying blood, although the glairy excretion continued somewhat. The enlarged uterus, overweighted by congestion, was reduced in size and was recovering from its anteversion, and the chronically painful ovary was much less remindful of its presence.

As the treatment progressed during the second month we tried many experiments, with the view of promoting resorption of the superfluous tissues of the cervix. Former experience had convinced us of the superiority of zymocide for the reduction of all conditions of engorgement to which the female pelvic organs are liable, and so in excess of any combinations of remedies strictly pharmaceutical, that we resolved to continue its use, as it had accomplished a decided advance.

We should mention that the addition of glycerine had been omitted after the first few treatments. It was decided to keep up the osmotic action of zymocide, and seek an addition to it of something to increase the resorption of the cervical excess, and this was finally accomplished by adding to it an equal amount of medicinal solution of pyrozone (three per cent. H_2O_2). The increasing shrinkage of the now soft and flabby cervix, under the application of the combined dressing last mentioned, was noticeable more and more as this treatment was continued. At the same time the cervix was gradually assuming a natural condition, its canal became more patulous, the parts, originally tapered as first described and almost impermeable, assumed the usual convex shape of the end of an egg, and a large-sized sound easily entered without the consciousness of the patient.

A still further impetus was now given to the osmotic procedures by adding to the above solutions from three to five grains of iod. potassii to each spongeful of fluid applied.

The treatment was continued at irregular intervals into the third month, as the sponge continued to bring away slight deposits of the cervical discharges of glairy mucus.

Finally, there was such a complete return to normal size of the cervix, and restoration to healthy standard of all the parts involved therewith, that the patient was discharged cured.

The New York Medical Record of May 27, 1893, published the *modus* of osmotic treatment, a copy of which we will forward upon request.

235 West Thirty-fourth Street.

THE BABCOCK TEST AS A MEANS OF DETERMINING THE COMMERCIAL AND NUTRITIVE VALUE OF MILK (BOVINE AND HUMAN).[1]

By HENRY G. PIFFARD, A.M., M.D,

PROFESSOR OF DERMATOLOGY, UNIVERSITY OF THE CITY OF NEW YORK.

As everyone knows, the ordinary methods of chemical analysis as applied to milk (gravimetric process), with a view to the determination of its richness in oil, are tedious and impracticable except at the hand of a skilled chemist. A simpler means was therefore a desideratum, and this has been supplied by Professor S. M. Babcock, Ph.D., of the University of Wisconsin.

Babcock's method consists, first, in dissociating the oil-globules or butter fat from the casein by means of sulphuric acid and heat; second, in collecting the butter-fat in one mass by means of centrifugal action; and third, in measuring the volume of the liquid fat in a suitable graduated tube. For the convenient carrying out of this process, Dr. Babcock has devised a simple and inexpensive apparatus, consisting of a pipette, a graduated cylindrical glass, and a centrifugal holding a number of test-bottles. Some sulphuric acid and a little hot water include the accessories. With these appliances an exceedingly accurate determination of the butter fat contained in a sample of milk can be made in about ten minutes.

The test-bottle is of about two ounces capacity, with a narrow, graduated neck. The graduations run from one to ten, and each of the divisions corresponds to the percentage of butter fat contained in the sample of milk tested. The main divisions are further subdivided so that percentages as small as .2 can be easily read off. The pipette has a single graduation marked 17.6 c.c., and the cylindrical graduate has also but a single mark at 17.5 c c.

The centrifugal is a large tin drum with a cover, and inside there are supports for the test-bottles. Outside there is a gearing by means of which the bottles can be whirled at great speed.

In order to test any given sample of milk, care should be taken that it is thoroughly shaken up, so that any cream that has risen by standing shall be evenly distributed through the mass. When this is done, insert the point of the pipette into the milk and suck it up until it rises

[1] Read before the New York Academy of Medicine, December 28, 1893.

above the graduation. Place the finger over the upper end, and by admitting air slowly, allow the milk to escape until it stands exactly at the 17.6 c.c. mark. Then transfer the milk to the test-bottle, blowing out the last drop.

Next fill the acid measure to the 17.5 c.c., mark with sulphuric acid (sp. gr. 1.82), and add it slowly to the milk. In doing this it is well to slightly incline the bottle, so that the acid will run down along the side, rather than to drop it directly through the milk. When the acid is all in, shake the test-bottle slowly and with a circular motion, so as to thoroughly mix the contents. This will be accompanied with the development of considerable heat, and the mixture will become black from carbonization of the milk-sugar.

The test-bottle is now placed in the centrifugal, and the other bottles, if not used for testing, should be nearly filled with water. Next place the cover on and turn the wheel at moderate speed for exactly five minutes, the bottles are then removed from the centrifugal, and hot water is added until the fluid rises nearly to the upper graduation on the neck. The test bottles are returned to the centrifugal and whirled for one minute. This completes the operation—the cover being removed, the bottles are taken out and are ready for examination.

The entire quantity of butter-fat will be found collected in the neck of the bottle, and its proportion can be easily read off. For instance if the upper line of the butter fat is at 8 6 and the lower at 3.1; it would indicate that the milk contained five and one half per cent. of fat—which figure, however, is higher than the milk from the majority of cows will test.

The Babcock method is now almost exclusively relied on to ascertain the commercial value of milk when bought or sold in large quantities for butter and cheese making.

Although the Babcock test gives a direct indication only of the proportion of butter-fat contained in the milk, it is also relied on for the determination of the casein, because analysis has shown that this latter substance bears an almost constant ratio to the former; *i.e.*, the more fat, the more casein, and *vice versa*.

It will thus be seen that by means of the simple procedures here shown we can determine with great ease the proportions of the chief nutrients (hydrocarbons and albuminoids) contained in any given sample of milk. So far as I am aware, however, no definite relationship of the milk sugar to the varying proportions of the other ingredients has been worked out, and if I am correct opens a useful field for investigation.

The utility of this invention of Professor Babcock, in enabling managers of hospitals, asylums, and other public institutions to control the quality of milk furnished them, suggests itself at once.

In private families even, this test can be utilized. In my own domestic economy I had been paying ten cents a quart for the milk furnished by a well-known purveyor. A competing milkman offered to furnish "just as good" for seven cents. A few tests were enough to show that the ten-cent milk was the cheaper.

Some twenty years ago I made a good many analyses of human milk by the processes then in vogue; but, as will be understood, the time required for these examinations was more than a practitioner could well afford to give. The Babcock machine, however, now makes this a comparatively easy matter, and I find that satisfactory examinations can be made of mothers' and wet-nurses' milk without any modification of the processes here described.

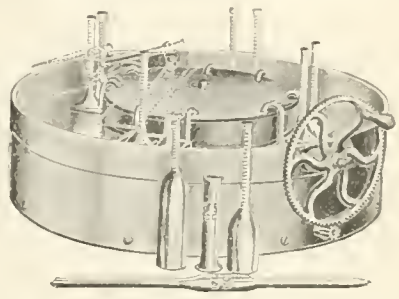
The Babcock test offers also a convenient means for the examination of some of the proprietary milk-foods now so plentiful in the market.

Some months ago a sample distributor called at my office with a preparation that he declared was made only from the "best of pure country milk." After listening to the fellow's story I suspected that the thing was a fake, and on submitting his preparation to the machine found that it contained less than two-tenths of one per cent. of butter-fat. In other words, the stuff was made from skim-milk.

The Babcock centrifuge, however, can be applied to other uses besides milk-testing, as it may also be employed to obtain a prompt separation of urinary sediments. For this purpose I use bottles with a shorter and broader neck, and made, of course, without graduations. After two or three minutes' whirl the urinary sediment, crystal, casts, etc., will be found collected in the bottom of the bottle, ready for immediate microscopical examination, thus obviating the usual delay of twelve or twenty-four hours required for settling in the ordinary way. The importance of this, in enabling a physician to arrive at an early diagnosis in a doubtful case of uræmia, will not be overlooked.

Finally, those who delight to delve into the diverting depths of the fascinating science of diatomology will find this centrifuge a substantial aid in their work.

Dr. Babcock, with great generosity, has given his invention to the world, and as a consequence a dozen or more firms are engaged in its manufacture, each, however, introducing some special modification of their own. The



one here shown is known as Roe's pattern, and is made by the Creamery Package Manufacturing Company of Chicago, but can also be obtained from Richards & Co., of this city. The price of the four bottle machine, with appurtenances, is $8. Those arranged for a larger number of bottles cost a little more.

10 West Thirty-fifth Street.

The Grip.—A Latinist from Mount Holly, N. J., sends the following Horatian song concerning the "microbus aut virus, quodcumque sit," of the grip, to the New York *Sun*. The Latin is so thoroughly modern that it can be easily read in Chicago:

Cæsar Ruthenus,
Grippâ perplenus,
Torquens in lecto clamat:
"Hunc miserum morbum
Totum per orbem
Spargam, qui circum me stat!"

Tumque bacillos
Valde tantillos
Ventis distribuit sic,
Ut hi ministri
Plane sinistri,
Spargerent illic et hic.

Itaque ventis,
Minime lentis,
Ex aquilone qui fiant,
Et sordidis se Avis.
(Quippe per naves,
Quæ super Atlanticum erant.)

Pervenit nobis
Iste microbus
Aut virus—quodcumque sit—
Quo lugent populi
Rure, metropoli,
Et medicus dives quo fit

An sustinebimus?
Inulti flebimus?
Nimis molestum est, heu!
Summus casum!
Cæsaris nasum
Tundamus ego et tu.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street.

New York, January 13, 1894.

THE NATIONAL QUARANTINE BILL.

THE Chicago Medical Society and the Milwaukee Medical Society have both adopted reports adverse to the National Quarantine Bill as drafted by the Committee of the New York Academy of Medicine. The reasons given are in the main that the Academy bill does not go far enough, that a full-fledged Department of Public Health ought to be created, with a medical officer at the head of it in the Cabinet. It is further argued that the Academy bill does not provide sufficiently definite qualifications for the commissioners, and that the provision which continues the quarantine under one officer of the Government while the regulations are framed by the commission (of which this officer is a member) would create confusion. Finally, it is objected that the commissioners are not to be paid enough.

Everyone has a right to his opinion, and no fault can be found because the physicians of Chicago and Milwaukee do not agree with those of other parts of the country. It is most unfortunate, however, that the criticisms which have been made so recently were not published sooner. The Academy bill was published in full last summer, copies were widely distributed and criticisms asked for. The desire was to secure the views of the whole profession and to draw up a bill which would give a practical embodiment of these views. Modifications were made in accordance with suggestions received, and the bill as a whole was the result of careful deliberation and consultation not only with experienced sanitarians but with lawyers and practical legislators.

It was felt, we believe, that the time was not ripe for the creation of a separate department. However just and wise a measure may be it is utterly impossible to force it upon a body of men who do not believe in it or upon a community which is not educated up to its necessities. The history of legislation is a succession of illustrations of this fact. There is, as everyone knows, a strong sentiment against multiplying the number of our cabinet officers, and this sentiment, however unreasonable, must be dealt with as a fact.

The present quarantine law is an advance on what we used to have. The proposed quarantine law will be an enormous step farther in advance; and it is one which we believe it will not be difficult to accomplish. Everything, however, will fail if there is a division of sentiment, and—most horrible of all—a "doctors' quarrel." We trust, therefore, that some harmony of action can be secured. The minor points regarding the executive organization of the Quarantine Bureau can easily be settled; and we trust that concessions will be mutually secured regarding all points.

It would be a lasting disgrace if any matter of sectional pride or local jealousy entered in a question of such momentous importance to the welfare of the people. We are sure that both the American Medical Association's Committee and that of the New York Academy are above any such feelings, and desire to secure a common end. If this is so, harmony can be secured and the profession can work unitedly in furtherance of their patriotic objects.

A GERMAN VIEW OF "AMERICANISM" IN MODERN MEDICINE.

A REMARKABLE article has recently appeared in the *Deutsche Medicinische Zeitung*. The author's personality is modestly concealed under the pseudonym "B. L. in W." His doleful lucubrations have been widely copied by the medical press of the Fatherland. The gist of B. L.'s terrible arraignment of modern medicine is that European, even including German therapy, is becoming rapidly "Americanized." How best to meet this depraved tendency in a downward direction is made the subject of his anxious inquiries.

The Teuton naturally stands aghast at the dismal vista opening before his dreamy eyes by the rapid strides of German medicine away from time-honored theorizing and scientific hair-splitting, into the broad domain of common-sense and the practical. That is what it means for German medicine to become Americanized.

If B. L.'s representations can be relied upon, there must be great alarm in the inner circles of German medical autocracy, where abstract science is still supposed to reign supreme, while German death-rates go on healthfully increasing.

We are told that "the American healing art has, without doubt, made extraordinary advances in the past few decades." It is indeed nothing short of disgraceful that the German public is beginning to ask German doctors to cure German ailments on the American plan.

The involuntary confessions of B. L. disclose a peculiar state of affairs. For while America still sends its annual quota of callow youths to the empire of William II., in quest of "higher medical education," the subjects of his Majesty are clamoring for transatlantic notions in the conduct of medical practice. Now, the RECORD has always believed in reciprocity. For this reason we will welcome to our shores all those German graduates who, after having been drilled in approved Teutonic methods of pure science, find themselves a trifle deficient in those minor qualifications of professional power which help to cure the patient. At the same time we are willing to send some of our own medical citizens across the waters, in order to find out the best-sounding Greek names for diseases which they have long known how to handle, though not, perhaps, to euphoniously designate. A fair exchange on such lines ought to be helpful all around.

But to return to the specific accusations of "Dr. Med. B. L. in W.": "No materia medica contains so many remedies as the American one; moreover, in variety of

form and exhibition American drugs greatly exceed European requirements." Now, that is really too bad. The revisers of our Pharmacopœia ought to be at once despatched to Germany for the radical extirpation of their bumps of vulgar extravagance. Again, "American drug stores are veritable palaces; for the Yankees are the pharmacophile people *par excellence*. The American takes daily—apart from ice-water, hot bread, and countless mixed drinks—his pills, his powders, and his fluid extracts. That is why the Americans have such poor teeth, worse stomachs, and excellent dentists. These pernicious American habits produce neurasthenia, which is really only a symptom of Western hyperculture." And this crazy hotch-potch of ice-water, biscuits, fluid extracts, bad stomachs, neurasthenia, and good dentistry is what we are seriously asked to regard as "Americanism." No wonder they are afraid of it, and are arming against its threatened invasion. We, too, intend to keep our eyes open. And as soon as the pathogenic microbe of this "Americanism" shall have been duly discovered by an enterprising Kochite, we mean to have some of it in pure culture for the protective inoculation of everybody—from the President of the United States all the way down to the latest imported anarchist and German pauper.

The great stress laid on the principle of "utility" in modern German therapy is another American innovation which B. L. denounces in sneering terms. The "ideal devotion to science has been replaced by a commercial rush after success, bread and butter, position and fame." Well, what of it? Why should the doctors starve in obscurity, while all other human beings are earnestly striving for adequate recognition of their laborious efforts?

In regard to the needless multiplication of new remedies, more particularly of antipyretics, narcotics, hypnotics, and antiseptics, we are disposed to agree with our German critic. But when he asserts that these drugs are chiefly of American origin, and especially of Western (Californian) extraction, he blunders stupidly. Germany is the native country of most of this new-fangled trash, which is thrust upon the market for purposes of sordid gain, and by no means in the interests of "purely disinterested science." The country that has given the world its tuberculin craze is ill-prepared to sneer at the land which has left to humanity the lasting heritage of chloroform anæsthesia.

When the erratic B. L. next takes up the cudgels to pound modern excesses in specialism, we are once more heartily in accord with his strictures. His jeremiade touching the decay of the family practitioner also contains a timely warning, but not one which fits our country better than Germany or the rest of the world. We quote the original as follows:

"Der moderne Hausarzt verwaltet sein dornenvolles Amt oft nur als lebender Adresskalender für Specialisten, er ist fort und fort auf der Suche nach den allerneuesten Heilmitteln und Kurmethoden. In dieser wilden Jagd spielt er die traurige Rolle des Gehetzten, denn der Patient geniesst zum ersten Frühstück bereits einen pikant zurechtgemachten Aufsatz über irgend ein neues Heilmittel gegen Diphtherie, über den Unterschied zwischen Asepsis und Antisepsis, oft kaum 2 Tage, nachdem der Urheber einen der vielen medicinischen Congresse mit seiner Neuigkeit beglückt hat — und drängt novarum rerum cupidus den Arzt auf die schiefe Ebene des Probirens. Dass das therapeutische Pfuschertum in den wie Pilze aus dem Boden schiessenden Sanatorien, Nervenanstalten, Heilinstituten, Kurorten zum Ausdruck kommt, ist nur zu bekannt."

Again, when B. L. denounces the flourishing industries of massage, the "Kneip-Kur," suggestion-therapy, and similar fads, he inveighs unwittingly against Germanisms, not Americanisms. In fact, we fear his knowledge of the United States was exclusively evolved from his inner consciousness. Actual experience of American medical affairs he has had none. It is not surprising, therefore, that he knows so many things about us which are not so. Foreigners often do.

On the whole, we are not disposed to find too much fault with our German critic. He has said in plain language that American doctors are the best practitioners now extant, especially from the stand-point of advanced therapy. American medicine will presumably continue to draw lofty scientific inspirations from Teutonic sources. At the same time, however, we will continue to teach foreign flounderers how to treat individuals afflicted with disease in a rational, effectual, satisfactory, and humane manner. The modern world has room both for German thoroughness, and American practical common-sense, in all that relates to the healing art.

THE BLIND CHILD AND THE CULPABLE MIDWIFE.

We are pleased to know that something has been done to compel midwives in charge of a case of confinement to give heed to the law which requires them to report to the Board of Health or to a registered physician the fact that a baby under two weeks old has any inflammation of the eyes. Such a law has been in existence, but has not hitherto been enforced, partly because the law was until within a year not fully operative in its terms, and partly because sufficient evidence could not be had to convict an offender.

The Society for the Prevention of Cruelty to Children secured a year ago a modification by which the law was made more effective, and has just obtained the conviction of a midwife, who pleaded guilty to the offence charged. The child was brought to the New York Eye and Ear Infirmary when four weeks old, with both corneas perforated, and it is now totally blind. The midwife ceased attending the mother on the ninth day, and directed her to apply breast-milk to the child's eyes. She said that the eyes were not seriously affected, and would soon be well. She did not see them again for some time, and then advised application to a dispensary. Her offence consisted in giving treatment to the child and in not making a report of the case as the law directs.

She was fined $5, and reprimanded by the judge; but the law makes the offence a misdemeanor, of which the full penalty is much more severe. The midwife's plea of guilty, and that she (a German) was wholly ignorant of her duty under the law, was the reason for the lenient punishment. It is to be hoped that physicians will give attention to this matter, especially such as practise in dispensaries and eye institutions, and by giving evidence to the Society above-named they can help to accomplish a much-needed reform. The cases of ophthalmia neonatorum are, in the great majority of cases,

easily controlled if treatment of the proper kind is begun early. Among the poor the cases are most frequent, and hence the need of holding the midwives, whom the poor usually call upon in accouchement, strictly accountable to the law. The time of two weeks permitted by the law ought to be shortened to one week within which the midwife should give notice.

THE GIFT OF A MEDICAL LIBRARY.

The generous gift of Professor Senn to the Newberry Public Library deserves the warmest commendation. By virtue of this, Chicago is at a single bound placed in possession of a medical library nearly as large as that in any city of the United States except Washington. The value of such a library to the profession of Chicago cannot be over-estimated, and we must congratulate our brethren of that city upon their acquisition.

Professor Senn's gift reminds us that there is near this city a collection of books equally unique, and perhaps quite as valuable, which has, we believe, not yet been put into the hands of the profession. We refer to the library of the late Dr. George P. Fisher, of Sing Sing. It is greatly to be hoped that in some way this collection may be obtained for the Academy of Medicine. Dr. Fisher's library was particularly rich in works on teratology, in ancient and rare classics, and in monographs on all subjects.

HOSPITAL APPOINTMENTS AND ADVERTISING.

The editor of the *Medical Times and Hospital Gazette* publishes some severe strictures on certain aspects of the hospital appointment question. He says that, among hospital physicians and surgeons, quackery and humbug are not altogether unknown, but what we most complain of are the bold and shameless methods of advertising adopted by consultants to obtain practice. Many persons labor under the delusion that medical men give their services to hospitals purely from charitable impulses, but we fear if those only who desire to promote works of charity gave their services to hospitals, there would be considerable difficulty in filling up the medical staffs of these institutions. The most effective and most legitimate method of advertising is through a hospital appointment, hence the desperate efforts made by aspiring consultants to become attached to these institutions. Of course, all who aspire to consulting practice cannot obtain posts on the staff of an established hospital, but the difficulty is easily surmounted. If a physician or surgeon has decided to commence practice as a consultant and finds that his services are not required by existing institutions, he has only to get two or three other equally ill-used individuals to join him in running a "show" of their own. A dilapidated house having a shop-front is secured in a poor and crowded neighborhood, and in a few days, by the liberal use of paint and varnish, the whilom rag and bone mart is converted into a much-needed (?) hospital, the claims of which are widely advertised by the professional cadgers who are always ready to collect subscriptions to help the cause of charity, on condition that they are paid a liberal commission. Our large towns swarm with these bogus medical charities, the vast majority of which are not only unnecessary but are actually mischievous, as they attract subscriptions from the public which would otherwise be given to deserving institutions. It is surprising that the men who run these "shows" are recognized by the leaders of the profession. If the "nobility of the profession" so much talked about had any existence, medical men associated with bogus hospitals and dispensaries would be shunned by all honest practitioners of medicine. But what do we find? That they are received with open arms by those who are regarded as the best men in the profession.

Although these institutions were intended primarily for British consumption, they are not wholly inapplicable in our own country. We certainly want fewer public appeals for new hospitals having no better *raison d'être* than the private ambition of a coterie of physicians.

By posing before the public as philanthropic managers or unselfish "consultants," by soliciting financial support from wealthy people, by getting up widely advertised benefit entertainments, by issuing alluring circulars and other appeals to the laity, doctors unknown to fame may for a time derive some personal benefit from their self-imposed tasks and appointments. But the New York public is apt to be discriminating. The old established institutions serving legitimate purposes, will scarcely be made to suffer much by a diversion of funds to alleged charitable establishments of the newer kind, organized solely for the "business" that it is hoped they will bring to the medical aspirants who promote them. All institutions of the pseudo-hospital variety ought to be left severely alone. The condition of suspended animation which some of them appear to be at present enjoying, may be serenely permitted to lapse into innocuous desuetude. We want no bogus charity in medicine.

Benzosol in Diabetes.—Palma (*Berl. klin. Woch.*, November 13, 1893) has used this drug, recommended by Piatkowski, in six cases of diabetes. Tables are given showing in each case the amount and specific gravity of the urine, the percentage and total daily amounts of sugar, and the weight of the patients during the treatment. In two of the cases it is shown that benzosol leaves the body in the same way as salol, the ethyl sulphuric acid in the urine being increased. The author could not find that benzosol was of any use in these cases. On the other hand, it must be given with caution, as it frequently at first produces diarrhœa, which may be dangerous in cachectic patients. In one case guaiacol carbonate was also tried, but without result.

A New Treatment for Pulmonary Tuberculosis.—G. M. Carasso publishes (*Gazz. d. Osp.*, November 2, 1893) a short note on a new method of treating phthisis. Starting from the fact that L. Braddon had obtained good results from the inhalation of peppermint-oil (*The Lancet*, March, 1888), Carasso began a series of experiments with that oil, and finally arrived at the following method of treatment: Continuous inhalations of peppermint oil are combined with the internal use of an alcoholic solution of creosote with glycerine and chloroform, to which is added peppermint-oil in the quantity of one per cent.

News of the Week.

A Correction.—In last week's issue of the MEDICAL RECORD the article by Dr. Horace Straight should be credited to Dr. Howard Straight, of Cleveland, Ohio.

The International Congress.—Italy is having a hard time in its effort to hold the International Medical Congress. Last fall there was the cholera, this winter all Sicily is in a ferment. Still the *Lancet* correspondent writes: "Up to last night the number of intending participants was 3 800—1,800 from abroad and 2,000 from Italy. The communications, scientific and practical, already received amount to 1,000 (in round numbers), although the time for sending them in does not expire till the middle of January next. More than half of these are of non-Italian origin and embody original researches and conclusions. The national committees abroad—those, that is to say, already constituted—are forty in number, while several of them, on account of the vast territorial extension of the States to which they belong, have been subdivided into various subcommittees."

A New Emergency Hospital in Boston.—A new emergency hospital, to cost about a hundred thousand dollars, is to be built by the friends and trustees of Tufts College; and the clinical advantages are to be given wholly and exclusively to the students of the Tufts Medical School.

Appointments to the State Board of Health.—Governor Flower has appointed as members of the State Board of Health Dr. John Edwards, of Gloversville, to succeed Dr. Dawes, of Saugerties, and Dr. Murray M. Adams, of Watertown, in the place of Professor Perkins.

Free Vaccination in Boston.—The appropriation of $5.000 for free vaccination has been exhausted; but the Mayor, in view of the satisfactory working of the public inoculation, has authorized the continuance of the work, and has told the Board of Health that the money expended will be granted when the work is completed. The number of persons vaccinated increased each day last week from 1,000 on the first Monday to over 4,000 on Saturday, a total of over 20,000 for the week.

A Gift to the Medical Profession of Chicago.—Professor N. Senn has given his collection of medical books, valued at about $50,000, to the Newberry Public Library. *The Journal of the American Medical Association* says that Professor Senn has for many years been engaged in the gathering of this magnificent collection, but for the most part the gems of the library were obtained by purchase from the estate of Professor William Baum, Professor of Surgery, University of Göttingen. He was one of the founders of the German Congress of Surgeons, and for fifty years had been collecting works on anatomy, physiology, surgery, and the old classical authorities. Professor Baum died in 1886, and his estate offered the library for sale. The wish of Professor Baum was that the German Congress of Surgeons should purchase the library, but that organization did not see their way clear to meet the expenses. The administrator of his estate publicly stated that Professor Baum had spent over forty thousand dollars in its purchase. The administrator offered the library to various parties, and the Royal Library of Berlin offered an almost fabulous price for a number of antiquarian volumes contained in the collection, but the administrator, following the wishes of Professor Baum, refused to separate the books, and announced that it would be sold by auction. This coming to the ears of Professor Senn, he at once secured it by making a partial payment, and then withdrew it from sale. The books were shipped to Professor Senn, then in Milwaukee, in fifty-two cases, constituting an entire car load.

Endowment for Laboratory Research in the Therapeutics of Phthisis.—The last annual report of the Adirondack Sanitarium, by Dr. Trudeau, contains this announcement: "The medical report shows the usual good results obtainable from a change of climate and an open-air life in combating consumption, and one of its most interesting features relates to those patients who have received injections of modified tuberculin. Although this form of treatment has been almost universally condemned as useless and dangerous, the results obtained during the past two years at the Sanitarium, by the careful use of a modified tuberculin, when applied in conjunction with the usual climatic and open-air methods, have been on the whole encouraging and indicate that such specific medication may, with care, be safely administered, and is probably to have a place in the future treatment of incipient consumption. It is, therefore, most opportune that through the liberality of two gentlemen, whose names at their express wish are withheld, a five year laboratory and research fund has been instituted for the purpose of defraying the laboratory expenses incurred in the study of the specific treatment of tuberculosis, and to meet the expenditure incident to any original researches on this disease which may be undertaken in connection with the Sanitarium. As far as I can learn, this is the first fund established in this country to encourage scientific observations and experiments on tuberculosis, with the hope that a broader knowledge of the disease may lead in the future to some relief from the wide spread suffering which it causes.

A Bust of Professor N. S. Davis.—An excellent bust of Professor N. S. Davis, by Mr. Starr, has been placed in the Art Institute of Chicago, where it is much admired.

Is Opium-eating a Blessing?—England, and particularly India, doesn't like to give up its opium trade, which amounts to over sixty million dollars a year. Consequently English journals, including even such a bulwark of steady habits as *The Lancet*, publish many things to show that after all opium smoking and eating doesn't do much harm. For example (we quote *The Lancet*): "According to the records of the Oriental Life Assurance Company for the last twenty years there was not a single death attributable to the use or abuse of opium of nine hundred and seventy three death-claims since 1874, and the company has upon its books something like twenty thousand native assurers. It is notorious that opium is used by some of the bravest and most energetic races of India. The Sikhs and Rajputs, for example, are fine, stalwart races, and a very considerable proportion of them take opium. We were much struck with the reported testimony of Mr. Monro, late Chief Commissioner of the Metropolitan Police, who is engaged in missionary work and is perfectly unbiased. He condemned the anti-opium agitation as groundless, and added that the

use of opium was no obstacle to missionary work." Opium, in fine, is a blessing to the English pocket, and the opium habit is a good enough habit for a Hindu.

A Four Years' Course in Seventy-one Medical Colleges.—It is proposed that the Association of American Medical Colleges adopt a rule enforcing a four years' course upon all medical students who intend to graduate in 1899 or subsequent years. The Association now embraces seventy-one colleges, and if this rule is adopted it will at once work a great change in the value of medical instruction given in America. We trust that the Association will see its way clear to adopt the new regulation.

Death of Dr. Nelson Nivison, of Burdette, N. Y.—The recent death of Dr. Nivison removes from his associates and friends a man of high standing in his profession and a frequent and valued contributor to medical literature. In the year 1861 he was elected to the Chair of Physiology and Pathology in the Geneva Medical College. In his third course of instruction microscopic anatomy was added to his duties. When the medical department of the Syracuse University was organized in 1871 he was offered and accepted the chair of physiology and pathology in that institution. Subsequently the chair was changed to physiology and hygiene. After fourteen years of service there, failing health induced him to offer his resignation, which a year or two later was accepted. He was then elected emeritus professor, which place he occupied at his death. He was born in Tompkins County, N. Y., in 1816.

Extension of Medical Course of Studies in the University of Minnesota.—The Board of Regents of the University of Minnesota have extended the course of study in the Medical College from three to four years of eight and one-half months each course. The new rule becomes operative in 1895. Perry H. Millard, Dean.

The Annual Banquet of the Medico-Legal Society of New York was held at Hotel New Netherland on Wednesday evening, January 10th. The occasion was the installation of the new president, Dr. Hubbard W. Mitchell. Judge A. H. Dailey, of Brooklyn, the retiring president, gave his farewell address and introduced the president elect, who delivered his inaugural, in which he pictured the future possibilities of the Society and the useful lines of work into which it could direct its powerful energies.

Mr. Clark Bell acted as toast-master, and speeches were made by Drs. George F. Shrady, Ralph H. Parsons, George B. Chaffee, Mr. Jacob F. Miller, Hon. Moritz Ellinger, and Dr. Isaac N. Quimby, of Jersey City. The dinner was largely attended by the members, their wives, and lady friends.

Higher Medical Education.—In pursuance of the policy recently announced in the resolution to be presented to the American Medical College Association, the trustees and faculty of the Rush Medical College have decided to require four years attendance at college from students who begin the study of medicine this year with a view to graduation in 1898; however, those who have already studied medicine one year or more with a preceptor, so that the four years of study, already required, will be completed before July, 1897, may graduate after three courses of lectures as heretofore. To encourage proper preliminary study, graduates in Arts and Sciences from high-grade colleges, and graduates in Pharmacy and Dentistry from colleges requiring a proper amount of study and two full courses of lectures, will, until further notice, be allowed to graduate after an attendance on only three courses of lectures.

The Medical Society of the State of New York will hold its eighty-eighth annual meeting in the City Hall, at Albany, on Tuesday, Wednesday, and Thursday, February 6, 7 and 8, 1894.

To Drop the Title of Doctor.—We can hardly understand in this country the extreme eagerness of English practitioners of medicine to possess the title of doctor. There has been a great deal of active discussion in English journals lately over who is entitled to the honor. Speaking of this the *American News* says: "To us on this side of the sea, who hear the title of 'doctor' given to anybody in any way associated with medicine or medicines, from the most eminent and venerable physician to the drug clerk who mixed his first prescription yesterday, the 'game would not seem worth the candle.'" One of the above writers quotes, as one of the definitions of the term "doctor," "a fish, with sharp edged spine near the tail." Webster, after giving the classic use of the term, calls a doctor: "One duly licensed to practice medicine; a physician; one whose occupation is to treat diseases." He also calls a doctor a "mechanical contrivance to serve some purpose in an exigency," for instance, "an auxiliary steam-engine, called also a donkey engine." And we are all familiar with the colloquial use of the word in the verb transitive as applied to the adulteration of liquors and foods, and the surreptitious tinkering of election returns. These considerations and many more would seem to make it advisable for the physician and surgeon to drop the term so far as practicable, contenting himself with the title of plain Mr. like other folks. Of course the public will continue to call him doctor (sometimes "Doc."), but there is no good reason why he should continue to apply to himself a term so degraded and deflected from its original high uses as to have for him no longer any distinctive merit.

The Martha Battey Hospital is an institution incorporated under the laws of Georgia and managed by a board of trustees. The buildings and grounds are the gift of Dr. Battey, in grateful recognition of the valuable aid his wife has rendered him in his surgical work at Rome. It is not designed to pauperize the people on the one hand, nor to beg contributions from the charitable, but to offer comfortable shelter and necessary food and nursing at the lowest cost to patients and their friends, thus preserving their self-respect. Dr. Henry H. Battey is the surgeon in charge, and Dr. Robert Battey consulting surgeon.

Post-mortem Idrosis.—A writer in the *International Medical Magazine* records the following curious phenomenon in a case of death from angina pectoris. "The face of the corpse seemed to be bathed in perspiration, the moisture reproducing itself after being wiped off, in spite of the presence of rigor mortis and other unmistakable evidences of death. This most extraordinary phenomenon was witnessed by several local physicians who also viewed the body. The funeral was on that account delayed several hours until decomposition had fully set in."

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, December 21, 1893.

D. B. St. John Roosa, M.D., President, in the Chair.

Committee on Bureau of Nurses.—In accord with a resolution passed at the last meeting, the President appointed the following committee on Bureau of Nurses: Drs. Landon Carter Gray, W. E. Bullard, Horace T. Hanks, R. Van Santvoord, S. S. Burt.

Nomination for Treasurer of Board of Trustees.—Dr. William F. Cushman, the present incumbent, was the only candidate nominated for this office.

Section Assignments.—The President reminded the members that assignments to sections were made by the Academy, and that those who wished to be identified with some particular section should make their wish known to the officers of the Academy. When members were assigned to a particular section it was expected that they would take special interest in that section. It was hoped that those who were informed of this provision of the Academy would make it known to others, that they might be assigned to their proper section.

The President also announced that the subject for discussion at the next meeting was appendicitis, and that Dr. Albert Vander Veer, of Albany, would read the paper.

The following were appointed tellers, to act at the election of officers in January: Drs. S. T. Armstrong, C. G. Currier, and W. E. Bullard.

The Babcock Test as a Means of Determining the Commercial and Nutritive Value of Milk, Bovine and Human.—Dr. H. G. Piffard exhibited the apparatus (see p. 46).

Asthenopia not Dependent upon Errors of Refraction nor Insufficiency of the Ocular Muscles.—Dr. Thomas R. Pooley read the paper. The view, which seemed to be that of some oculists, that all cases of painful vision were due to some error of refraction or muscular insufficiency, struck the author as an absurd one. Every person had painful vision at times, and it was the object of the paper to discuss those cases which were not dependent upon errors of refraction or muscular insufficiency. Among the causes, local troubles were first discussed; afterward those which acted through disturbance of the general nervous system.

The act of vision constituted only a part of a series of phenomena linked with the nervous system, and the integrity of, one might say, the entire nervous system was necessary in order that all its functions might act harmoniously and painlessly. Vision would not withhold an expression of resentment if not properly used. The first violation related to over-use of the eyes. Probably all had some time experienced the asthenopia of near vision. At first, while vision was distinct, all went along well, but after a while the objective point grew indistinct and blurred, a fact due to overstrain of accommodation with failure to properly focalize the object. At first a short period of rest might suffice to renew distinct vision, but with repeated violations vision became more painful, and one might finally be compelled to abandon his usual occupation. Such cases of painful vision were due to exhaustion of the ciliary muscle, and were called accommodative asthenopia, in contradistinction to muscular and other forms of asthenopia. The symptoms could not be overcome by glasses. An illustrative case was that of a young man who was a student of technology in Stevens Institute, who studied night as well as day, until he was obliged to quit on account of indistinct and blurred vision and frontal headache. One eye had been lost from accident. Examination showed in the remaining eye normal vision, no muscular insufficiency, no inherent defect in the eye. It was true this was an extreme case, and was aggravated perhaps by the fact of having but one eye for use; yet asthenopia in some degree from overuse of the eyes was not uncommon.

The source of illumination also had to do with asthenopia, and while the arc electric light was the more common cause, yet cases had been reported in which the incandescent light was at fault.

Another source of asthenopia was the toxic effects of certain drugs, among which the author mentioned hyoscyamin given by neurologists, also alcohol and tobacco.

Another cause was diseases of the nose, first mentioned in a paper by Dr. Noyes, in 1867, and later in a paper by Dr. Gruening, from which the author quoted freely. The close relation between the nerves of the eyes and of the nose was clearly shown by the results of slight irritation of either, resulting in lachrymation, photophobia, or sneezing, etc. Cases had been reported by different observers in which asthenopia had persisted until some nasal trouble had been cured. A practical guide to the possible efficacy of nasal treatment was to be had in the use of cocaine. Dr. Pooley's experience had corroborated what Dr. Gruening had written on this subject. Dr. Myles had also found asthenopia and other eye symptoms result from nasal disease, such as hypertrophy of the turbinated bodies and conditions causing pressure and irritation of the nerves. One of the most remarkable cases in this line was that published in the Medical Record, in 1892, by Dr. A. S. Kibbe.

Asthenopia from irritation in other parts of the body more distant from the eyes than was the nose, then engaged the author's attention. Among these were irritation of the fifth pair of cranial nerves by carious teeth, and the influence of irritation in the genital organs. One of the most common of all causes of asthenopia, in the author's experience, was uterine disease, as was shown in a paper which he had published in 1886. A later one by Morse, of Ohio, was in line with his own experience; and the late Dr. James B. Hunter had found lacerations of the cervix and other uterine affections the only apparent cause of headache, asthenopia, and especially of pain in the top of the head. His reason for believing these symptoms sympathetic was that he had found them disappear after relieving the uterine disease. Dr. Pooley added other quotations which tended to show that asthenopia might be one of the protean symptoms accompanying disordered menstruation.

As suggestive of a longer list of possible causes for asthenopia, the author named hysteria, masturbation, sexual indulgence, scarlet fever, and other exhausting diseases or habits. A very valuable paper upon those cases which fell under the head neurasthenic asthenopia, had been written by Hilbrandt, a German author, who had given credit to an American, the late Dr. George M. Beard. The treatment had to be directly largely to the general condition, and included the so-called rest cure and hygiene.

Dr. Pooley summarized the points in his paper as follows: 1. Asthenopia may exist quite independently of errors of refraction or affections of the eye muscles. 2. Asthenopia may be due to toxic causes. 3. To excessive use of the eyes. 4. To various reflex causes. 5. A large number of cases are due to irritability and exhaustion of the nervous system embraced under the term neurasthenia. 6. Rational treatment consists in arriving at the cause of which the asthenopia may be considered the symptom, and correction of the same, together with rest and systematic exercise of the eyes and use of feebly focusing glasses where there is paresis of accommodation. It is the tendency of modern ophthalmology to seek a local cause for all disturbances of vision, and to use local treatment exclusively, but this has not met with the unqualified approbation of those who seek to be physicians as well at ophthalmologists.

In conclusion, he impressed the need of a wide and thorough knowledge of all the laws which governed physiology, pathology, and therapeutics, and a wise interpretation of their relation to the special diseases which oculists were called upon to treat.

The Paper Endorsed.—The discussion was participated in by Drs. Gruening, C. S. Bull, Sayre, Page, Goffe, Myles, and the President, all of whom endorsed the views expressed in the paper.

Dr. Gruening said the paper was exceedingly timely. The oculist bore the same relation to the great body of medical men that the eye bore to the human frame. A doctor who limited his view to the immediate diseases of the eye was unworthy of his profession. It was such narrowness that had led many to lose sight of accommodative asthenopia which had been dwelt upon in the paper. Often persons recovering from some acute illness, as one of the fevers, would spend hours in bed reading a novel, straining the ciliary muscle in their exhausted state beyond the power of endurance. Next to the heart, this muscle was more constantly in action than any muscle in the body. Women who suffered most from asthenopia during the menstrual period, were likely to belong to that indolent class who would spend day and night in the recumbent posture, reading light literature, thus exhausting the power of the ciliary muscle and bringing on headache and painful vision.

Dr. Bull also thought the paper a very timely one. The woods were full of young oculists who were nothing else, who knew nothing else. Asthenopia without apparent ocular defects was, according to his observation, frequently the first sign of commencing glaucoma. He mentioned it because he had not seen it referred to in print as a possible early symptom of glaucoma. Another point dwelt upon by him was the injurious effect of long continued use of the eyes under the electric light, and he included not only the arc light but also the incandescent. Not a week passed but what he saw one or two most aggravated cases of asthenopia without other apparent cause. He could also recall six or eight cases of diabetes in which the class of symptoms described in the paper under the head asthenopia had preceded the appearance of sugar in the urine. He, too, had seen many cases of asthenopia, especially in women, connected with the condition called neurasthenia. In these patients it was common to find a faulty state of the circulation, both general and also local, in the eye, as shown under the ophthalmoscope. The calibre of the vessels, particularly of the veins, would be seen to increase and diminish during the examination. It was when the veins were fullest that the patients appeared to suffer most from asthenopia.

The conclusion to which he had come was that there were cases of painful vision in which the most careful and scientific investigation would fail to reveal any defect in the eye, in which, contrary to his former belief, there was positively no error of refraction, and in which treatment had to be directed to the patient's general condition.

Reflex Asthenopia.—Dr. Reginald H. Savre had seen several cases in his own and his father's practice, in which asthenopia had disappeared after removal of some distant source of irritation, especially removal of phimosis by circumcision. He was aware, however, that neurologists were disposed to depreciate these cases.

A Case of Diabetic Asthenopia.—Dr. R. C. M. Page spoke for general medicine, referring during the course of his remarks to a case of aggravated asthenopia, treated unsuccessfully for a long time by a distinguished ophthalmologist in a neighboring city, who, however, had directed his attention solely to the eyes. The patient then came to New York and asked Dr. Page to refer him to an oculist in this city. Before doing so he examined his urine and found it loaded with sugar. Thus it proved to be a case of asthenopia due to muscular paresis caused by diabetes. It disappeared under appropriate treatment.

The Uterus and Asthenopia.—Dr. J. R. Goffe was requested to speak for the gynecologists. He mentioned a case of painful vision in a woman whose oculist was very much frightened when he examined her eyes, fearing some grave cerebral trouble. A neurologist was consulted who agreed with the bad prognosis, although at that time the patient had shown no mental disturbance. By accident she fell into Dr. Goffe's hands, who found the uterus bound down by adhesions, and appropriate treatment directed to this condition also cleared up the objective and subjective eye-symptoms. The neurologist and oculist said they had never before heard of treatment directed to the uterus causing disappearance of a brain tumor. In another case eye symptoms disappeared presumably with the cessation of masturbation.

The Nose and Asthenopia.—Dr. Myles said he often met with asthenopia in patients who consulted him for nasal trouble, and on referring them to an oculist they were often sent back with the statement that nothing abnormal had been discovered in the eyes. While pressure on the nerves by tumors and hypertrophic tissue in the nasal passages might produce ocular symptoms, still many cases of nasal hypertrophy were operated upon unnecessarily, because belonging to the class in which this condition did not cause symptoms.

Ignorance and Humiliating Practice.—The President was quite in unison with the spirit of the paper, as was well known by those who were at all acquainted with his writings on the subject of asthenopia. Ignorance of the causes of this condition had often led to practice most humiliating to this special branch of medicine. One of the earliest symptoms in some cases of locomotor ataxia was inability to use the eyes, yet someone could be found to undertake to remedy such ocular defect by an operation. If men would only acquaint themselves with what Donders meant by asthenopia, they would not disgrace ophthalmology by trying to make of every eye what they conceived to be an ideal optical instrument. The ideal condition only existed on the blackboard or in the text books. He would not repeat on this occasion what he had before published, and meant further to elaborate, regarding muscular anomalies, neurotic asthenopia, etc.

Dr. Pooley, in closing the discussion, said he had been wondering what condition of the eye had been revealed by the opthalmoscope, which should have led a neurologist and opthalmologist to positively diagnose brain tumor when vision was normal though painful. He suspected it was nothing but hyperæmia of the optic nerve and retina, which was to be seen in extreme cases of asthenopia, without any cerebral lesion whatever. Yet it seemed to be a common mistake for neurologists to look upon hyperæmia of the optic nerve and retina as necessarily indicating a cerebral process.

Stated Meeting, January 4, 1894.

D. B. St. John Roosa, M.D., President, in the Chair.

Annual Reports.—The reports of the treasurer, librarian, and other officers were presented.

Observation upon Abdominal Surgery in Relation to the General Practitioner.—Dr. Albert Vander Veer, of Albany, read the paper. Among other indications of the rapid advance in abdominal surgery, managers of hospitals no longer passed resolutions forbidding resort to abdominal section. On the contrary, no means were now spared to make this department of surgery a success. The question arose whether the wide spread reports in medical journals, lay press, and other journals, of wonderful cures in appendicitis and other conditions, had not led to undue interference. In general, no. Had the general practitioner kept pace with the surgeon in the diagnosis of abdominal troubles requiring operative interference, and in upholding him in his work?

The author directed his remarks more particularly to the surgery of the gall-bladder and of the vermiform appendix. Hypothetical questions were put, which fitted cases in actual practice, which he related afterward, as to whether under certain circumstances the general practitioner was as well prepared to pass upon the necessity

for operative interference as he should be at the present day?

The first example related to the surgery of the gall-bladder. There was no jaundice, no gall stones in the stools, no distention of the gall bladder, surely, thought the family physician, the case must be only one of sympathetic gastric colic. Then the attacks of pain became more severe, and on careful inquiry of the patient and her husband it was learned they had at times noticed some swelling over the point of greatest tenderness; there is at times relief on assuming certain positions. The surgeon expressed the opinion that there were gall stones in the bladder and consent was given to an operation, although the family physician was in doubt. A large stone, which Dr. Vander Veer showed, was removed which ended the patient's sufferings.

In a second case the attacks of pain were attended by jaundice, passage of clay-colored stools, and at the operation no stones were found, but the gall-bladder was contracted and adherent. Loosening the adhesions gave much relief. Was it not fair to assume that had this patient been operated upon soon after it had been shown that medicinal treatment would not succeed, gall stones would probably have been found before atrophy had taken place and she would have been saved three or four years' suffering? Did the case not indicate that the general practitioner and surgeon should unite earlier for the relief of the patient? He did not mean that if the surgeon were called an operation should necessarily be performed. By an honest consulting together some conclusion might be reached which would be for the patient's good and yet spare operative interference. This happened in the next case related, and in which olive-oil and salts, which had not yet been tried, resulted in the discharge of stones, with relief from biliary colic which promised to be permanent. The next specimen was obtained at autopsy in the case of a man who had suffered from biliary colic, but had died from another disease. It demonstrated that a much larger stone could be passed through the duct into the duodenum with ease than one might have believed.

Did general practitioners fully realize the dangers connected with attacks of biliary colic? The author had known attacks to be so severe as to cause collapse and death.

One of the possible accidents in operating for gall-stone was a fistulous opening, which might prove a great disappointment to the patient unless he were informed beforehand.

The other condition in which the general practitioner and surgeon found it pre-eminently necessary to join hands was appendicitis. He had heard an able practitioner say he had treated ten cases of appendicitis with nine recoveries and only one death, which he seemed to think spoke well for medicine as compared with surgery. Yet further inquiry showed that one patient had had a discharge of pus in this direction, another in that, and so on. Would these patients have been worse off for an operation?

Dr. Vander Veer then related a number of cases seen the past few months, illustrating different phases of appendicitis and indications for operation. They included some of recovery without an operation, which he had advised, but the question arose whether they were not yet of the class which called for the intermediate operation. This was growing in favor, and the author had himself operated between attacks in a few instances of relapsing appendicitis. He also related a case of acute perforating appendicitis, and although it was recognized early by the physician, who recommended an operation and sent for the surgeon, the latter arrived some hours later, too late to save the patient. Several urgent questions suggested themselves in connection with such cases, one being whether we should not operate immediately as for a bullet wound, and whether thereby life might not be saved where hitherto the results have been so fatal.

In cases of appendicitis, in general there was the greatest need of honest and early consultation between practitioner and surgeon.

There was another somewhat unexplored field to the general practitioner where he should come in closer relations to the surgeon. He referred to tubercular peritonitis, a condition which, in a large proportion of cases, could not be reached in any other way than by section and drainage. The results of surgical interference gave encouragement for further trial.

Questions relating to pus-tubes and pelvic surgery belonged to gynecologists, and he was glad to note the closer relations which had developed between them and general practitioners the past few years.

Dr. R. F. Weir opened the discussion. He had understood the chief point in the paper to be the early coming together of physician and surgeon in order to obviate too late operative interference. He thought this point had come to be well understood by physicians in and around New York so far as appendicitis was concerned. What they wanted to know of the surgeon was, how he reached the conclusion that an operation was or was not indicated at a particular time in a particular case. Sometimes one was willing to wait twenty four hours; sometimes even forty-eight hours. Why? the surgeon's opinion was based upon signs which he had come to recognize through experience but which he found difficult to describe in words. One man might say that he placed a great deal of reliance upon the character of the respiration, another upon the character of the pulse, and so of other special symptoms. Dr. Weir would take into account the several leading symptoms, including abdominal hardness and pain, and if he found improvement throughout the circle he would not yet operate, but if one or several symptoms improved while one or more failed to do so he would operate at once. It was during the early stage that we wished to decide the question whether an operation would be necessary, for if it were done then, before very extensive inflammatory action had developed, it would be safer.

Threadbare.—Dr. Joseph D. Bryant believed that when the subject of appendicitis was raised, physicians were inclined to take to the woods, feeling that it had been worn threadbare. He had given considerable thought to appendicitis, but must admit that he never felt so much doubt and fear of his judgment when called in consultation as when about to meet a case of appendicitis. It would be readily understood, then, that so far as he was concerned the question was not yet a settled one. Notwithstanding that he had followed conscientiously the work and writings of others in this line, and had tried to formulate rules for his own guidance, yet he must admit having met with most serious and heart rending disappointments. Patients whom he had thought would recover had suddenly developed peritonitis and died; in patients whom he had believed required an operation he had found, when the belly was opened, evidences of resolution which probably would have ended in recovery without interference. He could not say always just what patients required an operation and in what ones it would be safe to postpone it. Nor did he know of anybody who could. Cases had occurred in this city and elsewhere in which eminent surgeons, after weighing all the points, had operated and found that appendicitis did not exist at all. When physicians knew of such incidents we could not wonder at their hesitation about recommending operative interference when a case arose in their family practice.

Regarding the traditional grape-seed in the appendix, he had once had the appendix examined in one hundred and fifty autopsies and in none was it found to contain grape seed or any other foreign body except inspissated fæces or muco pus.

Before closing his remarks Dr. Bryant impressed the need of closer relationship between surgeon and physician in various other fields also, especially in malignant disease.

Dr. Seneca D. Powell spoke of that which he re-

garded as the vital point in abdominal surgery, namely, diagnosis. An illustrative case was one diagnosticated by the attending physician and himself as one of appendicitis. A tumor was felt, but on operating he found a displaced gall-bladder with two large stones. He did not think the cases of appendicitis resembling, because of their severity and suddenness, gunshot wounds of the abdomen, came under the discussion, as this related more especially to indications for operation in doubtful, usually subacute, cases. The diagnosis in the former was beyond doubt, and the question of operating depended only upon whether the patient could survive it. In any case, if the indications for an operation were clear, one should not trouble himself about an exact diagnosis until the abdomen was open.

Are Doctors Afraid of Surgeons?—Dr. Charles McBurney thought it might be inferred from some published articles that the doctor had reason to be afraid of the surgeon; that it was a very ticklish matter to introduce him into the house—he would surely want to operate. He wished to assure the general practitioner that personally he did not belong to that class. The general practitioner was his friend. He brought him his cases, and he always enjoyed discussing them with him. He hoped the other party could say the same. He could appreciate the position of the physician who had attended a family for years, and was suddenly called upon to meet a case of appendicitis which required him to say whether a surgeon should be called and an operation should or should not be performed. Yet such emergencies arose and must be met. It would not do to temporize, since a little delay might prove fatal to the patient. The feeling between the physician and surgeon should be, therefore, one of confidence, and the latter should be called in time to consult with regard to the propriety of operative interference and not only after an operation had become imperative.

He had often been asked how he determined the exact time to operate in a case of appendicitis, but had not been able to express his impressions in words. But this inability to give another as clear an idea of a patient's condition as one had himself, was as true of other diseases as of appendicitis; the difference being that in them delay in treatment was permissible, whereas in appendicitis procrastination might mean death. It was experience which enabled one to reach a reliable conclusion, not alone in appendicitis, but also in pneumonia, typhoid fever, or any other disease. A description in words could not enable the tyro to reach a judgment as reliable as that of one who had observed many cases.

Dr. Vander Veer made some closing remarks, after which a recess was taken to give the tellers time to count the votes cast for candidates for office.

Officers Elected.—*Vice-President*, Joseph D. Bryant; *Trustee*, A. Jacobi; *Treasurer of Trustees*, William F. Cushman; *Member of Committee on Library*, W. Gilman Thompson; *Member of Committee on Admissions*, John S. Warren.

Treasurer's Report.—The following was the report of the Treasurer for the year ending December 15, 1893.

To the President and Fellows of The New York Academy of Medicine:

Another year of prosperity has been accorded to the Academy. An increased Fellowship and larger attendance at meetings and in the Library, bespeak awakened interest in its work. Receipts and expenditures have been greater than ever before, and the percentage of arrearage is less. The present number of Resident Fellows is 750; number added during the year, 43; number lost by death, 19; removal and suspension, 8. There are 48 Non-Resident Fellows, 40 Corresponding Fellows, 6 Honorary Fellows, and 9 Benefactors.

Receipts.

Cash, balance December 22, 1892	$1,124.09
Arrearage collected	1,705.00
Transferred from Trustees	1,500.00
Dues from Resident Fellows	12,154.00
Dues from Non-Resident Fellows	117.00
Interest allowed	64.67
	$16,664.76

Expenditures.

Salaries of Librarians and Employees		$6,008.44
Editor's expenses	$104.10	
Printing volume of Transactions	622.38	726.48
Other printing and stationery		533.79
Postage		519.49
Engrossing diplomas		18.25
Dues to State Medical Society		25.00
Quarantine Committee's expenses		79.99
Notices of deaths		59.35
Paid to collector		100.00
Coal and wood		1,428.41
Gas		153.38
Electric lighting		910.28
Ice		67.56
Repairs		101.91
Engineer's supplies		222.94
Sundries, not otherwise noted		347.48
		$11,302.75

For Library.

Binding current journals		$584.55
Rebinding books, etc.		880.45
Subscriptions to journals		1,164.73
Completing files of journals		692.38
Library supplies		306.55
New books		90.60
		$3,719.26
Balance on hand		1,642.75
Total		$16,664.76
86 Fellows are owing dues amounting to		1,865.00

Respectfully submitted,
O. B. Douglas,
Treasurer.

December 15, 1893.

To the Council of The New York Academy of Medicine:

Gentlemen: We have this day examined the accounts of your Treasurer, Dr. O. B. Douglas, and vouchers therefor, and have found them correct.

Charles A. Leale,
Daniel Lewis,
Auditing Committee.

December 15, 1893.

Trustees' Report.—Report of the Treasurer of the Trustees of the New York Academy of Medicine, for the year ending December 31, 1893.

The General Permanent Fund.
(Established by Gifts and Bequests.)

Principal	$11,900.00	
The income of this fund for year 1893 is		$544.24
Balance left from last year		284.28
		$828.52
Transferred to the Building Fund		535.50
Balance		$293.02

Library Fund.
(Established by Gifts, Bequests and Sale of Triplicate Books.)

Principal	$6,282.95	
Increase by sale of triplicates, books, etc.	29.32	
	$6,312.27	
Income of this fund for year 1893		$275.86
Balance left from last year		14.01
		$289.87
Used for purchase of books		228.66
Balance		$61.21

Philippine Meyer and Ernst Jacobi Library Fund.
(Established by gift of Dr. A. Jacobi and Mr. Jacob Meyer.)

Principal	$5,000.00	
Increase by gift of Dr. A. Jacobi	35.00	
	$5,035.00	
The income of this fund for year 1893 is		$225.35
Balance left from last year		3.51
		$228.86
Used for the purchase of books		222.43
Balance		$6.43

HORACE PUTNAM FARNHAM, M.D., LIBRARY FUND.

(Established by Mrs. Eliza C. Farnham in memory of her husband, the late Dr. Horace Putnam Farnham.)

Principal	$10,000.00	
The income of this fund for year 1893 is		450.00
Balance left from last year		95.86
		545.86
Used for purchase of books		514.27
Balance		$31.59

ERNST KRACKOWIZER PRIZE FUND.

(Established by generous gifts of friends of late Dr. Ernst Krackowizer.)

Principal	$1,323.95	
The income of the fund for 1893 is		59.40
Balance left from last year		57.37
Balance		$116.77

The income is available every third year as an award for an essay. If not awarded, the interest of the three years is added to principal.

CARPENTER LECTURESHIP FUND.

(Established by legacy of Dr. Wesley M. Carpenter.)

Principal	$5,813.09	
The income of this fund for year 1893 is		174 39
Paid to the lecturer for 1893		174.39

THE BUILDING FUND.

(This fund is composed of subscriptions or bequests given for the purpose, and of the initiation fees of new members.)

Balance, December 31, 1892		$1,315.95
Transferred from General Permanent Fund		535.50
Transferred from current cash account		2,000.00
Subscriptions		19,776.97
Initiation fees		1,100.00
		$24,728.42
Paid for redeeming 40 bonds at $500	$20,000.00	
Paid for redeeming coupons	1,012.50	
Paid Treasurer of Academy	1,500.00	
Paid for improvements on building	31.00	
Balance		$22,543.50
		$2,184.92

CURRENT CASH ACCOUNT.

Balance on hand December 31, 1892		$544.32
Received from rent of rooms		2,720 00
Received of Dr. Robert Abbe (gift to the Library Fund)		174.39
		$3,438.71
Paid for repairs on building	$81.24	
" water tax	327.60	
" rent of safe deposit box	5.90	
" insurance	177.50	
" collector's services	7.50	
" sundries	21.35	
Transferred to Building Fund	2,000.00	
		2,621.09
		$817.62

The Insurance against Fire upon the Properties of the Academy is as follows:

On the Academy Building	$50,000 00
" books, furniture, etc.	20,000.00
" boilers	30.000.00
	$100,000.00

Respectfully submitted,
W. F. CUSHMAN, M.D.,
Treasurer of the Trustees.

NEW YORK, December 21, 1893

We have this day examined vouchers and balances, also cancelled bonds and coupons, and find them to be as stated in the report of the Treasurer of the Trustees. We also find that there are twenty (20) bonds of $500 each now outstanding.

DANIEL LEWIS,
GOUVERNEUR M. SMITH,
Auditing Committee.

Report of the Library Committee.—The Secretary read the annual Report of Dr. Edward S. Peck, Executive Librarian of the Academy. The Committee on Library has had eleven meetings during the year, none being held during August.

The following donations have been received during 1893, the names of donors having been published at the regular monthly meetings of the Academy: 1,507 volumes, 1,350 pamphlets, 51,780 numbers of medical journals. Purchases have been made from the "Library Fund," "The Phillipine Meyer and Ernst Jacobi Library Fund," "The Horace Putnam Farnham, M.D., Library Fund," and the appropriation of $3,600, voted by the Academy in December, 1892.

The interest of the Library Fund amounted to: accrued interest, $14 01; current interest, $275.86. This was entirely expended in the purchase of 68 volumes. The interest of the Phillipine Meyer and Ernst Jacobi Library Fund amounted to: accrued interest, $3.51; current interest, $225.35. This was entirely expended in the purchase of 85 volumes. This fund has been increased by the addition of $35, through the instrumentality of Dr. A. Jacobi, by vote of the Council. The interest of the Horace Putnam Farnham, M.D., Library Fund amounted to: accrued interest, $95.86; current interest, $450, and was entirely expended in the purchase of 130 volumes. From the Academy appropriation of $3,600, there were purchased 29 volumes, and 200 volumes of medical journals to complete files. Bills for binding amounted to $1,490.30; the remainder of the appropriation was expended in subscriptions to journals, while a small balance was used for miscellaneous sundries.

There have been ordered (not yet received) missing numbers to complete files of journals, at a cost of about $325, bills for which are payable after the beginning of the new year. During the year 44 additional journals have been subscribed for, which makes the current subscriptions to journals, 401. It has been the policy of the Committee on Library not only to subscribe for new American and foreign journals, adjudged the best in their various lines of work, but also to complete old files.

Several discontinued journals have been bought on account of their value for reference work. In those instances where such journals commanded a high price, a rivalry of sale has been instituted, whereby this Academy has been the gainer.

One thousand eight hundred and seventy-nine volumes have been added to the Reference Library during the year. The total number of journals, transactions, and reports on file is 626. The Library contains in the main, or Reference Department, 28,480 books; and in the Duplicate Department, 12,760 books.

In 1893 there were recorded the names of 6,976 readers in the "Visitors' Book"—a daily average of 24.1 for 289 reading days.

The "Want Book" is proving a growing means of expression of the necessities of the readers; and so far as the Library Committee deemed it expedient, each want, after a thorough search on the part of a member designated thereto, was promptly disposed of, with due regard to expense. Under the head of "Wants," Journals, Transactions, and Serials of Researches took precedence of Text Books.

At the October meeting of the Council, it was unanimously voted to enlarge the stack accommodations of the main Library, according to plans recommended by the Library Committee in 1892 and 1893. These plans have been in successful operation in the National Medical Library in Washington, the State Library in Albany, and the State Library in Montpelier, Vt. An appropriation of $5,200 was voted by the Council, and it is contemplated to furnish the new stacking in August, 1894.

The Library Committee suggests, in this connection, that the day is not far distant when new galleries must be erected in the large and beautiful room of the Reference Library, in view of its rapid growth.

The Committee asked for an appropriation of $4,000

for the Library for 1894, basing its estimate on the following:

Subscriptions to journals	$1,500.
Binding journals	800.
Binding reference books	500.
Completing files	950.
Sundries	250.
Total	$4,000.

The Committee recommended with emphasis that the Sections early make known the publications which they desire to be added to the Reference Library. In certain instances of "Wants," several weeks must elapse before a publication can be procured; and to be efficient a Reference Library should be as full as possible.

The Executive Librarian congratulates the Academy on the complete harmony of work between the members of the Committee, and the perfect accord existing between the Committee and the Resident Librarian and his working staff. After some discussion the Report was accepted, and its recommendations were adopted.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, December 25, 1893.

SENECA D. POWELL, M.D., PRESIDENT, IN THE CHAIR.

Standing Committees.—THE PRESIDENT made the following appointments on standing committees, the appointments being afterward approved by the Society: *Committee on Ethics:* William M. Polk, chairman; S. S. Burt, Arthur M. Jacobus, W. H. Katzenbach, A. Norton Brockway. *On Hygiene:* William A. Ewing, chairman; J. B. Bissell, Edward N. Liell, Herman J. Boldt, Theodore K. Tuthill. *On Prize Essays:* Joseph D. Bryant, chairman; Graeme M. Hammond, Virgil P. Gibney. *Auditing Committee:* James E. H. Nichols, chairman; Carl Beck.

A New Electrode for the Better Utilization of Currents of High Tension.—DR. A. D. ROCKWELL exhibited a new electrode for the better utilization of currents of high tension, and related an illustrative case. When it became desirable to influence by the galvanic current internal organs or portions of the body deeply seated, currents were required of far greater strength than could be employed by the usual electrodes without causing excessive pain in the skin. Of the various materials with which the metal plate of the electrode had been lined, he knew of none so satisfactory in overcoming the resistance in the skin to the passage of the current as potter's clay. The objection to this had been that it was dirty and difficult to handle without soiling the clothes. To overcome this objection and to enable one to make use of clay as the most valuable material when powerful currents were to be used, he had devised the instrument presented. It consisted of a shallow cup or disk made of non-conducting material (hard rubber), the bottom or inside covered with block tin to resist oxidation. The cup was filled with the clay. One two inches in diameter would easily conduct through the skin seventy-five milliampères without pain. The one exhibited was circular, five inches in diameter, and would distribute the current over a large area.

The illustrative case was one in which the diagnosis of cancer of the kidney had been made by Dr. Bryant, confirmed by Dr. Janeway, also, after urinalysis, by Dr. Biggs; an autopsy was not obtained. The woman had suffered excruciating pain day and night for four months, opium and other agents failing to give relief, until Dr. Rockwell tried strong galvanic currents, increasing from 75 to 150 milliampères, applied with the new clay electrode five inches in diameter, one over the tumor, the other under the left shoulder-blade. Pain then disappeared, for the first time in some months; mild currents had no effect. The pain of scirrhous cancer of the breast was sometimes relieved by currents of far less strength.

DR. JOSEPH D. BRYANT, who had been given the credit by Dr. Rockwell for making the diagnosis of cancer of the kidney in his case, was called upon. The diagnosis, he said, was not very difficult. The general appearance of the patient pointed to some organic change, probably of malignant character. A tumor was felt, and the question to be decided was whether it involved the spleen, kidney, or other parts including the abdominal walls. The spleen seemed on percussion to be in its proper place and of normal size, and as there was some tympanitic resonance over the tumor, the abdominal walls could not have been involved by it. Ordinary urinalysis showed nothing abnormal, until Dr. Biggs sought for cholesterin and found it. It was the second case in which Dr. Biggs had found cholesterin in malignant disease of the kidneys, and he at once regarded it as pointing with reasonable certainty to malignant disease, probably of cystic character. Unfortunately no autopsy was obtained.

A New Agent in the Treatment of Epilepsy.—DR. PAUL GIBIER presented a second contribution to the treatment of epilepsy by injections of a nervous (cerebral) extract, his first paper having been read about a year ago, a brief abstract of which was published at the time in the MEDICAL RECORD. Since then he had continued his observations upon the old cases, and had added new ones. The new ones, which had been markedly improved under the new agent, were about nine in number, of which he read a brief history. Four others which had been submitted to the treatment, had not done any better than they had formerly done under bromides, and therefore the treatment was discontinued. Of the older cases he continued the history of two, both of which had been under treatment about eighteen months, the improvement, very striking in one, having persisted as long as the injections were kept up. Most of the cases gave a history of grand mal existing several years or from infancy, and in all, excepting the four already mentioned, the improvement had been marked, the grand mal, as a rule, having been converted into petit mal, the attacks appearing at longer intervals, the bodily and mental condition also showing improvement.

DR. W. M. LESZYNSKY inquired whether the new treatment had been accompanied by a change of diet, hygiene, and medication. Almost any new remedy (antispasmodic) would reduce the number of attacks for a while, especially when accompanied by regulation of the diet and hygiene.

DR. SPRATLING inquired whether the author had a theory for the action of his remedy.

DR. GIBIER replied to the first inquiry, that as a rule he did not neglect the diet of the patient in epilepsy, nor in other diseases; yet in most of the cases reported the patients lived outside, and he had no control over their mode of living. In some of the cases the bromides were stopped entirely. Regarding the mode of action of the remedy, theoretically one might suppose the nervous substance which was injected supplied a want in the nervous centres from which the epileptic attacks started, and enabled them to resist the discharge. Of course, as long as we remained ignorant of the nature of essential epilepsy, any explanation of a remedy would be only hypothetical.

A New Disease of the Vagina—Peri-vaginitis Simplex.—DR. J. J. E. MAHER read a paper bearing this title. While the observation of a single case could not be all that was desired in establishing a new disease, yet the one which he had to report seemed to be unique, and, in his opinion, justified the diagnosis of a new disease, peri vaginitis simplex. The patient was a primipara, twenty-three years of age, had been married a year, had been delivered nine days before Dr. Maher was called, forceps having been used. Hemorrhage continued after delivery for about three days, being more or less checked by ergot, etc. Her physician then told her she could get up, but she tried this two or more days in succession, but was prevented by intense pain about the perineum. When Dr. Maher was called on the ninth day there was slight hemorrhage, the patient was pale

and weak, the pulse 120, temperature 100° F., skin clammy; tongue clean; pain about the perineum; the entire perineal body of bony hardness and presenting a laceration of about a centimetre, with thickened, everted lips which could not be easily approximated. When the labia were separated the vagina beyond was seen as a rigid tube, the cervix uteri being distinctly visible at the upper end as if observed through a speculum. Pressure on the perineum felt to the patient like sitting on a hard ball, and caused intense pain. The uterus was not painful. The mucous membrane of the vagina appeared normal. After a few days treatment the induration disappeared, the vaginal walls collapsed, disagreeable symptoms ceased, the lesion of the perineum was the only pathological condition left. When Dr. Maher saw the patient the stools were liquid but foul, and her mother said there had previously been constipation for which oil was given, causing extremely malodorous movements. In view of this fact, pointing to distention of the rectum with hard fæces over which the child's head had to pass, and of limitation of the symptoms in the immediate vicinity of the vagina, absence of general septic symptoms, presence of pain at both ends of the rigid vaginal tube, and certain other facts in the history, the author made the diagnosis of peri vaginitis simplex or simple inflammation of the tissue surrounding the vagina, and depending upon over distention. Distention of the vagina beyond physiological bounds under ordinary circumstances might be impossible, but it seemed not impossible, and to really have taken place in this case, where there also existed distention of the gut behind it from fæces driven before the child's head. Before commencing treatment he could easily recognize increased thickening of the recto-vaginal cellular tissue as it was felt between the fingers, one in the rectum and the other in the vagina. The author differentiated the condition from peri-vaginal œdema.

The prognosis was favorable if treatment were instituted in time to prevent necrotic changes.

Clinical Department.

SUBACUTE ARTHRO SYNOVITIS IN AN INFANT, CURED BY A PLASTER-OF-PARIS SPLINT.

By GEORGE D. FARWELL, M.D.,

TURNERS FALLS, MASS.

Harry G——, aged two years and two months, brought to me December 1st, with the following history: Mother has had acute rheumatism twice, now healthy. Her parents had rheumatism. Infant (only child) healthy up to four weeks ago, when, in attempting to climb to window-sill, fell, striking left knee upon a slanting surface of about forty-five degrees

Next day child limped, and became gradually worse up to the present time, December 1st. Examination shows knee markedly swollen symmetrically. Palpation shows some superfluous fluid in the joint. Knee not markedly tender on pressure. Considerable tenderness upon upward pressure of tibia. Examination for hip-joint disease, negative. When sitting, extensors of foot are in tonic contraction. Examination of ankle, negative. Temperature of left knee, slightly elevated as compared with right. In walking, infant halts, extends the left leg upon the thigh with apparent difficulty, and with what might be termed a "wooden-leg finish," then places left foot very lightly upon the floor, makes a short step, and comes down on the right foot with a thud.

December 2d.—Knee, thigh, and leg enveloped in a thin layer of cotton; flannel bandages applied, and plaster of Paris splint over that. Plaster not hardening rapidly owing to slight misunderstanding about baking it by mother, wooden splints covered with cotton were applied over the plaster-of Paris. Tongue somewhat coated. Hydrarg. chlor. mitis cathartic given, also a mild diuretic of potas. cit. and spt. ætheris nit.

December 3d.—Plaster splint hardened nicely.

December 6th.—Splint slightly looser than on 3d, undoubtedly on account of reduction of swelling. Child is somewhat anæmic. Ol. morrhuæ prescribed.

December 8th.—Lower extremity of splint somewhat broken and crumbled; splint dropped down slightly; was accordingly pulled down over the foot, and removed. Child afraid to walk alone, but walks without limping, with mother holding hand.

December 9th.—No limping.

December 13th.—Child walks alone without limping or halting. Has had no limping, tenderness, nor swelling since splint removed.

THE AWAKENING EFFECT OF COCAINE.

By JOSEPH WILLIAM STICKLER, M.D.,

ORANGE, N. J.

A few days ago a patient who had toothache, wishing to stop it immediately, secured nine grains of cocaine in solution, and took it into his mouth a little at a time, holding it till the accumulation of saliva became so abundant that he had to spit it out. He began using the cocaine in this manner at 5 P.M., and did not cease till 10.22 P.M., same evening. As it was then bed time, he thought he would make sleep certain by taking twenty grains of chloral. Immediately after taking the latter drug, he took into his mouth some more cocaine, and went to bed. He "swashed" the cocaine solution about in his mouth awhile, then spat it out, turned on his side and tried to go to sleep. Sleep, however, did not come; on the contrary, he did not even become drowsy. Having lain awake till midnight, and not feeling sleepy at that hour, he took, as nearly as he could tell, about *one teaspoonful* of laudanum. He went to bed again and remained awake till three o'clock. Sleep lasted only four hours. Following this was headache.

I have often had my attention called to the fact that cocaine will keep patients awake at night, when the drug is administered late in the day, but I did not know that twenty grains of chloral and a teaspoonful of laudanum would not overcome "cocaine wakefulness."

A CASE OF DIABETIC MULTIPLE PERIPHERAL NEURITIS.

By A. REICH, M.D.,

NEW YORK.

John C——, sixty-three years of age, born in Madeira; lived for the last forty-three years in Bermuda; engaged in liquor business since fifteen years; before that he was a butcher and farmer. He travelled all over the southern part of Asia, and Europe, and northern part of Africa. Family history is of no importance. His habits are moderate, smokes, does not chew, never indulged in sexual excess. Has children by first wife, all healthy; no children by second wife (a sufferer from fibroid of uterus and metrorrhagia). He is well built, stands five feet five inches, weighs one hundred and seventy pounds stripped; is intelligent looking. He was healthy except for an attack of yellow fever until four months ago, when he was taken with severe vomiting and diarrhœa lasting four to five days. Soon after this he noticed some numbness in tips of his fingers and toes, accompanied by formication and weakness. At the same time polydipsia set in and he had to get up nights to pass water more than once (hypertrophied prostate). Two months passed and now shooting pains along the course of the nerves of the upper and lower extremities were noticed, which extended in a central direction and were worse at night. He also complained of coldness in extremities and wore gloves constantly. He passed about eight pints of urine in twenty-four hours, specific gravity 1.035, containing no albumin,

but showing eight per cent. of sugar. Lost thirty-five pounds in four months.

Examination. — Internal organs normal. Eyes and ears normal. His extremities seem to be of normal temperature. The finger-nails had a brownish discoloration and were unusually longitudinally striated. The skin over the roots of the nails and first phalanges appeared puffy and shining, the remaining skin was normal. All the fingers were in slight flexion, thumbs adducted; voluntary apposition of fingers absent, thumb could be apposed with every finger except little finger. He could flex wrist, but not extend it. Flexors of elbow were weakened, also the deltoids. Thenar and hypothenar eminences were wasted considerably and also the interossei muscles. Extensors and flexors of wrist were very flabby and wasted. Flexors of elbow were somewhat wasted; same also with deltoids. Triceps was well preserved, sensation; tactile and heat sense was good; there was hyperalgesia, beginning from two inches above wrist and increasing to the tips of fingers on the palmar surface, while on the dorsal surface there was an area of anæsthesia over thumb and hyperalgesia of last two phalanges only.

Lower extremities: Sensation was good, some hyperalgesia below ankle. Anterior tibial and perineal group of muscles somewhat wasted; extension and flexion at ankle fairly good. Muscles of the calf were weakened. Extensors and flexors at the knee were below the normal strength.

Electric reaction: There was reaction of degeneration in all wasted muscles.

Dr. L. Putzel, to whom I express my thanks, was kind enough to examine the patient with me.

341 West Twenty-third Street.

Therapeutic Hints.

Cannabis Indica.—My experience warrants this statement: Cannabis indica is, often, a safe and successful anodyne and hypnotic.—Mattison.

Dyspnœa of Acute Phthisis.—Dr. Bernheim (*Deutsche Med. Wochenschrift*, No. 37, 1893) recommends in the dyspnœa of acute phthisis the following formula:

℞. Caffeine citrate..... 2 gram. (grs. xxx.)
Sulphuric ether..... 20 gram. (℥ v.)
Inject two grains (30 gtts.) morning and evening.

Onychomycosis.—Confusion in diagnosis is more likely with psoriasis and primitive eczema than with central nervous disturbances which would have concomitant symptoms. The microscope must be used in any nail disease before positive diagnosis is made. It is an extremely persistent affection and may last a lifetime without much change. The nail may be torn off, or, under close watching, an active inflammation of the matrix set up with pyrogallic acid and olive-oil, equal parts.—Dubreuilh.

La Grippe.—Sulphite of sodium, 5 grains, every two hours.

℞. Sodii sulphit..... ℥ iv.
Aquæ..... f℥ vj.

M. S.: A teaspoonful in as much water every two hours till all pain is relieved and the patient is well.

—Monell.

Sciatica and other neuralgias.—

℞. Tinct. aconit.,
Tinct. colch. sem.,
Tinct. bel.,
Tinct. actea racem.....āā equal parts.
S.: Six drops every six hours.

—Metcalf.

Theobromin (gr. 45 to 75 daily for three days) gave good results in grave cases of cardiac dropsy.—Germain Sée.

Strophanthus is much more rapid in its action than digitalis, but is not suitable for prolonged use. In one case, in which during three or four days its good effect was conspicuous, the heart, under its prolonged use, became extremely frequent and the sense of cardiac distress extreme; and yet, when its employment was entirely given up for a week, it proved as rapidly and as distinctly useful as before.—Little.

Toothache.—

℞. Dry alcoholic extract opium,
Camphor..... āā 0.50
Balsam Peru,
Mastic.....āā 1.0
Chloroform..... 10.0

Introduced into the cavity it calms the pain at once.—*Jour. de Pharm.*

Acetate of Aluminium is, next to carbolic and salicylic, the disinfectant which prevents, for the longest time, the development of micrococci and produces no irritation.—Fraipont.

Caffein, I think, deserves to rank next as a cardiac tonic. I have, in a few cases, got undoubted help from it. They were all old cases in which digitalis and strophanthus had ceased to benefit; they were all aged persons; they were all short of breath and dropsical, and presented the signs of dilatation with degeneration of the ventricular walls.—Little.

Locally for Joint Rheumatism.—

℞. Acid. salicylic..... ℥ jss.
Alcohol. absolut..... f℥ j.
M. Olei ricini..... f℥ ij.

By compress covered with impermeable tissue.—Ruel.

Camphor Solution for Hypodermic Injection.—

Camphor..... 2.0
Liquid paraffine..... 8.0

A one gramme syringe will contain twenty centigrammes of camphor.—Bosner.

Chloride of Gold and Sodium in pills or granules, given in dose from two milligrammes to three centigrammes improved the general condition of paralytics in the first and second periods.—Boubila.

Appendicitis.—The majority of so-called recoveries, treated medically, are not recoveries in the full sense of the word, but simply a respite which enables one to settle worldly affairs and take out a life-insurance policy in anticipation of a fatal termination.—Sanborn.

Piperazine.—Piperazine is perfectly harmless. In birds deposits of urates can almost with certainty be produced by neutral chromate of potash. In the majority of cases piperazine prevents the deposition of urates produced by the chromate, while lithium carbonate, borax, and sodium phosphate are powerless to prevent it. These experiments confirm the results of treatment of the uric-acid diathesis by piperazine.—Biesenthal.

Epilatory Liquid.—

℞. Pure iodine..... grs. xii.
Essence of turpentine..... ♏ xx.
Castor-oil..... f℥ ss.
Alcohol..... f℥ iiss.
Collodion..... f℥ j.

M. Sig.: Apply once daily for three or four days. When the collodion comes away, a clean surface will be left.

Asthma.—A capsule containing two grains of phenacetine, one of quinine, three of muriate of ammonia, one-eighth of capsicum, and one twenty-fourth of strychnine, given four times daily, will often relieve an attack of this distressing malady.—Mays.

Emphysema.—

℞. Essence of turpentine..... 4–5 gram.
Peppermint water..... 120 gram.
Sugar,
Pulv. gum acacia.....āā 4 grams.

M. S.: Dessertspoonful every two or three hours.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

DIPHTHERIA OF THE STOMACH—LARYNGEAL GROWTHS—BENIGN AND MALIGNANT—TOOTH-BEARING DERMOIDS—ABSCESSES IN CONNECTION WITH THE ŒSOPHAGUS—INFLUENZA INCREASING—DEATHS OF DR. TILT AND DR. CORNER.

LONDON, December 23, 1893.

THE brief Christmas recess has begun, and a quiet week will be grateful to those who have been hard at work in the hospitals and societies.

On the 19th there were some interesting specimens at the Pathological Society. One of these was a specimen of diphtheria of the stomach from a child of three years which was admitted to hospital for croup. There had been complete anorexia, and food administered by a tube was invariably vomited—the vomited matter giving no trace of hydrochloric acid. Tracheotomy became necessary, but the child died the day after. At the autopsy, membrane was found in the larynx and extended downward into the finer bronchi. The pharynx and œsophagus were full, but the whole of the stomach was lined with exudation which extended for a third of an inch through the pylorus. The clinical feature of this case, complete anorexia and rejection of food administered, is interesting, as the implication of the stomach is so rare and here the entire lining was affected.

Another specimen was a tooth-bearing dermoid removed from the cheek of a boy of five years. Beneath the erupted tooth was a small permanent tooth, a circumstance very noteworthy in the rare case of true superficial dermoids.

The sequel of a case of laryngeal tumor formerly related was reported, and gave rise to some renewal of the question whether benign growths can become malignant. In the case in question, at first it was supposed to be a papilloma with a tendency to hemorrhage, but the sequel proved it to be of a malignant nature; and it would seem to have been so from the beginning, for it resembled more than anything duct-carcinoma of the breast. It had recurred four months after operation, and was larger than ever in about six weeks. It was again removed by the galvano-caustic loop, and the microscopic appearances were now unequivocal. Sub-hyoid pharyngotomy was then performed and the growth removed. There was slight secondary hemorrhage the first day. Otherwise all went well until the evening of the third day, when the patient became suddenly unconscious, the temperature rose to 105° F., with deep coma and Cheyne-Stokes's respiration, and he died next morning. The autopsy showed congestion of the brain and œdema, but there was nothing to show the immediate cause. The question whether irritating innocent growths provoked malignancy was referred to by several speakers, most of whom repudiated the notion, and one surgeon thought it beneath the dignity of the Society to discuss, for the supposed cases were vitiated by the probability of clinical error. This is true enough, but by no means surprising so far as the larynx is concerned, for a glance at the reflection of one surface of a growth is a very different thing from the opportunity of seeing and handling which surgeons enjoy in the case of so many external tumors. The specimen was referred to the Morbid Growths Committee.

Three specimens of abscess in connection with the gullet were exhibited—one was on the side of the neck and discharged into the gullet, and proved fatal by eroding the inferior thyroid artery; another seemed due to a stricture from corrosive poison taken thirty-three years before; and the third to suppuration in posterior mediastinum around the lower third of the œsophagus.

Influenza increases very much and is spreading through country districts. At the London Hospital, a few days ago, 50 of the nurses were laid by with this disease. No less than 164 deaths were registered last week as influenza, the deaths in the prior four weeks being 127, 74, 36 and 22. The whole class of respiratory diseases is giving an increased mortality, and no doubt the epidemic is to blame for this. Considering the innumerable cases which run a favorable course, the returns show that an enormous amount of illness must prevail.

The death of Dr. E. J. Tilt occurred on December 17th, at Hastings, from cerebral hemorrhage. His "Uterine Therapeutics" and his "Change of Life," as well as perhaps some of his other books, will be well known to your readers. He was a past president of the Obstetrical and a fellow of several other societies, and a Knight of the Crown of Italy.

Dr. Matthew Corner, who has done much good work as a sanitarian at the East End, died on December 7th. He worked hard in the cholera epidemic of 1866, which was so serious at the East End, and has continued to remain in that district until the close of his useful life. For the last few years he has been in delicate health.

NEW AND RAPID METHOD OF ANÆSTHESIA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In reply to my communication of a "New and Rapid Method of Anæsthesia" (MEDICAL RECORD, October 21, 1893, page 524), Dr. Rugh, of Philadelphia, in a letter published in the issue of the MEDICAL RECORD for November 18, 1893, disputes my right of "priority" by the statement that the process which I described was employed in the United States thirteen years ago. This letter was brought to my notice to-day, and I reply immediately.

In the course of our experiments with this new method Dr. Bourbon and I judged it necessary to make a complete study of anæsthesia for which ethyl bromide was employed, and we have, I think, a complete bibliography of the subject. The articles which treat this subject—about three hundred in number, published in English, French, German, Russian, Italian, and Spanish—have with few exceptions—publications inaccessible at Paris—been completely examined by us. The authorities cited by Dr. Rugh are noted in our bibliographical list: one of them is inaccessible here, but from its indications I question that this author in any way mentions a combined process of anæsthesia by ethyl bromide continued by chloroform. The other indications of Dr. Rugh I have verified this afternoon, and find that the authors treat of anæsthesia by ethyl bromide alone, a process which differs essentially in application and possibilities from that which I describe. These authorities of Dr. Rugh say not one word of the use of chloroform.

In our bibliographical research (Dr. Bourbon and I)—in six languages—we have not found a single mention of an anæsthesia by the method described, which belongs to an American operator. I have to thank Dr. Rugh for the courteous tone of his letter and the value which he accords to this process; but finding that the articles indicated by him and accessible to me in no way mention this method of anæsthesia, I fear that my disputant is led by our use of ethyl bromide to the conclusion that my "priority" was "pretended;" for anæsthesia induced by ethyl bromide alone, a perusal of my article will show that no such deduction is permissible.

Should Dr. Rugh be able to refer me to a single published report of an anæsthesia performed in accordance with the method I describe, by an American surgeon, prior to August, 1892—date of our first experiments—I shall be personally indebted to him for the "Honor to whom honor is due," but until then maintain my assertion to have been the first American to employ this new and rapid method of anæsthesia.

Will you allow me, in addition to my communication of October 21st, to invite attention to the utility of this method for the abortive treatment of convulsive attacks in eclampsia, epilepsy, and hysteria. The rapid action of the ethyl bromide—abolition of reflex action in thirty

to sixty seconds—serves frequently to abort completely the convulsion, and in case of persistence of the tendency to convulsions (subintrans) the continuance of the anæsthesia with chloroform prolongs the therapeutical action *ad lib.*

Theoretically, the stimulus of the salivary and sudoral glands (organs of elimination) exercised by the inhalation of ethyl bromide, should be particularly useful in eclampsia and other convulsions of toxic origin.

Yours truly,

WILLIAM S. MAGILL.

ÉCOLE DE MÉDECINE, PARIS, FRANCE,
December 18, 1893.

THE SILENT MAJORITY IN THE MEDICAL PROFESSION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The fact must impress all careful observers of current medical literature and of the proceedings of our great societies, that the mass of the profession is never heard from. That this is a serious hinderance to the great object of all such activity—the search after truth—no one can doubt. How often does the average general practitioner listen to the special pleading of some young congenial specialist with the feeling that it is error and not truth that is gaining the prestige of publication from the forum of an influential society. That which is not true is false, and half truth is falsehood's most dangerous shape. The common knowledge of the profession should be the court of final appeal in questions of medical truth. Most cases of appendicitis never reach the operating and publishing surgeon, and yet what must be the opinion formed of this lately fashionable complaint, if formed from current literature. But how can the day be hastened when every man will form and express an opinion on every point.

A reaction against specialism and toward generalism in practice of medicine has set in. Let this be encouraged.

Encourage the discussion of all points in general medical meetings, attended by men able to see from all points of view. Compel an opinion from all present by demanding a vote from all present as to the absolute truth in the case of each point under discussion.

Questions can be formulated so as to make such expression of exceeding value, and by this means and by no other can we obtain the common knowledge of the profession lying dormant in the silent majority.

LOUIS FAUGÈRES BISHOP, M.D.

36 WEST THIRTY-FIFTH STREET.

MECHANICAL VIBRATION IN THE TREATMENT OF DISEASE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the issue of the MEDICAL RECORD dated November 25th, under "The Practitioners' Society of New York," the President, Dr. Chas. L. Dana, under the heading "Mechanical Vibration in the Treatment of Disease," describing some apparatus made by a Paris electrician, makes several statements which I would not like to see pass uncorrected.

Vibrations as a therapeutic agent came into use, not as Dr. Dana states, "twelve years ago," but in the beginning of the century, and were extensively practised in Sweden by the gifted layman Pehr Henrik Ling and his pupils, who applied them manually.

In 1865, Dr. Gustaf Zander, of Stockholm, the founder of modern scientific mechanico-therapeutics, among many active, passive, and orthopedic apparatuses for the exercise of different parts of the body, invented apparatuses for general and special vibrations which he classifies among the series "Apparatuses for mechanical operations, *i.e.*, vibrations, percussions, kneading, rolling, friction, etc." The motive power of these apparatuses is a gas, steam, or electric motor.

The apparatus for special vibrations, Fig. 1, can be applied very rapidly and very powerfully, but like all of Dr. Zander's apparatuses, it can be individualized and graduated according to need. It can also be applied less powerfully and gently. This apparatus responds to all demands of well-informed physicians and physiologists.

Vibrations were never considered by Dr. Zander nor his pupils as a separate method of treatment, but in cases in which vibrations are indicated, they form an integral part of the whole mechanico therapeutic treatment plan.

Dr. Mortimer Granville published "Nerve-vibration as a Therapeutic Agent," *Lancet*, 1882. "A Note on the Treatment of Locomotor Ataxy by Precise Nerve-vibration," *British Medical Journal*, 1882, and his book on "Nerve-vibration and Excitation," London, 1883.

Will Dr. Chas. L. Dana kindly name the "Swedish physician" who, "a little later" (after Granville) "devised a machine which was operated by a crank, so that very powerful, though not very rapid, vibrations could be produced in different parts of the body?"

L. WISCHNEWETZKY, M.D.

NEW YORK, 9, 11, 13, EAST FIFTY-NINTH STREET.

THE MEDICAL PROFESSION AND THE HOSPITALS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The immense influence exerted upon professional thought by the MEDICAL RECORD not only throws upon you a grave responsibility in respect to every line of your editorial utterances, but also makes it the duty of your readers to criticise the latter when the remarks of a less important journal would be unworthy of notice. It is because of my respect for the MEDICAL RECORD that I call attention to the editorial with the above title, which appeared in your issue for January 6, 1894.

When you speak of the relations existing between the managers of hospitals and the medical staff, it seems to me that you do not present the case quite fairly. Passing over the colloquial use of the word "always" in the sentence which alleges that "the treatment of medical men by hospital managers has *always* been arbitrary," etc., where the idea to be conveyed is evidently not quite so sweeping as the sentence implies, I must protest against your expressions which immediately follow, and which can only be interpreted to mean that you think it unjust for the managers to accept the services of the medical staff without pecuniary compensation, and to admit relatively wealthy people to private rooms without insisting that the medical man in attendance receive pay for the care of such people.

You say that the theory that hospital physicians should not be paid for their work because there are men enough willing to do the work without pay, "has a certain economic basis, we admit, but is not an absolute one, otherwise why should it not be applied to positions of honor everywhere?" and you mention the custom of paying congressmen, judges, etc., as though there were a very close resemblance between the cases of these officials and the medical staff of hospitals. I do not see that this is so. The reason that congressmen and other officials are paid is, that it has been found, by experience, impossible to get the work for which they are selected done as well without pay as it is when the pay is provided. It is not found to be so with hospital doctors.

In the case of hospital managers, the conditions of the trust which they administer demand that they obtain the best medical service possible. If this can be accomplished without paying the doctors, they have no right to pay them; if they should do so, they would be guilty of wasting trust-money. If the best service cannot be obtained without pay, the managers should pay as little as is compatible with effecting the desired result. The managers have no duty other than the administration of the property committed to their charge in such manner

as to make that property useful for the purpose for which it is intended. Moreover, they must try to make every cent thereof exert its full power. If the doctors are willing to work without that cent, they ought not to give it to the doctors. Of course, it will be understood that I allude always to medical men capable of doing the best kind of work. Do you, Mr. Editor, or does anyone, think that the quality of medical talent at the service of the hospitals of this city would be improved, or that the patients in these institutions would receive better care, if a money compensation were offered? If so, what sum of money would be needed to accomplish this desirable result? If not, what right have the managers to offer any? The law of supply and demand decides this as well as all other economic questions; the precise market value of hospital attending physicians and surgeons is unquestionably represented by the amount which can be obtained by them in the face of competition—that is to say, at the present time its value is nothing more than the personal advantages gained by them in other than financial ways.

The same reasoning applies to the treatment of patients in private rooms. If the managers, for the purpose of increasing the institution's income, think best to provide for such a class of patients, medical men cannot object to complying with their wishes, unless the doctors happen to be so situated as to be able to practically "corner" the medical labor market. In some hospitals the medical attendant is allowed to charge for his services; if he so arranges with the occupant of a private room, but this is a privilege, not a right.

That the relations between the managers and medical staff of most hospitals are more or less strained is undeniable; but it appears possible that in this respect the doctors are not blameless; whether or not the former regard "the medical staff as a kind of necessary evil," the latter are too apt so to regard the managing board. Are not both sides to a certain extent right? Is there not a good deal of needless friction in hospitals because of the rather hostile attitude of the professional and lay officers?

J. West Roosevelt, M.D.

New York, January 8, 1894.

[We cheerfully admit the truth of the facts so courteously presented by our esteemed correspondent, although we still beg to differ from some of his conclusions. We cannot see why, even for the sacred trust imposed upon the goodly manager, that wealthy people able to pay hotel-rates for board should be treated for nothing. The real business of every public hospital is to treat the poor. There are other interests besides those of the hospitals to be taken into account. How about the hard-working outside practitioner whose rich patient is thus taken from him by the overt and unjust inducements of the managers of the Hospital Trust?—Ed.]

New Instruments.

NEW APPARATUS FOR USE IN OPERATING IN THE PERINEAL REGION.[1]

By J. HENRY DOWD, M.D.,

Buffalo, N. Y.

Being called upon quite frequently to operate on and around the perineal region, and especially where the urethra must be held in the median line, I have tried to devise something which will be handier to carry and also overcome some of the disadvantages of Clover's crutch, or the apparatus known as Blake's, both of which I have used quite frequently.

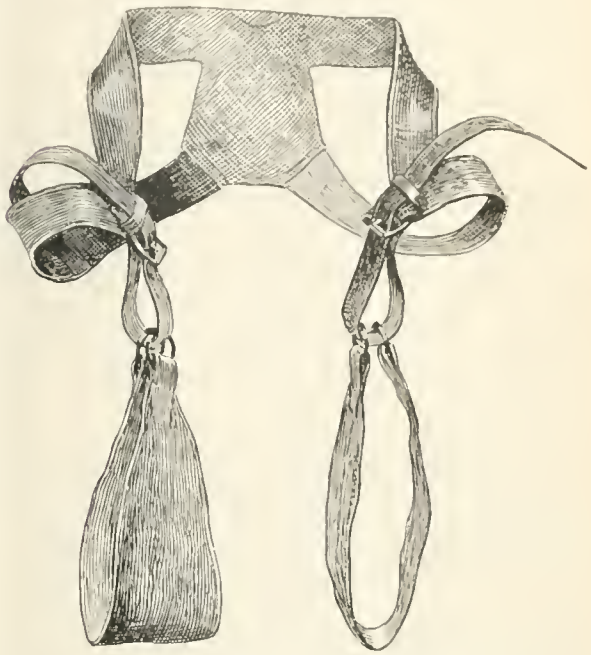
The advantages I consider are:

1. Pressure is equalized over both shoulders; circulation is not interfered with nor the neck drawn forward, as is caused by the above-named appliances.

2. The legs are held in the median line and are not drawn down to the side under which the strap passes, as with the crutch.

3. It can be carried in a small surgical, or for use in obstetrics in the obstetric, bag.

4. The simplicity, both of the apparatus and its application, can be readily seen by the cut. The patient puts it on the same as a shoulder brace, and no matter how violent they become, it stays in place.



5. The inexpensiveness plays the most important part. Any harnessmaker can construct one in half an hour, or it may be made of cloth at home, the cost being nominal.

[1] Presented at the Surgical Section of the Buffalo Academy of Medicine, December 5, 1893.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 6, 1894.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	8	5
Scarlet fever	106	11
Cerebro-spinal meningitis	0	4
Measles	392	18
Diphtheria	216	59
Small-pox	11	2
Cholera	0	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0

The Kind of Insane People that Kill.—The immediate causes of homicides by the insane have been thus outlined by Burdraghi, *Medical Standard*, some years ago: The great majority of homicides by the insane are committed under the influence of persecutory delusions. Eighteen per cent. were associated with epilepsy, and one was anthropophagous. In fifty-eight per cent. the murdered persons were relatives, and in forty-two per cent. strangers. The youngest homicide was only four years of age, a girl who threw into the fire an infant she was left to mind; the oldest was seventy years of age; the majority, thirty, between thirty and forty years. Seventy-five were men, and twenty-five women; seventeen were quite illiterate, and sixty-one very imperfectly educated. Religious delusions were present in twelve, and in five of these were the immediate motive of the crime; twenty-five labored under hallucinations, and fourteen had been previously insane. Fifteen were in-

stances of plural homicides, one individual having perpetrated no fewer than eleven. In nineteen no motive could be assigned. That even excessive joy may subvert the reason is proved by the case of a man who, having unexpectedly come in for a fortune of $10,000,000, killed his wife and children. In fourteen per cent., a surprisingly small proportion, was the act premeditated, and, as in fifteen per cent. of the whole, considerable ingenuity was shown in its execution. Twenty-seven sought concealment in flight, but all sooner or later returned. Three only attempted to prove an alibi. Twenty-three prevaricated, but of these twelve had lost all recollection of their acts, sixty seven remembered them, but in fourteen cases they were committed under the influence of hallucinations; fourteen others, though cognizant of what they had done, were of very weak intellect, and one was a case of transitory frenzy. Fifty four exhibited more or less remorse, but of these forty six failed to realize the heinousness of their crimes; seven gloried in them; twenty-three attempted to exculpate themselves; thirteen, undoubtedly of weak intellect, simulated insanity; eleven of these were subsequently transferred from the asylum to the jail; and six in all succeeded in escaping from asylums.

Loretin, a New Antiseptic.—Schinzinger (*Wien. allgem. med. Zeitung*, No. 47, 1893), after referring to the objections to the use of iodoform, describes a substance which has been equally successful in his experience; its chemical name is "meta-iod ortho oxy-chinolin-ana-sulfonacid," for which the name "loretin" has been substituted. It is an iodine preparation, at the same time possessing the properties of a phenol and the important characteristic attributes of a chinolin derivative. Physically it is a yellowish powder, consisting of minute crystals and resembling iodoform, but having no odor, and only slightly soluble in water or alcohol, but forming useful emulsions with oil, collodion, etc. As a powder it is very serviceable when somewhat diluted, and with metals it forms valuable salts—the calcium salt, for instance, being insoluble in water, and a very suitable substance with which to impregnate gauze. Loretin is non-poisonous, and no untoward effects ever followed its use after operations or for ulcers, etc.

The External Use of Salicylic Acid —Dr. Ruel, of Geneva, recommends the external use of salicylic acid in rheumatism. He says that: 1st. Salicylic acid is rapidly absorbed by the skin. 2d. After so applied, it promptly appears in the urine. 3d. It possesses a positive curative action in rheumatism. He found that the best results were realized when the salt was dissolved in alcohol with about double its volume of castor-oil in the form of a liniment, that has been supplied to our pharmacopœia in years. M. Ruel's customary formula is:

℞. Acidi salicylici.....	20	grammes.
Alcohol absolute.....	100	"
Ol. ricini.....	200	"

This is to be applied on a flannel, which is to be covered with some impermeable material, morning and evening. In certain solutions a small quantity of chloroform may be added—say five per cent. This addition serves as an analgesic; besides, favors the absorption of the medicament. About twenty minutes after the salicylic is so employed it can be found in the urine, and a few minutes after a salicylic liniment is applied pain vanishes, and it is replaced by a sense of warmth and comfort. Olive-oil may be substituted for castor-oil. In lumbago and painful muscular affections, chloroform and opium may be added.

The Proper Use of Esmarch's Bandage.—There has not been much said about Esmarch's bandage of late years. At the last meeting of the German scientists and physicians, Professor Esmarch made his bandage the subject of his address, and endeavored to rehabilitate it somewhat. The objections to its use he said were the following: 1. The free hemorrhage that took place after removal of the elastic bandage from paralysis of the vessels. 2. Paralysis of nerves pressed on by the elastic bandage. 3. Death of flaps of skin, or margins of wounds. 4. The danger of the entrance of septic material, etc., into the circulation.

In spite of the endeavors of the discoverer to improve the method, to simplify it, and to prove that the disadvantages did not depend on the method but on a perverted use of it, these objections were constantly being repeated, and many surgeons were thereby prevented making use of this process. Professor Esmarch thought it, therefore, not without use for the Society to describe the art and method in which artificial bloodlessness had been procured in his clinic for the last fifteen years. The process consisted, as was known, of two parts: The aim was (1) to draw the blood out of the parts to be operated on, and (2) to prevent the flow of arterial blood during the operation. The first aim was accomplished in part by the elastic bandage, and in part by the perpendicular elevation of the limb; the second only in rare cases by the elastic tubing originally recommended, but by an elastic girdle with a very simple hook catch. He enumerated the precautions that had to be observed in the use of the method, and said that if no rules were followed the disadvantages mentioned would never be met with. India-rubber appliances lost their elasticity by long keeping, and also by being kept in hot or cold climates, so that he had introduced elastic bandages made of spiral brass wire, which would remain in good order for years and in any climate. Many lives had been already saved by the timely use of his elastic tourniquet suspenders or braces. The question how long a well-adjusted elastic bandage could be left on in case of arterial hemorrhage, was still an open one. From his own experience it would seem that arterial intercourse could be interrupted without any special injurious consequences for at least twelve hours. In conclusion, he reminded his hearers that the procedure of influencing the current of blood in arteries and veins by elastic pressure, had led to a number of other therapeutic measures, for example, to auto-transfusion, to treatment of pseudo-arthroses and aneurisms, but above all to phlebostasis, discovered by his assistant Dr. Bier, and practised with great success in his wards in the treatment of surgical tuberculosis.

The Massachusetts State Board of Health on the Healthfulness of Artificial Ice.—This Board concludes, from investigations of artificial ice, that artificial processes of freezing concentrates the impurities of the water in the inner core or the portion last frozen; that the impurities are least if distilled water is used: that the number of bacteria in artificial ice is insignificant, under the prevailing methods of manufacture; and that the amount of zinc found in ice is insufficient to cause injury from its use.

Injections of Brown-Séquard's Fluid in Cutaneous Trophoneuroses.—Monnet (quoted by Brocq, *Journ. of Cut. and Gen. Urin. Dis.*, September, 1893) has tried injections of testicular juice in a young girl of nervous temperament, affected with symmetrical leucodermia of the trunk and lower extremities. Three cubic centimetres were injected morning and evening for six weeks. The general condition improved and the discoloration became gradually less, and at the end of three months the disease had almost entirely disappeared. Monnet has tried the same method in other skin affections, including three cases of ichthyosis, fourteen of neurotic eczema, several of "trophoneurotic erythema," and several of bullous and vesicular eruptions in the subjects of hemiplegia and general paralysis. Monnet explains the effect of the remedy in cutaneous trophoneuroses by its action on the nervous system, which is the source of the trouble. He thinks that injections of cerebrine would be more effectual in these cases. Brocq, while carefully avoiding committing himself on the subject, "cannot deny that the ideas on which rest the attempts of Dr. Monnet are both logical and perfectly rational."

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 45, No. 3.
Whole No. 1211.

NEW YORK, JANUARY 20, 1894.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

THE ETIOLOGY OF THE DISEASES PECULIAR TO WOMEN.[1]

BY T. GAILLARD THOMAS, M.D.,

NEW YORK.

MR. PRESIDENT AND GENTLEMEN, Members of the New York County Medical Association: I esteem it a privilege to meet you here to night, and I desire, before commencing the reading of the essay which I hold in my hand, to thank you very cordially for the kindly feeling which prompted the invitation which resulted in my coming before you.

Right well do I remember the stormy hour which, nine years ago, gave birth to your organization. At that time I was fully in sympathy with your action, and ever since; although I own to a culpable inactivity in reference to working with you, I have felt an interest in your determined struggle for existence and progress, and an admiration for your signal perseverance and fixedness of purpose. May the second decade of your existence find your society still abreast of the most useful and distinguished bodies in this, the medical metropolis of America.

I do not come before you with the offer of that which the Athenians of old so ardently craved, "some new thing;" but in more humble guise I tender you "old wine in new bottles." For I propose to-night to read you an essay dealing with the generalities of one of the most trite questions in gynecology; not going into exact and minute detail, but endeavoring to present you at a glance a sketch which may prove usefully suggestive; a picture which I would not be willing to rely upon in the instruction of a class of medical students, but one which will, I hope, prove of some use to those of maturer years and developed experience. Borrowing an illustration from the painter's art, I should say that it is not preraphaelite, but impressionist, in its style. Its title is, "The Etiology of the Diseases Peculiar to Women."

Although morbid conditions may develop in connection with the genital system of the woman at any time of her existence intervening between "the cradle and the grave," it is beyond question true that there are in her life four great climacteric periods, in connection with which the great bulk of the diseased states to which she is liable develop; in which I should venture, at a rough estimate, to assume that nearly eight-tenths of all these conditions take their rise. These climacterics may thus be presented at a glance:

1st. Puberty, marked by progressive metamorphosis of the ovaries and resulting ovulation and menstruation.

2d. Marriage.

3d. Child-bearing.

4th. The menopause, or change of life, marked by retrograde metamorphosis of the ovaries and resulting cessation of ovulation and menstruation.

First Climacteric.—It is the ovaries which mark, by their rise to and fall from power, the beginning and the end of woman's functional career. Hippocrates, over two thousand years ago, enunciated the dictum, *propter uterum mulier est.* It was left for our own Peaslee to correct him by changing his formula to *propter ovaria mulier est*, which is the motto which he places at the opening page of his work upon ovarian diseases.

[1] Read before the New York County Medical Association, December 18, 1893.

True it is that with ovarian advance and retrogression a simultaneous change occurs in the uterus, but no one will to-day dispute the fact that the first constitutes the cause and the second the result; that the change in the first is the phenomenon and that in the second the epiphenomenon.

From the birth of a female child to its thirteenth year the girl is being prepared by nature for meeting the first great climacteric of her life; and fortunate is it for her if surrounding circumstances do not interfere with her development, or the ignorance or neglect of her guardians defeat the accomplishment of the result. During the first two thirds of this time of preparation the uterus, ovaries, and adnexæ of the child remain almost entirely dormant. Then, as she advances to the third period, they begin to undergo development, and toward the end of this period this development becomes accentuated, rapid, vigorous, and perfect. Then the ovules break away from the Graaffian follicles, the Fallopian tubes seize them, and pass them onward to the engorged and swollen uterus, and the great issue which translates the child from girlhood to womanhood has been met.

If the changes preparatory to this event have been properly performed, all goes well; but if from any cause the growing uterus has been checked in its development; been made misshapen so as to resemble a gourd, or been developed fully for half its bulk and made atrophic in the other half; or if the ovaries at the time of call to duty are wholly or in part undeveloped and incapable of performing their functions; or if the Fallopian tubes or vagina are constricted or impervious, a variety of so-called diseases show themselves, all of which are difficult of cure, and many of which are entirely incurable. If malformed ovaries exist the most agonizing ovarian dysmenorrhœa, amenorrhœa, or emansio mensium, with their sometimes coexisting hysteria, hystero-epilepsy, and even epilepsy, show themselves and hold out to the poor woman the prospect of a life of invalidism, or at least a lengthy and discouraging course of treatment. Who in this room does not recall many cases of this kind, which beginning with the very inception of menstrual life, have proved most rebellious to curative treatment? If the Fallopian tubes have been strictured by want of development, atrophy, or constriction by out-lying lymph, the girl suffers from severe pain at menstruation, or later in life becomes an invalid on account of sterility or tubal pregnancy. If the vagina is constricted or impervious, retention of blood in it or in the uterus becomes an important factor for evil.

Suddenly, the occurrence of this climacteric, created solely by ovarian dictation, makes an imperious call upon organs hitherto insignificant, and finding them unequal to the demand, a long list of ailments develop themselves as a consequence. On the first day of a month, the girl has been remarked upon as a type of female health, vigor, and beauty; on the fifteenth of that same month, the imperfect way in which she has grappled with the functions of her first climacteric have assured her physician that years of invalidism in all probability lie before her.

By the patient's friends, even by her physician, if he be a short-sighted and superficial observer, the trouble which has occurred is attributed to cold, to fatigue, to mental anxiety, or the like; but "the inexorable logic of events" is destined to belie this hope. If the chief symptom be dysmenorrhœa, the condition is carefully classified into "neuralgic, ovarian, congestive, or ob-

structive," and the physician very properly strives to overcome it by using his best efforts to meet a disability, which is commonly due to imperfect performance of those changes which mark the period styled "puberty." If the vagina be constricted or the cervical canal be impervious, they are distended and kept open; if the ovaries are at fault, general treatment by nerve and blood tonics, exercise and calisthenics, and local treatment by pelvic massage, and electricity and galvanism, are appealed to, and after a variety of means have been tried in vain, and grave symptoms still exist, the process of ovulation is abolished, and the evils dependent upon it relieved by the humane, scientific, and entirely defensible operation of removal of the tubes and ovaries.

Fortunate is it that many evils entailed upon the woman by "puberty" are oftentimes susceptible of complete relief. There are, however, some which project their influence into her future life and show themselves after marriage in various ways. For example, a deformed uterus may be the cause of frequent abortions, which no resource of art is capable of preventing; constricted tubes may give rise to hæmato-salpinx and perimetritis the outcome of peri-salpingitis; while obstruction to the transit of the fructified ovum into the uterus commonly gives rise to ectopic gestation.

Surely it is no exaggeration to style this one of woman's great climacterics, one of the periods in her existence which is fraught with the profoundest import for her health, her usefulness, and her happiness. If it be true, as I have said, that the period intervening between a girl's birth and her passage into womanhood is the time of preparation for this, her first great climacteric or critical period, much as to her fitness for meeting the issue will depend upon the proper physical development accomplished in this preparatory time, and all those who watch her career — physician, mother, and teacher — should join hands in sending her into the arena as thoroughly prepared as it is possible to make her for her new functions.

Second Climacteric. — The first climacteric being passed, the girl emerges from it a young woman, and enters into that period of her life which intervenes between puberty and marriage—speaking approximately, a period extending from the thirteenth to the twentieth year, covering about seven years of her existence. Although during this time falls, muscular efforts, exposure to cold, and pathological changes of tissue may, of course, produce disease, this is, to one who has successfully met the issue of puberty, usually a cycle of health and happiness. Then occurs a second climacteric, which sometimes proves a most baneful one to the healthy and robust woman who enters into it—marriage.

There are three morbid states which now frequently show themselves: First, the development of vaginismus, or spasm at the vaginal outlet; second, specific vaginitis, endometritis, and salpingitis; and third, the manifold evils resulting from the induction of abortion by women who resort to this fatal and criminal practice, not to protect their characters from disgrace, but merely to suit their social convenience, or from dread of the dangers of childbearing.

Of the first and third of these I shall say no more, as the management of the first is quite simple and generally understood: and as a mere mention of the third is all that I deem necessary. Of the second, I shall speak more fully and venture to quote upon it from an address given by me which has already appeared in print.

Until the last twenty years specific urethritis was regarded, in the male, as an affection of the most trivial import, as rapidly passing off, leaving few serious sequelæ, and offering itself as an excellent subject for jest and good-natured badinage. About two decades ago Dr. Emil Noeggerath published a dissertation upon this affection, which will forever preserve his name in the list of those who have accomplished good for mankind, and give him claim to the title of benefactor of his race. This observer declared, 1, that out of growing young men a very large proportion prior to marriage have specific urethritis; 2, that this affection very generally causes urethral stricture, behind which a "latent" or low grade urethritis is for many years prolonged; 3, that, even as late as a decade after the original disease has apparently passed away, the man may transmit it to a wife whom he takes to himself at that time; and 4, that the disorder affects, under these circumstances, the ostium vaginæ and urethra, and thence passes up the vagina into the uterus, through the Fallopian tubes, where it creates specific catarrh, and by this disease produces oöphoritis and peritonitis, which become chronic, and often end in invalidism and sometimes even in death. For this essay Dr. Noeggerath was assailed by ridicule and by contradiction. The matter has now been weighed in the balance and admitted to its place among the valuable facts of medicine.

Let me tell you my estimate of specific urethritis as a factor in the diseases of women, and let me assure you that I take no peculiar or exaggerated views concerning the matter. What I say will be vouched for by all progressive practitioners of gynecology to-day. Specific vaginitis, transmitted to virtuous women by men who are utterly ignorant of the fact that the sins of their youthful days are at this late period bringing them to judgment, is one of the most frequent, most active, and most direful of all the causes of serious pelvic trouble in women—one which meets the gynecologist at every turn, and one which commonly proves incurable except by the dangerous procedure of cœliotomy.

Think for a moment of the terrible position in which a high-minded, upright, and pure man finds himself placed without any very grave or unpardonable fault on his part. At the age of nineteen or twenty, while at college, excited by stimulants, urged on by the example of gay companions, and brought under the influence of that fatal trio lauded by the German poet—"Wein, Weib, und Gesang"—the poor lad unthinkingly crosses the Rubicon of virtue! That is all! On the morrow he may put up the prayer, "Oh, give me back yesterday!" But yesterday, with its deeds and its history, is as far beyond our reach as a century ago, and returns at no man's prayer!

Four or five years afterward this youth goes to the marriage-bed, suffering, unknowingly, from a low grade of very slight latent urethritis, the sorrowful memento of that fatal night, which has existed behind an old stricture, and a result is effected for the avoidance of which he would most gladly have given all his earthly possessions.

All this sounds like poetry, not prose; like romance, not cold reality. But there is not a physician in this room who does not know, and who will not at once admit, that every word that I have uttered is beyond all question true, and even free from exaggeration.

I mentioned, in speaking of the grave duties demanded by puberty, that one of the important functions of the physician in regard to the development of the girl during the thirteen years which precede it, is to instruct her and her guardians how to prepare her for the approaching issue. In language no less strong I would here insist upon the physician's duty to instruct men in all stations of life as to the importance of a "clean bill of health" in reference to gonorrhœa, both acute and chronic, before the marriage contract be entered upon.

Until a very late period the plan universally followed has been this: The man about to be married went to his physician, told him the history of a gonorrhœa, and asked if, now that all discharge appeared to have ceased, any danger would attend his consummating the tie. The physician would ask a few questions, examine the virile organ carefully as to discharge, and if the "outside of the platter" appeared clean, gave his consent to the union. The evil which has resulted from this superficial and perfunctory course has been as great as it has been wide-spread. To day the question of stricture, a slight, scarcely perceptible "latent gonorrhœa," with its char-

acteristic "gonococcus," is looked into, and not until all trace of disease is eradicated is permission given for the union. A marital quarantine is as necessary to-day in social life as a national quarantine is for contagious diseases in general.

Few men, however eager for matrimony they may be, would run the great risks attendant upon precipitancy if they only knew of them clearly and positively. In no field of medicine is the old adage, "Prevention is better than cure," more important than in this one. If physicians would do their duty fully in this matter, how many unfortunate women now languishing from "pyo-salpinx" would in the next generation be saved!

Third Climacterie.—Let us suppose that the girl has passed through puberty and become a wife, and that no evil has thus far befallen her in either of these stadia of her course through life. The probabilities are that within a year or two she will be called upon to face still another climacteric—that of utero gestation and childbearing.

The passage of the human fœtus through the short, mucous-lined canal which leads from the superior through the inferior strait of the pelvis is attended, even in labors apparently normal, by certain traumatisms which have a most disproportionate bearing upon the health of the woman who suffers from them. The reasons for this are not far to seek. Slit the cervix uteri or the perineum freely with a bistoury in a non-pregnant woman, and little, if any, serious injury would result. The parts would cicatrize and nature would prove herself abundantly able to deal with the trouble. But let a laceration of these parts be effected by the child's presenting part during labor, and a series of events takes place which casts its baleful shadow over the future life of the woman. This unquestionable fact is due to two circumstances which render the parturient woman peculiarly vulnerable to traumatism exerted upon the genital tract in any part of its extent. These circumstances are the following: 1. From the moment of fixation of the ovum upon the uterine wall until the end of gestation a rapid hypertrophy of all the sexual organs occurs. The only phenomenon in the physiology of the pregnant woman which is as wonderful as this is that retrograde process of involution which restores these parts to their normal state, so that at the end of eight weeks the immense uterus, the voluminous broad ligaments, the copious vagina, and the distensible perineum return to their lessened state of non-puerperality. 2. Wounds made in the genital tract of a non-puerperal woman are bathed during their repair by a bland mucus which is secreted by the glands of the cervical canal and by the vaginal membrane. Similar injuries inflicted upon the parts of a parturient woman are bathed by the lochial discharge, made up of ichorous material, holding in admixture flaking decidua vera, disintegrating placenta, and decomposing blood, which, even under favorable circumstances, sets up a sapræmia, and, under unfavorable ones, tends to the development of a dangerous septicæmia.

Such wounds are not prone to heal by nature's efforts, often assume bad features, and interfere greatly with that wonderful and subtle process of involution just alluded to. As a consequence an arrest of retrograde metamorphosis often affects vagina, uterus, uterine endometrium, and broad ligaments, and creates a marked disproportion in the normal relations of all the pelvic viscera at the same time that it weakens those supports which formerly sustained them. In this way we often see as direct and remote consequences of laceration of perineum and cervix uteri some or all of this long list of pathological results:

1. The vagina suffering from subinvolution and unsupported by the perineum, begins to undergo prolapse, its posterior and then its anterior wall pressing downward into the vulva.

2. Prolapse of one wall soon deflects a wall of the rectum and that of the other of the bladder, and misdirection of the forces of these viscera add their influence to increasing vaginal prolapse.

3. Traction by vagina, rectum, and bladder soon affect the uterus, and descent of this organ begins to show itself.

4. The uterus is the more prone to descend under traction because involution has been rendered imperfect in it, and its increase of weight and feeble support from subinvoluted broad and round ligaments render it helpless.

5. Menstruation now occurs, and a granular, almost fungoid, condition of the endometrium, existing in consequence of impaired involution, menorrhagia supervenes and adds its depreciating influence to the concatenation of morbid influences which are rendering the condition of the poor woman more and more wretched.

Could such a collection of untoward symptoms be possible from wounds inflicted by bistoury or scissors upon the perineum and cervix of a non-parturient woman? Not at all. Such results can be accounted for only by the interference of these traumatisms with the performance of an important physiological function, upon the fulfilment of which depends a return of every puerperal woman to the domain of health.

To sum up this part of my subject, there can be no doubt of the fact that a large proportion of the diseases peculiar to women are due to injuries inflicted upon the genital tract during labor, and that among them may be numbered, subinvolution of uterus, vagina, and perineum; fungoid endometritis; uterine catarrh; menorrhagia and metrorrhagia; any of the displacements of the uterus; prolapse of bladder, rectum, and vagina; cystitis; and secondary derangement of the blood and the nervous system, which react upon all the organs of the body.

To overcome these pathological results the obstetrician to-day repairs lacerations of cervix and perineum, lessens the volume of uterus and vagina, shortens the round ligaments, and scrapes away the entire lining membrane of the womb. When it becomes the accepted and universal practice to examine for these traumatisms after every labor, and to cure them by surgical means as soon as practicable after delivery, the diminution which will occur in the annual crop of sick women will wonderfully diminish.

Some years ago a writer upon this subject in an American periodical ventured to hint that avarice on the part of medical men greatly increased the sum total of gynecological operations. I am convinced that he was in error. A desire to multiply the gynecological work of the world ought to prompt an avoidance of the only means of cure possible in such cases as those of which I speak, and dictate the policy of leaving them to the baleful influences which have been mentioned. But the policy of the profession of medicine, which dates back through the ages as one always pledged to honest striving after the real good of society, needs no vindication at any man's hands to-day!

Some years ago, in my clinic in the College of Physicians and Surgeons of this city, being desirous of impressing the facts which engage our attention to night upon the students, I requested them to notice how frequently each patient who appeared before them would refer the cause of her disease to one of the critical periods mentioned, and agreed that we would review the subject at the end of a month. The result served to fix the fact most clearly in their minds by the frequent, indeed almost constant, recurrence of the phrases, "I was well until my periods began;" or, "My disease showed itself soon after marriage;" or, "I have never been in good health since my last labor, or since a miscarriage at such a time." That there were exceptions to this I need not mention, but they only appeared to be sufficiently frequent to prove the rule.

Fourth Climacterie.—We come now to the consideration of the menopause, or change of life, which has been from time immemorial known as the technical "climacteric" of woman.

When the far-reaching nervous influences exerted by

ovulation and menstruation upon the system of the woman, which continue active for thirty five years of her existence, are borne in mind, one is prepared to expect decided mental and physical manifestations when a sudden cessation of ovular activity occurs about the fiftieth year. And certainly at that time the nervous system of the woman does become especially liable to loss of balance, as demonstrated by hysterical and nervous manifestations, and even by a tendency to melancholia and other psychic derangements, while disorders of the menstrual flow become marked, decided, and troublesome, and serious tissue-changes in the pelvic viscera appear to be especially frequent. While all this is admitted it cannot be denied that too great stress has been laid upon this period of woman's life as a critical epoch, and that many pathological conditions occurring about this time have been credited to it which have had no connection with it at all.

The swing of the mental pendulum in reference to the matter must be carefully supervised as to both its extremes; the gynecologist being careful, on the one hand, to avoid an over-estimate of the importance of this epoch which leads to making it a shield for incapacity or ignorance; and on the other, being wary of an under-estimate, which may cause him to lose the great advantages which may result from a postponement of operative interference until its occurrence be allowed to exert its legitimate beneficial influence. Indeed I feel that I stand upon defensible ground when I assert that the chief significance of the menopause to the gynecologist exists in the fact that it constitutes a haven of rest for the woman from many ailments which are due to menstrual disorders and to hypertrophy and hyperplasia of the uterus. It ordinarily puts an end to subinvolution and uterine hyperplasia, to menstrual irregularities, to metrorrhagia, and to uterine myomata. With such certainty can these results be counted upon that operations for such conditions may be held in reserve, in the hope that by this climacteric the necessity for them may be avoided.

Some years ago, when the effects of galvanism in the cure of uterine myomata was upon the crest of the gynecological wave, a former pupil of mine, a man of great industry, enthusiasm, and honesty, requested me to read, prior to publication, a report of twelve or fourteen cases of uterine myoma in which small tumors had been completely cured, and large ones greatly benefited and checked in growth, by this, then new, therapeutic resource. It was not a report of his experience with the method, but one embodying his successful cases. Upon a careful analysis I found that all the cases of recovery and amelioration had occurred in women between forty-three and fifty three years of age, and that each recovery was coincident with cessation of menstrual flow and other signs of the menopause. The pleasure of reading this honest and laborious account of faithful work was never enjoyed except by the writer and myself, for it did not appear in print!

At the time of the menopause, as atrophy of the cervix uteri and atresia of the cervical canal take place, retention of discharges from the endometrium sometimes occurs, constituting hydro metra, hæmato-metra, or pyometra, and when decomposition of the arrested fluids supervenes, the rare condition of physo metra shows itself.

Two forms of senile vaginitis are apt also to develop themselves about this time—adhesive vaginitis, which closes the vaginal canal entirely, and hæmorrhagic vaginitis, which I have on several occasions seen mistaken for carcinoma uteri, on account of its causing sanguineous flow in a woman who has for some time ceased menstruating. In this connection this diseased state is of importance, for the patient will always come to the physician in the greatest state of alarm. Fortunate is it that this alarm may be quieted by the promise of complete recovery.

Lastly, at this climacteric procidentia of the atrophic senile uterus is apt to occur from rapid absorption of adipose tissue in the pelvis, which causes it to descend from want of support, and inflicts upon the woman a disability at the end of her career, and after she has borne triumphantly the burdens of life.

This completes the list of the most important of the pathological conditions which develop in connection with the menopause, the fourth climacteric of woman's life, and constitutes all that I have to say upon this subject this evening.

OPERATIVE SURGERY OF THE GALL TRACTS, WITH ORIGINAL REPORT OF SEVENTEEN SUCCESSFUL CHOLECYSTENTEROSTOMIES BY MEANS OF THE ANASTOMOSIS BUTTON.

By JOHN B. MURPHY, M.D.,

CHICAGO, ILL.

PROFESSOR OF SURGERY, COLLEGE OF PHYSICIANS AND SURGEONS; PROFESSOR OF SURGERY, POST-GRADUATE SCHOOL AND HOSPITAL; ATTENDING SURGEON, COOK COUNTY HOSPITAL; ATTENDING SURGEON, ALEXIAN BROTHERS' HOSPITAL; CONSULTING SURGEON TO HOSPITAL FOR DESTITUTE CRIPPLED CHILDREN; VICE-PRESIDENT OF NATIONAL ASSOCIATION OF RAILWAY SURGEONS, ETC.

(Continued from page 42.)

8. *Cholecystectomy.—Total Extirpation of the Gall-bladder.*—This operation was introduced by Dr. Langenbuch. At first there was most bitter opposition to the operation, but it has now obtained great recognition. For a certain class of cases it is the operation *par excellence*, 1, on account of its safety; 2, because it completely fulfils the indications. Langenbuch is sustained in the theory of his operations by the fact already mentioned, namely, absence of the gall-bladder being harmless as far as the health of the patient is concerned, as demonstrated by the large number of animals and men in which this viscus has been found to be congenitally absent, and made no apparent difference in their health. I have found in dogs, on which I have performed this operation, that their health was not interfered with in the slightest.

The only question of gravity for the consideration of the surgeon, as long as its absence does not materially affect the patient, is, What are the dangers of the operative procedure itself? That these dangers are not great is shown by the following statistics. We have collected in all 65 cases; of these there were 11 deaths, a mortality of seventeen per cent, which is even more favorable than cholecystostomy; and this operation is rapidly finding favor with surgeons, notwithstanding the assertions of Tait, when the operation was first suggested in May, 1884, that it was absurd; in June, 1885, that it was "radically absurd;" and in October, 1889, that it was "intrinsically absurd" (Courvoisier), another illustration of how valueless a man's opinion may be of an operation that he has not tried. The indications for this operation are, 1, hydrops and empyema of the gall bladder, when it is already disconnected from the choledochus by occlusion of the ductus cysticus; 2, in severe chronic recurrent cholelithiasis vesicularis; 3, in severe diseases of the wall of the gall bladder itself, ulceration, gangrene, contraction, and carcinoma; 4, in internal rupture or wounding of the gall bladder, when suture is difficult or impossible. It is contra indicated by strong adhesions to its surroundings, by broad and close attachments to the liver, in all permanent closures of the choledochus.

9. *Choledocho-lithotripsy, or Crushing of Gall-stone in the Choledochus.*—The operation has been performed three times with success, by Credé, Courvoisier, and Kocher. It was found in these cases that there were fragments after the crushing that would not pass through the choledochus, but might regurgitate back into the gall bladder. There is also no certainty that the remainder of the canal is patulous below the point where the fragments lodged. Credé's patient had severe attacks of colic and fever in passing the fragments. Again, there is danger, in the act of crushing the stones, of injuring the walls of the duct so as to subsequently cause a perforation; for these reasons this operation should not be performed.

10. *Choledocho-lithectomy, with Subsequent Suture of Duct.*—This operation has been performed five times,

with two deaths, giving a mortality of forty per cent. It is a very difficult operation to perform, as the duct is deeply situated and the escape of bile in the field of operation after the incision is very annoying to the operator. This operation was first performed by Courvoisier, and he deserves great credit for his ingenuity and courage in devising and undertaking it, as well as being the first to perform a successful cholecystendysis, and to do the first successful choledocho lithotripsy. This is to be undertaken—1, where the stone is large and firmly impacted in the duct, and when the patient has symptoms of intermittent fever and chills; 2, where the stone is impacted in the duct and the ductus cysticus is obliterated, preventing the formation of a gall-bladder and intestinal fistula for the escape of bile; 3, where it has produced ulcerative perforation and the wall at the opening is in a healthy condition, otherwise the gall-duct should be excised at that point, both ends ligated, and a cholecystenterostomy performed.

Case I. *Choledocho-lithectomy.*—Mrs. Mathilda B——, aged thirty-five, multipara; admitted to hospital September 20, 1893. Enjoyed perfect health until three years ago; at that time had first attack of colic; intense pain of sudden origin in right hypochondriac region, very sensitive under right costal cartilage; pain continued several hours, followed by vomiting; was not followed by jaundice. Two years later similar attack, with no jaundice. Five weeks ago had third attack. Has had frequent severe attacks of pain since the beginning of the last one a week ago, which have continued to the present time (October 20, 1893). The symptom of jaundice made its appearance for the first time four weeks before admission, and is still present. She does not know that she ever passed a gall-stone. Never had any urinary difficulty. Stomach always good. Was never free from tenderness in right epigastric region since time of first attack.

Present Condition.—Very icteric. Rapid, feeble pulse, expression of severe suffering, complains of great thirst, anorexia. Very sensitive in right hypochondriac region. No tumor perceptible. Temperature, 103° F.; pulse, 138; respiration, 34.

Diagnosis.—Hepatic calculus impacted in ductus choledochus.

October 21st, 8 A.M. Pulse, 100; temperature, 102.8° F.; respiration, 36. P.M., pulse, 102; temperature, 103° F.; respiration, 36.

October 22d, A.M., ——. P.M., pulse, 96; temperature, 102° F.; respiration, 40.

October 23d, A.M.—Pulse, 94; temperature, 99° F.; respiration, 30.

Operation.—October 23d, 11 A.M. Dr. Murphy, assisted by Drs. Hartmann, Wittwer, and Cortebein, performed laparotomy; found gall-bladder contracted to a tube, large calculus, one-half inch in diameter, situated in the middle of the choledochus. Gall-bladder could not be utilized for approximation to the intestine. It was decided to remove the calculus from the common duct, which was thoroughly exposed. An incision one-half inch long was made in the duct, parallel with it, stone extracted. The opening in duct was united with continuous suture. Gauze drainage. Time, 45 minutes. There was but very little hemorrhage during operation, and none whatever after the suturing. Some shock. Pulse, 11.40 A.M., immediately after operation, 64; respiration, 30. 5.30 P.M., pulse, 72; temperature, 97° F.; respiration, 32. 10 P.M., pulse, 78; temperature, 97.4° F.; respiration, 32.

October 24th, 8 A.M.—Pulse, 94; temperature, 98.8° F.; respiration, 32. Rested well during night; nauseated, but no vomiting since operation.

October 24th, 6 P.M.—Pulse, 144; temperature, 103° F.; respiration, 36.

October 24th, 12 P.M.—Pulse, 108; temperature, 101° F.; respiration, 26. Condition much improved; pulse still feeble.

October 25th, 2 A.M.—Pulse, 110; temperature, 102° F.; respiration, 35. Pulse very weak. Died at 3 A.M., very suddenly.

Autopsy was not allowed. It is therefore impossible to say what was the cause of death.

You will find, in reviewing the results of these operations, that the mortality is greatest in the operation of cholecystenterostomy, in one sitting, by means of suture, in which thirty-five per cent. of the cases terminated fatally. Next high in the scale of mortality is cholecystostomy of one sitting, the operation which is most prevalent and performed more frequently than any other, and almost as frequently as all the others combined; its mortality is nineteen per cent. This great mortality should cause every thoughtful operator to endeavor to find some other means whereby his patients will not be jeopardized to such a great degree; and while the mortality is nineteen per cent., the percentage of perfect recoveries is only about fifty-one per cent., making the chances for life in the ratio of five to one, and the chances for complete recovery but one to two. The next operation in fatality is cholecystendysis, with a mortality of twenty-three per cent., very little more than cholecystostomy. Then comes cholecystectomy, with a mortality of seventeen per cent. The most favorable of the older operations is cholecystostomy, in two sittings, in which we have a mortality of ten per cent. Lastly, consider the operation of cholecystenterostomy by means of suture; from all cases I have been able to collect the mortality is thirty five per cent.; with this contrast the cases of cholecystenterostomy for gall-stones by means of the anastomosis button, with one hundred per cent. of recoveries. The author's method needs no further laudation than that shown by a comparison of the percentages. This favorable showing was not produced by one operator or by myself, but by nine different operators, and in one case, that of Dr. Mayo, on a patient seventy-one years of age.

The classes of cases requiring surgical interference in lesions of the gall tracts are as follows:

1. In all cases of obstructive jaundice, where the jaundice exists during a period of two weeks.
2. In all recurrent cases of obstructive jaundice.
3. In cases of recurrent cholecystitis.
4. In recurrent cases of colic from cystic duct obstruction, always without jaundice.
5. In retention cysts of gall-bladder.
6. In malignant growths of gall-bladder.

The early operation is by all means the most favorable, as the gall bladder is not contracted and is free from adhesions.

In reference to the criticisms by Professor Senn,[1] I would say that while he does not comment on the use of the button in cholecystenterostomy, some of his criticisms would be applicable to the use of the button in that operation, as well as operations on the intestines; therefore I deem it proper to treat them in this article. *First*, he says that "it is no improvement on the rings employed by Denan more than half a century ago." The correctness of this statement can be readily tested by a cursory comparison of the two devices, cuts of which are herewith submitted (see Fig. 9). *Second*, he says that "a foreign body is left in the intestinal canal which may become a source of danger on its way to the distal end of the alimentary canal." Will it become a source of danger, and when? The ileo-cæcal valve is the place in the normal intestinal tract in which it would be most likely, if at all, to produce an obstruction. That this valve in its normal condition allows the passage of bodies much larger in diameter than the button, is shown by the many experiments on that portion of the canal.

It is further shown by the clinical observation of medical practitioners, who from time immemorial have seen children swallow coins, nuts, peach-stones, marbles, and other foreign bodies, much larger in proportion to the child's intestine than the button recommended, and pass them without producing unpleasant symptoms.

[1] Journal of the American Medical Association, August 12, 1893.

This is considered by doctors to be of so little danger that they advise the patient "to pay no attention to it, and forget that such a thing occurred." What surgeon would become hysterical if the child of one of his patients swallowed a coin or marble? Admit that a coin or marble, under certain pathological conditions, has produced trouble; to the one such case there are thousands that have not. So it will be admitted that with cicatricial contraction of the bowel or a malformation of the ileo cæcal valve, obstruction might be produced by the button; but the proportion of these cases would be about the same as the proportion of cases of trouble produced by the coin or marble, and so small as to be scarcely worth serious attention. It could with equal force be argued that child-bearing should be discouraged because occasionally there is difficult or impossible delivery of a child on account of pelvic deformity or other causes.

I have now reports of three hundred operations and experiments with the button. The obstructions so much dwelt upon by the critics of the button did not occur in one of my cases, nor has it "come to my knowledge" that it occurred even once in the cases of others who have performed the operation.

Dr. W. W. Keen, in the same paper from which Senn

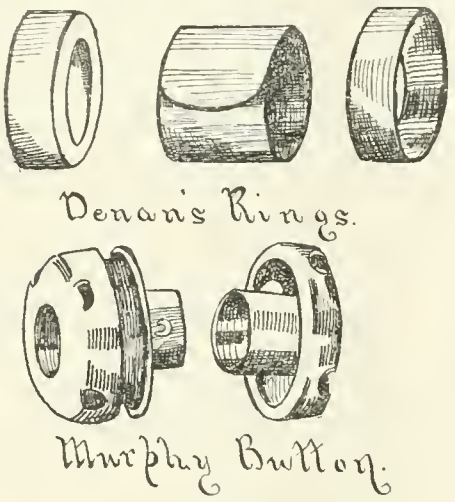


Fig. 9.

quotes a portion of a sentence referring specifically to the objection, says, "On the whole, however, I do not feel that this objection is a very serious one, since the condition requiring the use of the buttons, if they be used, is one which must dominate all other risks." [1]

It can therefore be seen that the danger of obstruction by the button is so slight that it is entitled to no weight in view of the ease with which it is inserted, and the certainty with which it fulfils its purposes.

Third. "Any instrument, suture, or ligature used in effecting the continuity of a wounded or divided bowel that produces gangrene, must be looked upon as a source of danger." The term gangrene is misleading in this connection; the term the doctor intended to use, no doubt, was pressure atrophy. Every suture, every mechanical means that is used, every ligature that is tied in approximating the intestine, produces pressure atrophy in a greater or lesser degree, or it gives no support. Shall we discard all these useful measures together? Pressure atrophy (gangrene, Senn) in vascular tissues is limited to the area of pressure in which the circulation is shut off and is always controlled thereby.

The button above all others—suture, rubber-rings, bone-plates, etc.—protects the peritoneal cavity. There is no suture on the peritoneal surface; there is nothing left within the peritoneal cavity; it is shut out and sealed up by a uniform compress. This compress closes as pressure atrophy takes place, and closes in the direction of pressing the surfaces desired to be agglutinated, closer and closer together. This is not accomplished by any other device. True, there is a substance in the calibre of the intestine, call it foreign if you please; so are the materials used as food to some degree foreign materials, but they, like the button, are on the safe side of the intestine, within it, not without.

Fourth. "Because the lumen of the connecting part is not large enough as a temporary outlet for the intestinal contents above the seat of operation." This objection is not tenable. The surgeon well informed on the physiology of the small intestine knows that its contents are always fluid, except in cases where some indigestible solid substance is introduced. Patients are not usually allowed an ostrich diet for a few days following an intestinal anastomosis. No matter what medicine may be given, it does not render the contents of the small intestine solid; they are always fluid. The amount of fluid that would pass through the central opening in a medium-sized button in twenty-four hours can be easily computed, and represents several times the weight of the entire body, while the average amount of fæces in the same time is five ounces.

Fifth. The fragment of a sentence quoted by Senn from Keen's article is such an inadequate representation of the scientific and fair manner in which this recognized authority treats the subject, that I venture to quote more extensively from Keen's article as follows (pp. 660 and 661): "The speed and certainty with which an anastomosis can be made once the bowel is prepared for it, are certainly advantages which the button possesses over all other means of anastomosis, whether by simple suturing or by bone-plates, catgut, or other rings." "It is certainly a most happy mechanical invention, especially the method of fastening it by what is practically a secure screw, and yet instead of being rotated in order to fasten it, it simply needs to be pushed home. The two projecting teeth which answer the purpose of the male screw, make it one of the most ingenious devices I have ever seen." From Dr. Keen's postscript I will quote the following, first, as showing the perfection of the union: "From the outside one would almost think that it was the normal termination of the ileum in the colon; no more perfect union could be imagined." In regard to the contraction found by Dr. Keen at the autopsy which he reports, we are compelled to admit the force of the suggestion made to me by Dr. W. J. Mayo, that a vital point in the report of that autopsy is omitted, namely, a comparison of the diameter of the ileum before operation and at the autopsy. Before operation there was undoubtedly, with a chronic obstruction, distention of the ileum. Did the opening contract more in proportion than the ileum itself, and was not the contraction of the opening due to the contraction of the ileum from its expanded, obstructed, pre-operative condition, to its normal, contracted, empty condition produced by a free escape at the anastomosis as found at the autopsy? An analogous contraction to this is shown in cases in which a cholecystenterostomy is performed experimentally. The opening which originally was the size of the button used is reduced, not by the contraction of the cicatrix, but by the contraction of the gall-bladder, which, after a number of weeks, is reduced to the size of a cystic duct. Dr. C. E. Ruth,[1] of Keokuk, says: "I wish to call especial attention to the specimen in which an approximation was made between the duodenum and gall-bladder. You see that what was a gall-bladder has ceased to exist as such, and nothing remains of it but a duct. Its contraction has narrowed the opening which delivered a five-eighths inch button until it is the size of a slate pencil, and shows well-marked folds of mucous membrane at its margins that must act as a valve to prevent the passage of intestinal contents into the gall-bladder." A year and four months have elapsed since the first human case of cholecystenterostomy with the button, and in all of the other cases a shorter time has elapsed,

[1] Annals of Surgery, June, 1893, p. 660.

[1] The Omaha Clinic, September, 1893.

and the symptoms of obstructive jaundice have not appeared in any of them, as was feared by Dr. Abbé.

The following is a report by Dr. J. Henry Barbat, of San Francisco, of a case in which an autopsy was made.[1] The operation of gastro enterostomy was performed on December 26, 1892. The case was one of carcinoma involving a large portion of the pyloric end of the stomach. The button used was made from the description given in my paper.[2] The patient gained ten pounds in three weeks after the operation. She became so indifferent about her food that she ate beefsteak, potatoes, fish, fried tripe, bananas, and other food difficult of digestion. These were all eaten before the button was voided, and still there was no obstruction. She died February 10th, forty-six days after the operation, of an acute pulmonary infection. The following is the doctor's report of the autopsy:

"I examined the stomach and found the opening into the bowel large enough to almost admit two fingers, and the union absolutely perfect." You will note that the length of time that had elapsed between the time of operation and death was only one day less than in Keen's case, still the opening remained almost large enough to admit two fingers.

Dr. C. E. Ruth[3] comments as follows: "This not only simplifies, but gives an element of certainty in this formerly impracticable operation, that is scarcely believed until seen. Its importance can scarcely be overestimated. The operation has been done successfully on eight persons. You will notice that no such contraction occurred in any of the specimens as that which occurred between the gall-bladder and the duodenum; in fact, none whatever. I have done gastroduodenostomy, cholecystenterostomy, lateral and end-to-end approximations, specimens from all of which I now show you, and in no case did I fail to get firm union without a fistula or a particle of fecal or gaseous extravasation."

Dr. F. Andrews, of Chicago, says:[4] "It is the means *par excellence* for establishing a gastric or fecal fistula. By having a string attached, as soon as pressure atrophy has released the button it is at once drawn out of the wound, without being allowed to pass through the intestinal tract."

Dr. J. McFadden Gaston says, referring to the button:[5] "This device for uniting different structures has now been tested in a sufficient number of cases to afford a reasonable reliance upon its efficacy. The results were entirely satisfactory in the demonstration of the adaptation of the button for anastomosis, and there can remain but little doubt of a communication with surrounding adhesion being accomplished by it, with more expedition than by processes heretofore adopted."

Dr. Hugh Ferguson, of Winnipeg, used the button for a case of pylorectomy with end approximation of duodenum to side of stomach, also in a case of cholecystenterostomy; both successful. In a personal letter he writes as follows: "I am more than pleased with the anastomosis button. It is really more than an anastomosis button, and should be designated 'Murphy's Intestinal Button.' If a discussion on the button arises at the Pan-American Meeting, you may quote these two cases. The button cannot be too soon known."

Dr. W. B. Rogers, of Memphis, Tenn., July 30, 1893, writes: "I would say that immediately on my return here, I had an opportunity for using your button for the operation of cholecystenterostomy, and it worked like a charm."

Dr. R. Weir, of New York, writes: "I have used the button for cholecystenterostomy and like its ease of application, though the fatal ending prevented the fullest test being made. The result, however, was not due to the method, but to the case itself, which was neoplasm compressing the common duct and engaging both the liver and pancreas."

[1] Pacific Medical Journal, April, 1893.
[2] MEDICAL RECORD, December 10, 1892.
[3] Omaha Medical Clinic, September, 1893.
[4] Ibid.
[5] Southern Medical Record, July, 1893.

Dr. J. Henry Barbat,[1] who used the button in performing a gastro enterostomy, comments as follows: "An anastomosis may be done by this method with perfect safety, and with a result that cannot be obtained by any other method. The day of bone-plates, catgut-rings, and numerous other devices that have been used in performing the anastomosis operations, is past, and every surgeon should provide himself with a set of the buttons, which does not require an extensive amount of operative skill to use."

The contraction of the gall-bladder occurs in more than eighty per cent. of the cases of cholelithiasis. This contraction is the result of the cicatricial contraction produced in the gall-bladder by a chronic inflammation or irritation of it by the gall-stones; therefore the earlier the operation is performed, the less liable we are to find contraction. There is another danger, and that a serious one—perforation of the tracts by the calculus. I have been called in consultation, within the last eighteen months, in three cases of perforation of the gall tracts, all with infective peritonitis, and all died. The history of repeated attacks was given. In one case the patient had the question of operation under advisement on account of the frequency of attacks. None of them were suffering from colic or obstructive jaundice at the time of the perforation, which shows that there is danger even in the quiescent stage. Another reason for the early operation is the danger of malignant growth being produced by the constant irritation. I have seen a large number of autopsies on this class of cases. In looking over the records of the pathological institutes, they afford abundant proof of the statement that a considerable percentage of cases of cholelithiasis terminate with carcinoma of the gall tracts. These reasons, along with the dangers which accompany an acute attack of obstructive jaundice, are, I think, considering the small percentage of mortality, sufficient to justify early operative interference.

Report of Cases of Cholecystenterostomy.—CASE I. A. Q——, aged thirty five, female; admitted to the medical department of Cook County Hospital, May 27, 1892. Transferred to the surgical division of the hospital, June 10, 1892, and came under my care. Gave the following history: During the last fifteen years has had stomach troubles; pain and tenderness in the epigastrium; the attack would last from two to four days, was almost always accompanied by vomiting, not by jaundice. Had pain in back since childbirth; suffered from chronic constipation. One of these attacks was accompanied by jaundice for the first time December 14, 1891. At that time she had constant and intense pain for twelve hours, and an aching pain and tenderness in the epigastrium for two months following it. Jaundice cleared in about two months. During the past few months the attacks of stomach trouble would last from twelve to twenty-four hours. In February the present attack began, accompanied by jaundice and severe pruritus, which has been constant from that time up to date. These symptoms increased in severity up to the time she was admitted into the hospital. While in the medical department her jaundice was constant; her mental condition became very much impaired, and her emaciation rapidly increased.

Condition when Admitted to the Surgical Department.—The patient intensely jaundiced; very much emaciated; has a point of tenderness in the right hypochondriac region just below the margin of the rib; no tumor to be felt. The urine contains a large quantity of bile; no albumin. The patient suffers from considerable mental derangement; very slight elevation of temperature.

June 11th.—I decided to perform cholecystenterostomy, by means of anastomosis button, which I had used for the first time on a dog six days previous. An incision three inches long was made, three inches to the right of the median line, extending directly downward. The gall bladder was found distended, non-adherent, and contained a large number of small calculi. Two

[1] Pacific Medical Journal, April, 1893.

calculi were found in ductus choledochus and allowed to remain. Duodenum and gall-bladder were both drawn into the wound; an incision was made in the duodenum and half of the button inserted. A running thread was put in the gall bladder, an incision made, and the other half of the button inserted. The gall-stones were not removed. There was considerable escape of bile, as the gall bladder was not aspirated before putting in the button. The button was then pressed together without difficulty, and the mass dropped into the abdominal cavity. Time from the opening of the peritoneum until the closing of same, eleven minutes. After the operation the patient showed no unpleasant symptoms; temperature at no time exceeded 100° F., and in fourteen days from the operation she was allowed to walk about the ward. The jaundice rapidly disappeared, and three weeks after the operation there was no trace of bile in the urine. The patient was of a very hysterical temperament after her mental condition improved; she noticed that she was an object of observation, and became so erratic that we could not control her at the hospital and were compelled to discharge her five weeks after the operation. Up to that time she stated that she had "not passed the button." She was apparently well in every particular. The button used in this case was inferior to the improved one now used.

October 28, 1892.—Patient was examined by Dr. H. R. Wittwer. He found the jaundice had not returned; there was no bile in the urine, and the patient was in excellent health. He could not ascertain whether she had voided the button or not.

August 20, 1893.—This patient began to suffer from pain in the right side and temperature in December, 1892, and continued to January, 1893. She was in one of the hospitals in this city. An exploratory operation was made over the site of the former operation by the attending surgeon, a contracted gall-bladder was found firmly and perfectly united to the duodenum, but no button there. Subsequently the cause of the temperature was found to be an abscess of the lung, not an empyema, which was drained, and the temperature at once disappeared. At no time since the first operation has the patient been jaundiced, nor has there been bile in the urine.

The following case was referred to me by Dr. Hoelscher, who, with Drs. Wiener and Lee, assisted me in the operation.

Case II.—Mrs. B——, aged thirty-eight, widow, has three children. Parents still alive, aged seventy six and seventy-four, respectively. Brothers and sisters well; no history of any hereditary disease.

Dr. Hoelscher saw the patient for the first time October 7, 1892, and found her as follows: "Healthy, well-nourished appearance; pain of sudden onset in the epigastric region, and from this point it gradually extended over the whole abdomen. She had vomited the contents of the stomach and some bile on two occasions after the seizure with pain. Bowels were constipated and had been in this condition two or three days before the seizure. Vesical tenesmus and diminished quantity of urine. Gave no history of any previous pain, gastric disturbance, jaundice or colics." On examination found a tumor in right hypochondriac region, extending downward into the iliac region, and terminating in a rounded smooth end; could be distinctly felt in lumbar region, was movable and tender on pressure; there appeared to be a deep fissure between the tumor and the liver, no fluctuation apparent, bowel or colon not overlying the tumor. The diagnosis could not be determined, but it was presumed to be some lesion of the kidney, so it was decided to make an exploratory laparotomy.

October 19th.—I made an incision three inches long, from the edge of the tenth rib directly downward toward the border of the ilium. The tumor was exposed and found to be a very much enlarged gall-bladder, containing large calculi. The viscus was œdematous, red, and thickened. It was decided to make a cholecystenterostomy with the anastomosis button (No. 2). The gall-bladder was aspirated, and the running thread inserted. The running thread was then inserted into the duodenum and the intestine incised, and the male half of the button placed in position, the female half was then placed in the gall-bladder through a slit made between the running thread, and the button closed. The gall-bladder measured at least one centimetre in thickness and was very œdematous. There was no difficulty in inserting the button. The gall stones were allowed to remain, as I do not consider it necessary to remove them unless they are larger than the button. They will pass out after the button escapes.

October 20th.—Temperature, 101° F.; pulse, 96. Vomited considerably during the night and complained of headache, which seemed to be effects of anæsthetic. There was no pain nor abdominal tenderness.

October 21st.—At 5 P.M. yesterday the vomiting ceased, and the patient is feeling very well this morning.

October 27th.—The patient has had no unpleasant symptoms since October 20th. This morning (eight days after operation) in the stool were found two large gall-stones. The larger one weighed 117 grains (7.8 gm.); its longest diameter one inch, its shortest seven-eighths inch. The second stone, 102 grains (6.8 gm.); its longest diameter seven-eighths of an inch, its shortest three-fourths of an inch. It will be noticed that the shortest diameter of the larger stone measures exactly the same as the diameter of button used. The patient is feeling very well and is sitting up in bed. Complete primary union. Button passed eighteen days after operation.

August 20, 1893.—The patient has excellent health and not the least symptom of her previous trouble.

Case III. *Cholecystenterostomy with Button No. 1.*—This case was referred to me by Dr. J. H. Hoelscher, who gave me the following history: Mrs. Z——, aged thirty-six, married, six children. Enjoyed perfect health until twenty-two years of age; at that time, three months after childbirth, had an attack, of short duration, of severe epigastric pain and vomiting. It was not accompanied or followed by jaundice. Ever since that attack she has had digestive disturbances, as distress following certain kinds of food, eructations of gas, constipation, loss of appetite. Four years ago she had a similar attack of pain in the epigastrium, accompanied by vomiting. From that time on the pain returned every five or six weeks, up to five months ago, when she noticed a constant aching pain and tenderness in the right hypochondriac region, that persisted until the present time. The pain and soreness were very much increased after working in a stooping posture. She has suffered much from general debility, and complains of slight and frequent chills. Throughout the entire progress of her disease jaundice was never present. The urine was tested several times with negative results. She does not give a distinct history of having had hepatic colic.

About three months ago she found small particles, the size of mustard seeds, in the fæces, which someone told her were gall stones. There is no positive evidence that she ever passed a gall stone. Physical examination revealed heart and lungs normal; liver not increased in size. Manipulation reveals a pear-shaped, hard tumor in the region of the gall bladder, measuring about three inches in length and two in width. It moves synchronously with the diaphragm in respiration. On pressure considerable pain is produced and a slight creaking sensation is felt by the fingers. It can be separated from the kidney and can be moved considerably from side to side.

The diagnosis of gall-stone was made by Dr. Hoelscher, and the case was referred to me for operation.

Operation, November 23, 1892, assisted by Drs. Hoelscher and Lee, in the presence of Dr. Nicholas Senn, Dr. Dunne, of Minneapolis, and Dr. Mayo, of Rochester, Minn. The incision was made the same as in Case II.; contracted gall-bladder packed full of gall stones slipped into the wound. A little difficulty was experienced in drawing the duodenum forward, as some old adhesions existed. The running threads were inserted in gall bladder and

duodenum; male half of button placed in duodenum and held by an assistant. An incision was made in the gall-bladder, which was found so full of gall-stones that half of the button could not be inserted without removing some of them. A dozen were quickly picked out with the dissecting-forceps. About twice as many were allowed to remain. The female half of the button was inserted in the gall-bladder and the running thread tied. Button pressed together. Toilet of field of operation was made with dry sponges and the viscera dropped back into the abdomen. Deep and superficial row of sutures in abdominal wall. Time for entire operation, twenty-one minutes. The time for inserting the button was not taken. Patient rallied rapidly from the anæsthetic. Pulse after operation, 70; temperature, normal. Neither nausea nor vomiting.

November 25th.—Pulse, 78; temperature, 100.5° F. Patient complains of slight pain at seat of operation. No tympanites nor abdominal tenderness.

November 28th.—Patient expresses herself as feeling very well. At no time since the operation has patient's temperature exceeded 100.5° F. She is allowed to take a quantity of liquid nourishment, but not sufficient to satisfy the appetite. I consider her now out of danger. The ease and rapidity with which this operation was performed satisfied those who witnessed it, as well as myself, that the operation of cholecystenterostomy by this means is relieved of many of its dangers and all of its difficulties. Dr. Hoelscher is to be congratulated on his diagnosis in this case, in the absence of so many important symptoms.

August 20, 1893.—Dr. Hoelscher reports to me that this patient has enjoyed better health since the operation than she had for years previous. Not one of the symptoms returned.

Case IV.—Mrs. F——, referred to me by Dr. Hoelscher, who furnished the following history: Patient aged fifty six, married, has several children. For the last four years has suffered from attacks of difficult breathing and palpitation. These attacks were usually accompanied by pain and tenderness in the right hypochondriac region. On three or four occasions in the past year she has had colic, and most of that time was unable to work and confined to her room. These attacks were never followed by jaundice, and no vomiting. Never passed gall-stones.

December 11, 1892.—Patient had a severe attack of pain, with vomiting and great tenderness on pressure in the right hypochondriac region. This continued up to the time of the operation, but no jaundice was present and no bile in the urine. Dr. Hoelscher requested the operation of cholecystenterostomy.

December 18th.—Dr. Murphy, assisted by Drs. Hoelscher and Lee, performed cholecystenterostomy by means of the button. A number of gall-stones were removed. The button was easily inserted. The abdominal wound dressed. The patient was removed from the table in excellent condition. Her convalescence was uneventful.

August 20, 1893.—Patient called at office and reported that she has enjoyed better health since the operation than for years. Has not had a recurrence of the dyspnœa or palpitation. Has gained very much in weight and strength. No recurrence of pain.

Case V.—History and particulars furnished by Dr. E. W. Lee, in whose practice this case occurred. Mrs. L——, aged forty-eight, married. At intervals in the last three years patient has suffered from severe attacks of colic, accompanied by nausea and often vomiting. The pain was always located in the right hypochondriac region, and often in the "pit of the stomach." These attacks would last for several hours, and then would suddenly disappear, leaving a soreness at the seat of pain. They were never accompanied by jaundice until the present attack, which began February 14, 1893, six days before operation. This attack was more severe and prolonged than any of the previous ones. The vomiting was very severe. The tenderness over the gall-bladder was extreme. Operation, February 20, 1893. Dr. E. W. Lee, assisted by Drs. Murphy, Hartmann, and Wittwer, performed cholecystenterostomy by means of the button. The gall bladder was very much contracted, and there were many adhesions. The adhesions were separated, and a medium-sized button inserted, producing a perfect approximation. Several small stones were removed at the time of the operation. The recovery was uneventful. Patient passed the button March 6th, fourteen days after the operation. A number of small stones were passed subsequent to the operation.

August 26th.—Patient has been able to work more since the operation than for three years previous. Has had no colic or digestive disturbances.

Case VI.—Mich. D——, Alexian Brothers' Hospital. Transferred to my service by Dr. Hoelscher. Aged forty-two, male, single. Several weeks ago he began to have pain and a sense of pressure under the border of the right ribs. This was sometimes accompanied by severe pain, with nausea and vomiting, but no jaundice. One week ago the pain became very much more severe, and was soon followed by jaundice. Shortly after the jaundice appeared the pain ceased, but the tenderness remained over the region of the gall bladder.

Status præsens.—Icterus very marked, large quantities of bile in the urine, fæces acholic. Tongue dry and brown; temperature, 100.4° F.; pulse, 86, full and regular. The patient very tender over the lower margin of the right costal arch. An induration could be felt, but the gall-bladder could not be outlined.

Diagnosis.—Cholelithiasis with occlusion of choledochus. Operation, May 6th. The patient acted very badly under chloroform, so it took ten minutes to open the peritoneal cavity. The gall-bladder was aspirated and joined to the duodenum with the button in ten minutes, and ten minutes was consumed in making the toilet and suturing the wound, making thirty minutes in all. A small stone was removed from the gall bladder, but the obstruction in the common duct was not disturbed. The patient made an uneventful and rapid recovery. The jaundice rapidly disappeared after the operation. The patient was up and about the ward on the fifteenth day. Voided the button May 22d, sixteen days after the operation. The urine showed a negative reaction for bile, May 14th.

August 15, 1893.—The patient reported at the hospital. Has gained very much in weight and is enjoying excellent health. No return of his symptoms.

Case VII.—Mrs. D——. Called to see patient by Dr. T. J. Conley, who furnished me the following history: Patient, widow, aged fifty-four. Has had several attacks of pain in the right hypochondriac region for the past two years. Two weeks before the present attack suffered from a severe purulent bronchitis, and was much emaciated by it. Shortly after the bronchitis subsided she had an attack of pain and pressure in the right hypochondriac region. She never had an attack of jaundice. On examination, January 29, 1893, patient emaciated, suffering from bronchitis; pain and tenderness in the right hypochondriac region; a small tumor can be felt in the same region. It is movable and can be separated from the kidney.

On January 31st, Dr. Murphy, assisted by Drs. Conley, Lee, Hartmann, and Wittwer, performed cholecystenterostomy. There was no difficulty in inserting the button. Time, nineteen minutes. The patient suffered very much from vomiting for five days following the operation. Button passed on the twenty-eighth day after the operation; two stones were also passed. Highest temperature after operation, 100.5° F. This was attributed to the bronchitis.

Dr. Conley, under date of May 8, 1893, wrote me the following: "Mrs. D——, on whom you performed cholecystenterostomy, is strong and enjoying very good health. Several times within the last two weeks she has walked two miles without fatigue. There is no tenderness or pain at the seat of the operation."

Case VIII.—Mrs. B——, Rock Island, Ill., admitted to St. Joseph's Hospital May 13, 1893. Patient was very much emaciated from an illness extending over a period of six weeks. In the last two years suffered from frequent attacks of pain in the right hypochondriac region, accompanied by vomiting. These attacks were not followed by jaundice, except the last one, which began six weeks ago. This attack continued with severe pain, vomiting, great tenderness over the region of the gall-bladder. The temperature was of an intermittent character, fluctuating on every other day from 99° to 103° F. On the intervening day no temperature. The elevation of temperature was frequently, but not always, preceded by a chill.

Status Præsens.—Patient slightly icteric, very much emaciated. Pulse 120, feeble but regular. Urine contains a considerable quantity of bile; patient is nauseated when she sits upright. The attacks of pain come on every few hours and are of a distinct colicky character. There is present a tumor extending three inches below the margin of the ribs in the right hypochondriac region, and about three inches in diameter; it moves synchronously with the diaphragm in the respiratory act, and is very sensitive on pressure. It can be separated from the kidney, which is situated below and behind, and is less movable in respiration.

Diagnosis.—Cholecystitis—impaction in the ductus choledochus.

Operation by Dr. J. B. Murphy, May 22, 1893, assisted by Drs. Lee, Hartmann, and Wittwer. Cholecystenterostomy by means of Murphy anastomosis button. The operation was performed without difficulty; time, thirteen minutes. A few calculi were removed at the time of the operation.

Subsequent History.—There were no unpleasant symptoms in the subsequent course of the case; patient was discharged from the hospital on the fourteenth day after the operation. Button passed eighteen days after operation.

August 27, 1893.—Patient has increased very much in weight, is enjoying excellent health, attending to all her household duties, and has had no return of the symptoms.

Case IX.—Mary Mc——, aged sixty, widow, multipara, Philadelphia. About eight years ago she had a severe attack of colicky pain in left hepatic region; pain was intense and lasted about three days. Patient was jaundiced during this attack; she does not remember any other symptoms.

In March, 1893, she had a second attack, colicky pains in hepatic region and epigastrium, vomiting, chills, fever, jaundice; sick about one week. Patient came to Chicago on a visit last April; since her arrival she has had nearly a dozen attacks; the attacks of pain would last from six to twelve hours, and have always been followed by great prostration. The last attack began at 1 A.M., July 13, 1893. Colicky pains, great tenderness over upper half of abdomen, more marked in region of gall-bladder; jaundice, persistent vomiting. Temperature, 100–101° F., bile in urine, clay-colored passages.

July 18, 1893.—Operation, cholecystenterostomy by Murphy button, performed by Dr. F. S. Hartmann, assisted by Drs. Lee, Wittwer, and Murphy; time, seventeen minutes. After operation patient's condition was excellent, and her recovery was uninterrupted. Pulse always below 100, and good; temperature never ran above 99.8° F. Attacks of colicky pain ceased. Vomited once or twice daily for three days; vomited matter containing bile. Forty-eight hours after operation gauze drain was removed from peritoneal cavity. Bile gradually disappeared from urine, and fæces regained their color. At no time was there any great tenderness in region of operation. Button and fourteen calculi were passed at one time on the fourteenth day after operation. Circumference of largest calculus, $2\frac{5}{16}$ inches. Circumference of button, $2\frac{2}{16}$ inches. Smallest circumference of largest calculus, $2\frac{0}{16}$ inches. Patient sat up on the nineteenth day after operation. Perfect health since the operation.

August 29, 1893.—Patient enjoying excellent health, better than at any time since her second attack of colic.

Case X.—Dr. William J. Mayo, Rochester, Minn., in a personal letter furnished me the following history: "W. H——, Racine, Minn., American, male, aged seventy-one. Patient gave a history of colics for two years, jaundice for two months; great debility, cholæmia, white stools, etc.

"Operation, April 6, 1893, by Dr. W. J. Mayo, assisted by Drs. C. H. Mayo and S. Plummer. Usual incision for operation on gall-bladder. No stone found in gall-bladder; obstruction in common duct. Cholecystenterostomy by Murphy button. Bladder could not be brought to surface, obstruction could not be removed; the button was readily placed in position; no unpleasant symptoms since the operation."

This is a remarkable case on account of the age of the patient, and the doctor deserves great credit for operating on a patient so debilitated as he was at the time of the operation.

Case XI.—Dr. A. H. Fabrique, of Wichita, Kan., in a personal letter, under date of July 20, 1893, writes the following: "Enclosed please find report of patient on whom I performed cholecystenterostomy by means of your button.

"Mr. R——, aged thirty-eight, farmer, weight one hundred and eighty pounds. Had been subject to attacks of hepatic colic. Came under my observation about the middle of May, 1893. Had been suffering for two weeks previous to that time with severe pain in the region of the liver, for which he was taking one-third of a grain of morphine, three to six times a day. Jaundice all over the body for a whole week prior to the time he consulted me. I operated June 1st, found the wall of the gall-bladder so thickened that it was difficult to fasten the button into the bladder. I used the smallest button; duration of operation, thirty-five minutes. Closed the opening with silk sutures through the entire abdominal wall. Temperature did not rise any time above 99.5° F. Union per primam. There was marked improvement on the third day; skin commenced to clear up; no hepatic pain after the operation. Stools changed from white to a natural color; button passed on the twenty-first day. At the present time the man is perfectly well, pursuing his usual avocation."

Case XII.—Under date of July 20th, Dr. W. B. Rogers, of Memphis, Tenn., states that immediately after his return from the National Association of Railway Surgeons at Omaha, he had an opportunity to use the button in the operation of cholecystenterostomy, and it "worked like a charm."

The following is a synopsis of the case as furnished me by Dr. Rogers: W. A. E——, male, fifty-eight years of age. Presented in April, 1893, with all the physical signs of an enlarged liver; area of dulness occupying the epigastrium. Right hypochondriac and right lumbar regions encroaching markedly on the umbilical region. No bile in the stools. Icterus marked; emaciation very pronounced; temperature, 98° F.; pulse, 68.

Diagnosis.—"Cancer of the liver" had been repeated by several physicians and case pronounced hopeless. The enlargement of the liver was of only a few months' duration. The extreme rapidity of growth aroused suspicion of non-malignancy. Exploratory incision revealed distended gall-bladder. Eighteen ounces of muco-purulent bile, occlusion common duct, with consequent retention and congestion of liver. No evidence of malignant disease could be detected; nor could a calculus be detected in common duct. Cause of obstruction not discerned. Patient's condition urged a rapid completion of all operative procedures, hence fistula was established. Patient recovered from operation. Fistula discharged at least two pints of bile per day; icterus disappeared. General condition continued bad. Absence of bile in bowel kept nutrition below par. "After seven weeks I reopened abdomen and united small intestine to gall-bladder by means of Murphy's button; did

not attempt to close the fistula, tied thread to the button, and on the tenth day removed the button through the fistula. No reactionary fever, nor bad symptoms other than that of depression due to shock. Patient gradually improved, and at the end of eight weeks was able to be up and about the house, gradually gaining strength. Fistula has contracted, so that dressings only need changing every third day. Stool contains bile; appetite and digestion steadily growing better, and evident gain of flesh. I found the application of the button quite readily accomplished, the coaptation of parts perfect, and the results are as stated."

Case XIII.—In a personal letter to me, Dr. Alex. Hugh Ferguson, of Winnipeg, Manitoba, under date of August 14th, writes the following: "On August 3d I used your button in uniting the gall-bladder with the duodenum—cholecysto-duodenostomy. Patient passed the button on the eleventh day, and her condition is excellent. The case was difficult to manipulate owing to the short build and the large amount of fat (fully three inches) in the abdominal wall. It was a case of dropsy of the gall-bladder. One stone was removed from it, another was felt to occlude the duct."

August 28, 1893.—I received a report of this case through Dr. McArthur, of Winnipeg, who had assisted Dr. Ferguson at the operation, who states that the patient is in excellent health, and that Dr. Ferguson expressed himself concerning the button in the following words: "It is the greatest innovation in abdominal surgery since that of antisepsis."

Case XIV.—Report of operation given by Dr. J. Frank, in whose service at St. Elizabeth's Hospital it occurred. Patient admitted to hospital as a "perityphlitic abscess." Careful examination showed that it was a very much distended gall-bladder. An incision was made directly over the tumor. The gall-bladder was found adherent and was immediately incised; one hundred and forty-three stones were extracted, and the opening allowed to remain. Patient was discharged with a fistula.

Returned several months after with a large quantity of bile discharging from fistula, probed, and found stone, removed. The canal leading to bowel could not be entered. The discharge continued in large quantity and the patient was losing strength. It was decided to perform a cholecystenterostomy to allow the secretion to enter the bowel. Operation was made by Dr. M. H. Luken. An incision was made at the side of the fistula. The gall-bladder, which at the time of the first operation was a large distended sac, had now, four months later, contracted to a tube not much larger than the finger, and was adherent to the surrounding tissues. It was difficult to expose a sufficient surface of the gall-bladder to insert a button. The button was finally placed in position and the duodenum united to the gall-bladder. The button passed on the thirteenth day without pain. An operation has not yet been performed to close the external fistula. A patulous opening now exists between the gall-tracts and duodenum. The difficulty of performing the operation of cholecystenterostomy under these conditions was extremely great, and, as Dr. Frank expresses it, "I do not think that the operation could have been performed by any other means than the button."

Case XV.—Dr. F. S. Hartmann furnished me with the following history of a case that occurred in his practice:

Patient states that about five years ago he had an attack of painful stomach trouble, took sick gradually, complained of pain and soreness in all his bones, thinks he had fever with this attack, no nausea or vomiting, suffered from constipation. The illness lasted about one week; the patient is unable to give any other facts in connection with this attack. On August 23, 1893, patient experienced a dull aching pain in pit of stomach which lasted two days, and then suddenly became much worse and of a colicky nature; was accompanied by persistent vomiting of bile and mucus. The colicky pain lasted two days and was very intense. Patient has had eight similar attacks since the attack of August 23d.

A characteristic feature of all his attacks has been the peculiar manner in which three symptoms followed each other. 1, Acute colicky pain; 2, a burning sensation in chest and throat; 3, persistent vomiting. He suffered from digestive disturbances for fifteen years. During an attack occurring September 29, 1893, a trace of bile was found in the urine; patient was never jaundiced; no calculi were ever found after an attack.

Diagnosis.—Cholelithiasis. Obstruction of cysticus. Operation by Dr. F. S. Hartmann, assisted by Drs. Murphy, Wittwer, and Lee, October 26, 1893. Cholecystenterostomy by means of Murphy anastomosis button. Time for insertion of button, seven and one half minutes; time for entire operation, twenty six minutes. Convalescence uneventful. Button passed on the ninth day.

Case XVI.—W. B——, aged forty years; cigar maker. Three years ago had first typical attack of gall-stone obstruction, accompanied by jaundice. Since that time had had five similar attacks: last one began about two weeks ago; was less severe than previous attacks. Operation by Dr. Murphy, November 7, 1893. Cholecystenterostomy by means of Murphy button (smallest size). Gall-bladder was found distended; gall-stones not removed. Time from beginning of operation to completion of anastomosis, eleven minutes. Patient acted very badly under anæsthetic (ether). Had some bronchitis following operation; aside from this his convalescence was uneventful. Was about the ward in three weeks. Jaundice had completely disappeared.

Case XVII.—Reported to me by Dr. D. T. Laine, of Media, Pa. Mrs. L——, aged forty-five, married, one child; October, 1892, was attacked with intense abdominal pain, paroxysmal in character, vomiting, and constipation. Jaundice appeared on second day, stools clay-colored. Severe chill on sixth day with temperature of 104° F. The jaundice was of the most marked type, and the chill and fever persisted for several days. Patient was sent to Jefferson Hospital. Diagnosis of obstructive jaundice. She remained in the hospital for nineteen weeks, chills and jaundice persisting, with rapid emaciation. Professor I. C. Wilson had Drs. Keen and Brinton in consultation. They decided that, on account of the woman's weak condition and the possibility of the malignant character of the trouble, an operation was not advisable. Jaundice and fever disappeared. She was discharged February 1, 1893, and remained well until July 15th, when the vomiting, chills, and fever returned.

Dr. Laine at that time performed a cholecystostomy in two sittings. Removed one large calculus marked with many facets. Explored common duct through foramen of Winslow. Found no stone. Temperature dropped immediately, and in a month she was about, tending to her usual occupation. The stools remained clay-colored and she suffered much from gaseous distention of the bowels, also the enormous discharge of bile externally.

On September 20th, Dr. Laine determined to close the fistula, at the same time performing cholecystenterostomy, which he did with Murphy button (smaller size). Fistulous tract was curetted and closed with a circular stitch. The abdominal wound was closed without drainage. The temperature remained between 99.5° and 100° F. for several days; she made an uneventful recovery. Since then she has been in very good health, able to attend to all her duties. Gained about twelve pounds. Button found in stool on the twelfth day.

Literature.

M. A. Le Dentu: Deux Cas de Cholécystectomie pour Lithiase, un cas d'Ictère chronique causé par un cancer primitif du Pancreas, non opéré. Bull. de l'Acad. de Méd., December 30, 1890, p. 863.

Rafin: Phlegmon de la Vesicule biliaire; Incision; Extraction de Calculs; Guérison. Lyon Medical, No. 18, 3 Mai, 1891.

M. F. Terrier: Cholecystectomie. Bull. de l'Acad. de Méd., 10 Mars, 1891.

Thomas G. Mays: Sweet on the Treatment of Gall-stones. Buffalo Medical Journal, November 1891, p. 297.

James Bell: On a Fatal Case of Acute Peritonitis. Montreal Medical Journal, vol. xxi., No. 2.
John Thomson: On Congenital Obliteration of Bile-ducts. Read before Edinburgh Obstet. Society, 1891.
D. N. Morrison: Biliary Calculi. Maritime Medical News, September, 1892, p. 164.
S. R. Morrow: Discussion on Treatment of Gall-stones. Albany Medical Annals, vol. xiii., No. 9.
T. A. Pope: Black Jaundice. Courier-Record of Medicine, Texas, April, 1892
I. Eastman: Clinical Contribution to the Surgery of the Gall-bladder. Cincinnati, December, 1891.
S. M. Ward: Acute Infectious Jaundice. Communications of Medical and Surgical Reporter, vol. xv., p. 490.
H. F. Main: A Case of Cholelithiasis. Australian Medical Journal, vol. xii., No. 11.
M. Terrier: Ponction et Résection de la Vésicule biliaire. Bull. de l'Acad. de Méd., December 23, 1890, p. 831.
E. Willemin (Méd. à Vichy): Traitement de Coliques hépatiques par l'Huile d'Olive.
Girode: Quelques Faits d'Ictère infectieux. Arch. Gén. de Méd., February, 1891.
Terrier: Archives Gén. de Med., February, 1891.
Terrier: Observations de Cholécystotomie et de Cholécystectomie. Bull. de l'Acad. de Méd., June 16, 1891.
Seymour: Case of Cholecystotomy. American Medical Journal, 1892; January 23, p. 95.
Stein: Cholecystotomy. Cincinnati Lancet Clinic, August 15, 1891, p. 201.
Robson Mayo: Cholecystotomy for Gall-stones. The Lancet, January 10, 1891, p. 79.
Reeve: Some Surgery of Liver and Gall-bladder. The New York Medical Journal, May 28, 1892
Lange: Extirpation of Gall-bladder. New York Medical Journal, January 17, 1891
Dawson: Successful Cholecystectomy. Medical News, December 6, 1890, p. 597.
Hamaker: A Case of Cholecystotomy. The International Journal of Surgery, May, 1891.
W. J. Mayo: Report of two Operations for Gall-stones. Northwestern Lancet, April, 1892.
Walker: Removal of Gall stones by Ether Solution. Lancet, April, 1891.
Murphy: Cholecystotomy. British Medical Journal, January 24, 1891.
Easterly Ashton: A Case of Cholecystotomy for Removal of Gall-stones. Therap. Gazette, May, 1892.
Morse: Cholecystotomy. Occidental Med. Times, vol. v., No. 6.
Perkins: Case of Impacted Gall-stones with Abscess Formation. Kansas City Med. Index, vol. xii., No. 138.
Seymour: Personal Experience with Gall-stones and Operation for their Relief. MEDICAL RECORD, December 6, 1890.
Galatz: Lithisia Biliara Clinica, November 15, 1891.
Grundzach: Über Gallensteine im Magen. Wiener Med. Presse, 1891, No. 28.
Kahler: Über Cholelithiasis. Internationale klinische Rumschau, November 16, 1890.
Pfuhl: Zur Geschichte der "Weil'schen Krankheit." Berliner Med. Wochenschrift 1891, No. 50, p. ii., 78.
Rosenberg: Über die Methodik der Untersuchung auf cholagoge Substanzen und über deren Wirkung bei katarrhalischem Icterus und der Gallensteinkrankheit. Berliner klinische Wochenschrift, 1891, No. 34, p. 842.
Schmitz: Intermittienende Fieber bei Gallensteinen. Berliner klinische Wochenschrift, September, 1891.
Rheinstein: Die Palpation der Gallenblase. Berliner klinische Wochenschrift, December, 1891, p. 1211.
Sacharyin: Anwendung des Calomel bei Erkrankungen der Gallenwege. Berliner klinische Wochenschrift, June 22, 1891
Abbé: A Large Gall-stone Producing Complete Intestinal Obstruction. New York Medical Journal, May 2, 1891.
Syers: Jaundice in Children. The Lancet, September 12, 1891.
Sydney Jones: Perforation of Gall-bladder. British Medical Journal, April 15, 1891.
Seymour: Treatment of Gall-stones. Journal American Medical Association, April 25, 1891.
Goodhard: Remarks on Gall-stones. British Medical Journal, January 30, 1892.
Arbuthnot Lane: Rupture of Gall-bladder. The Lancet, May, 1891.
Wagoner: Gall-bladder Containing Forty Stones. New York Medical Journal, August, 1891.
Richardson: Removal of Gall-stones. Boston Medical and Surgical Journal, January, 1892. Ditto, April 28, 1892.
Morton: Obstruction and Inflammation of Gall-bladder. American Practitioner and News, vol x., No. 12.
Meachem: Gall-stones Discharged through an Abscess. The Med. Standard, August, 1891.
McCasey: Cyst of Peritoneum, Resulting from Impacted Gall-stones. Kansas Med. Journal, January, 1892.
Martin: Cholecystotomy. The British Medical Journal, January, 1892.
Veer: Two Cases of Cholecystotomy. MEDICAL RECORD, vol. xl., No. 22.
Adams: A Case of Biliary Calculus. Boston Medical and Surgical Journal, vol. cxxvi., No. 3.
Macdonald: A Case of Cholecystotomy. Northwestern Lancet, July 15, 1891.
Abbé: Cases of Gall-bladder Surgery. New York Medical Journal, January, 1892.
Marcy: Surgical Relief of Biliary Obstruction. The American Medical Association, December, 1890
Richardson, Maurice: Gall-bladder Surgery. Boston Medical and Surgical Journal, vol. cxxvi., No. 17.
Cabot: Two Cases of Cholecystotomy. Boston Medical and Surgical Journal, vol. cxxvi., No. 17.
Mixter: Retention Cyst of Gall-bladder. Boston Medical and Surgical Journal, vol. cxxvi., No 17.
Gay: Cases of Cholecystotomy. Boston Medical and Surgical Journal, vol. cxxvi., No. 17.
Courvoisier, L. G.: Pathologie und Chirurgie der Gallenwege, Leipzig, 1890.
V. Winiwarter: Präger med. Wochenschrift, 1882, Nos. 21, 22.
Kappeler: Corrbl. für Schweizer Aerzte, 1887, No. 17, and 1889, No. 4.
Dastre: Corrbl. f. Schweizer Aerzte, 1889, No. 20
Monastyrski: Chirurg. Westnick, 1888, May and June refer. Ctrbl. für Chir., 1888.
Socin, J.: Ber. d. Chir. Abthlg. d. Basler Spitals, 1887, pp. 60, 61.
Fritsche with Blattmann: Corrbl. f. Schweizer Aerzte, No. 6, 1890.
Robson Mayo: British Medical Journal, November, 1889.
Terrier: Revue de Chirurgie, 1889, No. 12.
Bardenheuer: Tagebl. d. 61 Vsmmlg. Dtscher Naturforscher in Aerzte in Köln. Berliner klin. Ws., 1888, October, 22, und Centralbl. für Chir., 1889. No. 12.
Czerny: Deutsche med. Wochenschrift, 1892, No. 23, p. 516.
Lambotte: La Presse Médicale Belge. Bruxelles, July 3, 1892.
Connell: New York MEDICAL RECORD, September, 1892.
Herbert Page: Proceedings of the Royal Medical and Chirurgical Society of London. British Medical Journal, May 18, 1889, and Von Hacker Jahrbüch der K. K. Gesellschaft der Aerzte in Wien, 1890.
Roman von Baraez: Archiv für klinische Chirurgie. Langenbeck, 1892, Heft iii.
Landois and Sterling: Physiology, 1890.
Mayo, W. J.: Surgery of the Gall-bladder, with Report of Seven Cases Operated upon. Journal of American Medical Association, August, 1893.

INFLUENZA—CAUSES, COMPLICATIONS, AND TREATMENT.[1]

By RAMON GUITERAS, M.D.,

NEW YORK.

History.—Influenza, or la grippe, is probably richer in names and symptoms than any other known disease. I will mention a few of the former by the way of illustration. They are: Epidemic catarrhal fever, rheuma epidemicum, cephalalgia contagiosa, Ziep Schaf husten, Hühnerweh, Blitz catarrh, Russian disease, Italian fever, Spanish catarrh, etc., depending mainly on the variety of symptoms and the locality from which it comes.

We often have the question asked us "What is Influenza?" I think that a safe answer to this would be, It is an epidemic cold depending upon some as yet unknown cause.

Colds have a tendency to settle in certain parts, generally the weaker ones, and influenza does likewise. The systemic symptoms occur in varying severity in all its varieties, while the catarrhal symptoms cluster about certain organs where the power of resistance seems to be naturally least. These epidemics date before the Christian era, an attack having occurred in the Athenian army in Sicily 415 B.C. After this they began to appear at irregular intervals, spreading over Europe generally in the direction of from east to west, of which no exact or complete records have been kept up to the year 1510, when it prevailed in the British isles to an alarming extent and quite an accurate account of the epidemic was written. Various well-recorded outbreaks followed in the years 1557 to 1879, about twenty in all, besides others of minor importance. These varied in severity, symptoms, number, and suddenness of the attacks.

Etiology.—Predisposing influences, none. People are attacked without distinction of age, sex, occupation, or social standing. Previous or present illness affords no protection. One attack renders no immunity from another. Overcrowded, unhealthy, badly ventilated, and damp dwellings render attacks more severe, although the dwellers are no more prone to it. Influenza may occur in any season. It occurs usually in the autumn, often in the spring, and sometimes in the summer and winter. Latitude has no effect, as in the epidemic of 1837 it appeared at the same time in England and Cape Colony, that is, in directly opposite zones and seasons. Climate has no influence, as it occurs equally in the dampest and driest regions. Certain meteorological signs and coincident phenomena have been remarked as preceding many of the previous epidemics, such as foul fogs, volcanic eruptions, earthquakes, etc.

The rapidity with which it spreads and the great numbers who suffer from it at the same time and in the same

[1] From observations made while investigating this disease for the Health Department of the City of New York.

way certainly point to some specific poison which is carried by the air as a disseminating medium and excites the disease. This poison was supposed by many for a long time to be the sulphur and other matter thrown from the volcanoes, which was carried about in dust-fog currents, a foul fog having been generally noticed before an epidemic, or accompanying it. In this enlightened age, however, I think we are justified in believing that the exciting cause is a micro organism.

The investigations of the bacteriologists in searching for micro organisms have resulted as follows:

For several years the diplococcus pneumoniæ of Fraenkel and Weichselbaum, the streptococcus pyogenes, the staphylococcus pyogenes aureus, and several scattering forms were the only ones found, until Dr. Pfeiffer, of Berlin, in 1892, discovered a bacillus in the secretions of patients suffering from influenza, which was declared by Koch, Kitasato, and others to be the true germ of this disease. This bacillus was about the thickness of bacillus mouse septicæmia, but only half the length. As only the two ends stain, it is very hard to distinguish it from the diplococcus and streptococcus. Former observers seeing these mistook them for the latter. They were cultivated by Kitasato and others.

About the same time Bruschettini[1] found the same germ in the blood of those suffering from the disease.

The question why an epidemic may break out at one time and then for years remain dormant is not an easy one to answer. It is probable that there are cycles in which peculiar seasons recur, and that such cycles are associated with the reproduction of similar disordered conditions in the health of man.

Symptoms.—There is no disease in which the characteristic symptoms vary as much in the various epidemics as they do in influenza, and there is also no other in which the symptoms vary so much in point of predilection and severity. The predilection depends upon individual weakness and the susceptibility of certain systems, as the nervous, respiratory, alimentary, genito-urinary, etc., to disease. The severity depends in a great measure on the condition of the patients, at the time of the attack, as to their resisting powers, the amount of exposure to which they have been subjected, the character of the epidemic, etc. Almost everyone during an epidemic is attacked, although some suffer to such a limited degree, as a slight headache, gastric disturbance, or a feeling of languor, that they think they have escaped. The varieties of the attacks during the different epidemics have given rise to several classifications, depending upon the different seats of the disturbance, *e.g.*, cephalic, thoracic, abdominal, cerebral, guttural or bronchial, intestinal or typhoid. This latter was the classification of Sydenham, and depended upon epidemics extending over a period of three hundred years. The classification preferred at the present date seems to be that of the nervous, catarrhal, and gastric; and this was the classification that I adopted in my last writings. At the present date, however, having watched the epidemics carefully during the last few years, I am inclined to classify the varieties into two chief groups, and to subdivide them accordingly. In doing this I strike out the gastric variety, placing it under the catarrhal. The classification would then consist of but two principal varieties, viz.: 1, Musculo-neuralgic; 2, catarrhal; and these I believe are mixed in about ninety per cent. of the cases. Musculo-neuralgic symptoms almost always complicate the catarrhal form, although catarrhal do not nearly as often complicate the musculo-neuralgic.

These varieties, with but few exceptions, have the same general symptoms and tend to conclude in the same way. They are:

Onset: Feeling of weakness, faintness, dizziness, chilly sensations, constipation, perhaps nausea, vomiting, anorexia, languor, or high fever.

Acute stage—lasting from a few hours to a week, during which we have frontal headache, often pain in orbits and eyeballs, loss of appetite, strength, and spirits, feeling of languor, lassitude, inability to do any mental or physical work; rheumatic pains variously distributed in back of neck, small of back, costal region, or calves of legs; bowels may continue constipated; urine high colored; foul tongue and breath; fever generally continues, of a remittent type, with evening exacerbations.

Stage of prostration—lasting from a few days to a few weeks, marked by nervous prostration, general feeling of languor, poor appetite, and generally a bronchitis of a dry nature. In children and infants the symptoms are not as marked.

In children they are as follows: Vomiting, headache, moderate fever, coated tongue, constipation, followed by a bronchitis lasting about a week. In infants symptoms of gastro-enteritis, vomiting, diarrhœa, moderate fever, rapid pulse, and occasionally convulsive movements.

We will now consider the varieties individually and point out the special features of each.

Musculo-neuralgic variety: This variety is generally associated with the catarrhal as well, but when taken individually is especially marked by severe headache, pain in the eyeballs, rheumatic or neuralgic pains in various localities, restlessness, at times wakefulness, occasionally hyperæsthesia, and following these a stage of great nervous prostration, lassitude, languor, sweating, etc.

The catarrhal variety is characterized by symptoms pointing to a congestion of certain organs or their mucous tracts, and is divided into three principal groups:

1. The respiratory, which is the form that has hitherto been called catarrhal, guttural, bronchial, or thoracic.

2. The alimentary, embracing the varieties spoken of as gastric, intestinal, abdominal, or typhoid.

3. The genito-urinary, which has never before been considered.

A general catarrhal also occasionally occurs, in which form the symptoms included in the first three groups are combined in varying severity in one attack.

These groups are further subdivided according to the locality from which the symptoms arise.

The respiratory-catarrhal form is generally marked by a catarrh beginning in the upper respiratory tract, with pain in the frontal sinuses, eyes painful, congested, and watery, profuse and watery nasal discharge, feeling of stenosis over the bridge of the nose, marked angina, occasionally tonsillitis, tickling in throat, hoarseness, ending in a bronchitis lasting from a few days to several weeks. Epistaxis and hæmoptysis occasionally occur. When, as is rarely the case, it is limited to the upper respiratory tract, we have only the symptoms usually accompanying nasal and pharyngeal inflammations.

The catarrh of the middle respiratory tract is that localized in the pharynx, larynx, and trachea, principally in the latter, the former generally being inflamed sympathetically. This is characterized by a hoarseness and sense of excoriation and tickling in the trachea (tracheitis), a feeling of laryngeal thickening producing a spasmodic cough corresponding to that of croup in children. In other cases it resembles more a bark of the variety known by the Germans as Schathusten. In still others it has a whistling note. In the catarrhal variety of the lower respiratory tract a bronchitis generally follows or is associated with the upper or middle respiratory form. It is a peribronchial congestion, giving rise to a troublesome spasmodic cough. Auscultation shows roughened breathing, fine subcrepitant râles, often sonorous and sibilant over both sides. Pulse, temperature, and respiration slightly elevated, but going down gradually to normal. Fever often remittent. Neuralgic symptoms generally associated with it.

Alimentary.—In the gastric form we have violent and frequent vomiting, nausea, pain, loss of appetite, constipation, often severe headaches, faintness, and dizziness.

The gastro-intestinal form has, in addition to the vomiting and other symptoms of gastric disturbance, a

[1] Ricerche bac. sull. infl. 1ª communicazione preventiva. Riforma Medica, Gennaio, 1892.

diarrhœa of the usual form that accompanies a subacute gastro-enteritis.

The intestinal form is principally a colitis accompanied by marked tenesmus, stools diarrhoeal in character, often mixed with mucus and tinged with blood. Dysenteric symptoms of a very grave nature occasionally set in, causing death in a few hours.

The genito-urinary variety is a rare form, generally of a mild type and frequently not known to the person affected. My attention was first called to it by the great number of applicants for insurance who had to be postponed during the epidemics on account of high specific gravity and albumin. These I found to be suffering from influenza. Their symptoms constitutionally were the same as those suffering from the respiratory or alimentary form. The condition was generally localized in the kidney, and the urine showed the ordinary symptoms of renal hyperæmia, *i.e.*, high colored, high specific gravity, albumin in small quantities, blood-corpuscles, and occasionally hyaline casts. This condition usually lasted but for a few days.

The vesical type was similar to that of cystitis of the vesical neck. It was very rare. Constant desire to pass water, pain over pubes, and a sense of heaviness in the perineum. Urine high colored, high specific gravity, some mucus.

The urethral and vagino-urethral forms were still rarer, and were accompanied by a watery, glairy, mucoid discharge, attended by a congestion of the parts and burning during micturition. These were generally combined with some other forms of the genito-urinary catarrhal variety. They are very rare and ephemeral.

General catarrhal fever, i.e., catarrh of all the mucous membranes, was observed in several cases, characterized by high fever, rapid pulse, vomiting, diarrhœa, painful and frequent urination of a dark-red color, with a high specific gravity and a slight amount of albumin, slight conjunctivitis, coryza, laryngitis, and bronchitis. The attack was generally very acute, though of short duration.

Complications.—By far the greater number of complications and the most serious are those connected with the respiratory form, which I will mention in order, going from above downward.

Conjunctivitis is generally associated as a symptom with the upper respiratory variety.

Epiphora due to stenosis of duct.

Epistaxis occurs in about two per cent. of the cases. Occasionally it is quite severe, and in some cases has continued for twenty-four hours.

Follicular tonsillitis has been observed in several cases.

Quinsy, complicating many previous epidemics, has not been observed in the recent ones.

Eustachian catarrh and otitis media are complications which exist in a great many cases, and are at times only noticed by the specialists, general practitioners frequently attributing the symptoms to the neuralgic pains of the disease, or to a sense of fulness due to quinine, which is being taken by almost all influenza patients; and thus ruptures of the tympanum have occurred in many cases where paracentesis ought to have been performed.

Loss of the senses of smell, taste, and hearing sometimes occur, evidently due to a peripheral paralysis of the nerves of special sense.

Glandular enlargements have not been prevalent during the recent epidemics, probably owing to the mild forms of catarrh in the upper and middle respiratory tracts. There are two varieties of these. Enlarged cervical, such as occurred in former outbreaks, where the catarrhal symptoms of the upper respiratory tract were principally involved, and which were often very malignantly inflamed. Enlarged bronchial and tracheal glands (adénopathies bronchiques). These cause a feeling of thickening and packing about the upper bronchus and trachea, the latter having a board-like feeling. A sense of soreness is also connected with it, both bronchial and peribronchial. These glandular enlargements can be made out by percussing after the method of Gueneau de Mussy.

Hæmoptysis was observed only in a few cases and was very slight.

Capillary bronchitis and bronchitis of the smaller tubes are complications of the ordinary form of bronchitis by direct extension. They generally occur in women and at any age. They are very fatal, the great prostration seeming to affect their power of expectoration so that they "choke up" and die asphyxiated. These are often followed or complicated by a lobular pneumonia.

Lobular pneumonia is very acute, lasting from three to seven days. It generally occurs in the old, the middle-aged, and the sickly, although young adults are frequently affected. It seems to be most common among females. A chill sometimes introduces this complication; in fact, I have noticed a chill in this variety more frequently than in any other. It begins at the bottom of the lung and spreads upward. Death results either from heart-failure or asphyxiation.

Lobar pneumonia generally attacks patients during the stage of prostration, is frequently double, comes on generally without a chill, and is accompanied by a very high fever. It occurs generally in men, eighty per cent. of those observed were between the ages of forty and fifty-five. Death is usually from heart-failure and occurs in from two to five days.

Grippe-pneumonia is a form often spoken of, and is a condition following a pulmonary congestion. It is generally in both sides, comes on insidiously without being accompanied by a chill or the crepitant râle as in ordinary cases. The consolidation usually begins at the base or the middle of the lung.

Pulmonary hyperæmia is a frequent and dangerous complication, and occurs with much greater frequency than it is supposed. This should be treated at once with the greatest care, and every precaution taken lest it develop into a grippe-pneumonia. It is very similar to lobar pneumonia in its early stage, excepting that it is less severe and covers a greater area. It is due to a recession of blood from the surface, or from some other adjoining organ, to the lungs by reflex action through the vaso-motor system. The lungs seem to be most favorably adapted for such a congestion on account of their great vascularity and the lack of resistance to the dilatation of the capillaries in comparison with that found in other organs. Just why this particular disease, influenza, happens to produce such a congestion is difficult to explain. It is obvious, however, that it holds the respiratory tract as a seat of predilection, as almost all its forms are accompanied sooner or later by a congestion either of the upper air-passages or a peribronchial one of the lower, although an active hyperæmia of the parenchyma itself is comparatively rare. Diarrhœa occurs in many cases, but is simply the intestinal form of the alimentary variety.

Dysentery is a dangerous form of the colitis occurring in this same variety. In the two cases which came under my observation death resulted in two days. In both cases the first day's discharges were simply diarrhœal.

Cholera, a sequela which is so much feared, especially in Europe, will probably never make much headway here. It does follow influenza, and has during the last two years. It can be more easily guarded against, however, than influenza, as it is more distinctly contagious. It is more liable to attack those who have suffered from the gastro-intestinal form of the disease, which often occurs and leaves the mucous membrane in a somewhat denuded condition.

Typhoid fever as a sequela has not been observed in any fatal cases in New York during the late epidemics, but the typhoid condition has been noticed frequently, and has been observed especially in some cases of dysentery, bronchitis, and broncho-pneumonia.

Meningitis has occurred in a number of cases, death resulting in about two days.

Nervous prostration, which is such a pronounced symptom in the various stages of influenza, has proven a

most obstinate sequela. Acute hyperæmia of the tongue has also been observed. The tongue was enlarged, reddened, hard, and tender to such a degree that the pressure of the teeth against it was quite painful. The tongue felt too large for the mouth and protruded, resting on the lower teeth. The papillæ on either side were enlarged and sensitive.

The Various Dermatosis of Influenza.—The principal one of these is the erythema (influenza erythematosa). This generally occurs with influenza of the gastric type, during its acute stage, and closely resembles scarlet fever. It comes on as a pinkish blush over the face, chest, and arms, and is not punctate. The tongue has a thick, white coating, with enlarged papillæ on the sides near the tip. The skin is moist. Miliaria occasionally occurs. Erythema multiforme is also seen in this connection. Alopecia areata has been reported as a complication. Herpes zoster was observed by me in two cases during the last epidemic.

Diagnosis.—The only diseases with which influenza is liable to be confounded are coryza, bronchitis, tonsillitis, dengue, scarlatina, and rheumatism.

Acute coryza and bronchitis would be excluded by the absence of severe headache, muscular pains, great prostration, and anorexia, although doubtless if these occurred during an epidemic they would be more or less due to it, and most probably mild in form. Follicular tonsillitis has many symptoms in common with influenza, but would be excluded through the absence of severe frontal headache, rheumatic pains, etc.; although I have every reason to believe that follicular tonsillitis has occurred in several cases of influenza as a complication.

Dengue resembles in a great measure the muscular neuralgic form of the disease. It would be excluded, however, on account of the different character of its onset—it generally taking from two to three days for the temperature to reach its height—the character of relapse, the eruption, the pain, swelling in joints, the enlarged glands, etc.

The rapidity with which the influenza has travelled and the territory which it has covered differ also from dengue, which occurs generally in circumscribed areas in the south of the United States, Spain, India, or Africa.

Scarlatina.—This disease, with which the late epidemics have been most confused, is excluded on account of lack of punctate character to the eruption, strawberry tongue, and angina; also on account of speedy disappearance of the eruption, which lasts about twelve hours. The eruption, however, is quite similar in its general erythematous blush, and when it is associated with some angina and high fever the resemblance is quite strong, especially as the tongue shows some enlarged and reddened papillæ on its sides near the tip, which stand out prominently in contrast with the white coating covering it.

Prognosis.—Good in most of the cases. The disease is self limited, and if the patient is careful there is no question of speedy recovery. The only danger is when it occurs in the old and the infirm, or those suffering from chronic troubles. One thing noticeable in the last epidemics was how few phthisical patients, comparatively speaking, have died from its effects, although in many cases they have succumbed from intercurrent bronchitis. In Bright's disease and valvular disease of the heart the influenza is more fatal. A few deaths were due directly to the disease, but these occurred in cases of old age, tumors, and other cachectic conditions, in which the patient died within twelve hours, probably from the shock of the sudden onset. In two other cases of feeble women, death occurred in two days, due to heart-failure.

Treatment.—Rest in bed during acute stage. Patient should remain at home until temperature is normal. It would be advisable for them to remain in the house until entirely well, but as they generally will not do this, it is important that they should remain at home evenings. They should be very careful in regard to their clothing, the wearing of rubbers, overshoes, etc. They should avoid all draughts of air, as in the stage of prostration and sweating they are very susceptible to pulmonary complications. They should ride in cabs, if possible; if not, in horse-cars, or the front or rear car of the Elevated.

At onset move bowels, calomel two grains every two hours until they have moved, or two compound cathartic pills in one dose. At bedtime, quinine and Dover's powders, with a hot whiskey punch.

For headache, fever, and muscular and neuralgic pains, give antipyrine, ten grains every two hours, with whiskey, one-half ounce, until the headache is relieved. Two of these powders will generally be sufficient to relieve the most obstinate. It is not advisable to give more than three of them, but in case they do not produce the desired effect, to change to antifebrin or phenacetin, in five-grain doses, every two hours. Whiskey should be given with these drugs, as it hastens their action and tends to counteract their depressing effect. In case the muscular pains are obstinate, salol, in five grain-, or salicylate of soda, in fifteen-grain doses, three times a day, will generally relieve them.

Great anorexia and weakness being present, milk-punches should be given every two hours, if well borne, during the acute stage.

In all stages of the disease whiskey is the remedy *par excellence* to counteract the great prostration, and should be taken three times a day throughout the attack. If whiskey is not well borne, give champagne, brandy, or sherry. Quinine is also a standard remedy, and is useful both as an antipyretic and a tonic. During the acute stage it should be given, if the stomach can bear it, in five-grain doses three times a day, and in the stage of prostration following it should be given, purely as a tonic, in three-grain doses, in combination with nux vomica and iron in pill or solution. In the alimentary forms, where there is considerable vomiting, good results have followed a milk diet, with a powder of bicarbonate of soda, pepsine, and bismuth, ten grains of each every four hours. If diarrhœa is present add one-eighth to one-tenth of morphine to each powder and increase in frequency if necessary. All very sick cases should be put on a milk and whiskey diet—two and a half quarts of milk and four ounces of whiskey a day.

In catarrh of the upper respiratory tracts a pill of belladonna, camphor, morphine, and quinine every two or three hours gives speedy relief. In cases of pharyngitis and tonsillitis an astringent spray or gargle should be added.

When the laryngeal and tracheal symptoms are most pronounced inhalations of tr. benzoin comp. afford the most relief. In bronchitis of the dry and semi-asthmatic form, which generally occurs, and which seems to be more of a congestion of the bronchial mucous membrane with a spasmodic cough, a mixture containing belladonna and morphine will give great relief. A preparation of codeia, gr. one-sixth; am. iodid., gr. three, in mist. expect. Stokes, ʒ j., every three hours is also very valuable in the treatment of this bronchial condition. In case of bronchitis with abundant secretion, muriate of ammonia or the more stimulating expectorants must be given. In the genito-urinary variety simply place the patients on a milk and Vichy diet, and confine them to the house. Complications should be treated accordingly, and digitalis and strychnine should be given in cases where the heart-action is weak, to prevent heart-failure, as influenza seems to have a depressing influence on the heart-action.

In the musculo neuralgic variety of influenza we have a specific in the pill of phenacetin and salol, two and a half grains of each every three hours.

When severe nervous prostration follows, a tonic consisting of the phosphates, with quinine, iron, and strychnine, should be given. The phospho-muriate of quinine (Phillips's tonic) is excellent in these cases.

In conclusion, after having observed so many cases

during the almost annual epidemics of the last few years, and so many sporadic ones between the epidemics, I think we have abundant ground for suggesting the possible advent of a new disease of an ephemeral nature.

79 West Fifty-fourth Street.

Progress of Medical Science.

Prolonged Intermittent Treatment of Syphilis.—At a meeting of the Medical Society of Vienna, Professor E. Lang read a paper (*The Medical Week*, November 24, 1893) in which he criticised the treatment of syphilis advocated by Professor A. Fournier, of Paris, who has now been induced, as the result of a long experience, gradually to increase the duration of the treatment from nine months, as recommended by him several years ago, to five or six years. The author is of opinion that the method devised by the distinguished French syphilographer is not in conformity with the natural evolution of syphilis. Syphilis being a curable affection at any stage of its development and even before the appearance of the secondary manifestations, it is evident that no single method of treatment will do in all cases. The therapeutical means employed must necessarily vary according to the necessities of each individual case. In a recent publication (*The Medical Week*, 1893, Vol. I., p. 35), Professor Fournier gives some statistics based on 1,703 cases of tertiary syphilis which, from the point of view of the duration of the treatment, may be classified as follows:

	Cases.
No treatment	217
Treated for less than one year	1,162
" from one to two years	265
" for more than two years	53
" for more than three years	6

Professor Fournier concludes, therefore, that out of 1,703 cases of tertiary syphilis, only 59 occurred after, and in spite of, conscientious treatment, while in the remaining 1,644 cases the accidents were due to the fact that the patients had only been very imperfectly treated, if at all.

Professor Lang pointed out that supposing Professor Fournier still believed that twelve months' treatment were sufficient to cure syphilis, he (Professor Fournier) would be obliged to admit, in the presence of the foregoing statistics, that tertiary manifestations occurred in two hundred and seventeen patients who had not been treated, and in 324 (265+53+6) who had been submitted to appropriate treatment for the requisite period of time. The obvious conclusion would then be that, so far as the tertiary manifestations are concerned, prolonged treatment is worse than total absence of treatment.

To show that cerebral syphilis can be prevented by his method, Professor Fournier quotes 100 cases of syphilis of the brain which can be tabulated as follows, according to the duration of the treatment:

	Cases.
Prolonged and conscientious treatment	5
Treatment of average but insufficient duration	6
" for from seven to eighteen months	10
" for from one to six months	70
No treatment	4
Treated by iodide of potassium alone	5

This table shows, according to Professor Fournier, that "only 5 out of 100 cases of cerebral syphilis had been submitted to conscientious treatment, while in the remaining 95 cases the treatment had been *nil*, or only very imperfect, or of short duration; from which it follows that cerebral syphilis is nineteen times less frequent after conscientious treatment than in patients who have not been treated at all or only very imperfectly."

This statement is open to the same objection as the statistics already quoted, and Professor Lang believes that the following conclusions may equally well be drawn from the facts brought forward by Professor Fournier, showing how far the figures given by the eminent specialist are deceptive:

1. Five patients out of one hundred have taken nothing but iodide of potassium as against ninety-five who have either not been treated at all or have been submitted to some other method of treatment; from which it follows that cerebral syphilis is nineteen times less frequent in patients who have been treated by iodide of potassium alone than in those who have taken mercury or nothing at all.

2. In four cases out of one hundred no treatment was applied, while in the remaining ninety six mercury or iodide of potassium was administered; from which it follows that cerebral syphilis is twenty-four times less frequent in cases in which no treatment is employed than in those in which mercury or iodide of potassium is administered.

Indeed, Professor Fournier himself admits that he has met with cases of recovery from syphilitic disease of the brain in which the patients had undergone a prolonged course of treatment, as well as with cases in which the patients remained free from specific manifestations of any kind, eight, twenty-four, and even thirty-four years after a short period of treatment.

So far from exerting a favorable influence in cases of syphilis, the method of prolonged treatment recommended by Professor Fournier is apt, according to the author, to produce a deleterious effect on the patient's general health by giving rise to various alimentary troubles associated with insomnia and other nervous symptoms of a somewhat grave description, and favoring the occurrence of tertiary manifestations. For example, the statistics communicated by Professor Fournier to the First International Congress of Dermatology, in 1889, show that the liability to tertiary manifestations increased in his patients until the third year after infection, a fact which is in direct opposition to the experience of the advocates of the "opportunist" method who have never met with the same liability to tertiary accidents during the first three years after infection in the patients under their observation.

The statistics communicated by Professor Fournier to the Congress were based on a series of 3,429 cases, in 1,085 of which the nervous system was the seat of syphilitic lesions, a very large proportion, even after deducting the 355 cases of tabes, which are regarded by the distinguished French syphilographer as of syphilitic origin.

Lastly, Professor Lang pointed out that Professor Fournier has never reported a single case of reinfection in patients treated by his method, the occurrence of reinfection being a most conclusive proof that the patient had been completely cured of his first attack of syphilis. Another disadvantage of the prolonged treatment consists in the fact that certain patients are very liable to relapses irrespective of the method of treatment to which they are submitted; if such patients are already under the influence of mercury, the administration of this remedy is not attended by the same success as it would be under other circumstances.

The Vaso-motor Apparatus in the Vaccinated and Tolerance of the Toxins.—At a recent meeting of the Paris Biological Society a communication on this subject was read by Drs. Gley and Charrin. From the moment that it was demonstrated that microbes were the cause of disease, either through their own influence or their secretions, it must have occurred to some that immunity might be a simple question of tolerance. As a matter of fact, it has been maintained that the reason why the introduction of bacteria into the tissues and organs was not followed by grave accidents in the vaccinated, was because the cells and tissues of these individuals were rendered insusceptible to the action of the substances secreted by the microbes, as a result of the tolerance produced by vaccination. This opinion is now untenable in view of the experiments of Gamaleïa and Charrin, experiments which have been verified by various investigators. The absence of grave manifestations in the vaccinated after inoculation is due in reality to the fact that the micro organisms are unable

to grow and develop with sufficient activity to give rise to such manifestations; as a result, the essential condition for infection, viz., the presence of a large dose of an active virus, is wanting; the symptoms of intoxication are not observed because of the absence of the poison, or its presence in infinitely small quantities, the activity of the microbes by which it is produced being interfered with by phagocytosis, the bactericidal properties of the humors, and other causes. It has also been maintained that, although taken as a whole, the tissues of the body exhibit no special tolerance to the action of pathogenic bacteria; yet it would be very different if the influence of the virus were exerted on only one of the different systems, for example, on the most delicate of all, the nervous system. Nervous disturbances of a motor or vaso motor character (pyocyanic paralysis, vaso-constriction) were experimentally produced for the first time by injecting the toxins of the bacillus pyocyaneus. These disturbances, which are due to the action of this organism or the products of its secretion, have since been reproduced by various investigators with other bacterial poisons. The paralytic manifestations are usually of slow development. This is a drawback from an experimental point of view, hence we have been induced to direct our researches in the direction of the vaso motor apparatus. The vaso-constricting properties of the pyocyanic toxins were first discovered by Professor Bouchard, who succeeded, by an injection of these toxins, in relieving the congestion produced by tuberculin. We have shown that this phenomenon was due to the paralyzing influence of these secretions on the vaso dilating centres. For example, stimulation of the auriculo temporal nerve is followed by congestion of the ear in rabbits; this phenomenon is known as the Snellen-Schiff reflex. By injecting a definite dose of a sterilized culture of the bacillus pyocyaneus into the circulation of the animal this hyperæmia is retarded or, at any rate, a more powerful current is required to produce the same result. If the experiment be performed simultaneously on vaccinated and non-vaccinated rabbits, exactly the same reaction is observed to take place in all the animals experimented upon. In all of them the reflex is excited, under the same conditions, after the same lapse of time, with the same degree of intensity, and by means of currents of the same strength.

We are justified in concluding, therefore, that the vaso-motor system is as sensitive in vaccinated as in non-vaccinated animals; in other words, that in the former the system in question shows no special tolerance of the toxins of the bacillus pyocyaneus, thus furnishing further evidence against the theory of immunity through tolerance. We do not wish to imply, however, that this remark applies to all cases. It is possible that things may be different with other toxins administered under different circumstances. Immunity depends on a number of variable factors. In diphtheria, for example, we have the formation of antitoxins which neutralize the effects of the toxic products, but this cannot be regarded as the result of tolerance on the part of the individual, as used to be erroneously maintained by certain observers. Moreover, experiments on other animals with purer substances or only with some of the ingredients of these substances, may possibly lead to results different from ours, although we may point out that we have experimented without success with the dead organisms, proteins, volatile products, and products soluble in alcohol. In these experiments we have endeavored as far as possible to work only with small quantities of the substances above enumerated. It is evident, however, that in this respect we cannot hope to reproduce exactly what takes place in the tissues of the animal inoculated with the living organisms. In the latter case the tissues are acted upon by fractional doses of the toxic products which are being constantly secreted. We are perfectly willing to admit the value of all these objections. What we maintain is that the vaso motor nervous system of rabbits vaccinated against the bacillus pyocyaneus is equally sensitive as that of non-vaccinated rabbits to the influence of sterilized cultures of this organism in meat broth; we are justified in concluding, therefore, that tolerance is not acquired by vaccination.—*The Medical Week.*

Pregnancy after the Removal of One Ovary and Part of the Other.—Sippel reports a double ovariotomy in a woman thirty years of age, who had one child five years old and was very anxious for another. The right ovary was converted into a tumor the size of a child's head, and without a trace of normal ovarian tissue. This was removed with its tube. The other ovary was the size of a goose egg. Along the hilum was a long tract of normal tissue. A clamp was applied above this tract to check hemorrhage, and the diseased part of the ovary was cut away; the raw surfaces left were united by means of catgut sutures, while some blood-vessels were tied separately. This healthy part was an inch and a half long and a third of an inch thick; the left tube was undisturbed. Menstruation returned after the operation, and ceased on August 22, 1891; on April 7th pregnancy was progressing favorably, and she was safely delivered of a living child.—*Archives of Gynecology.*

Disappearance of Gonorrhœal Discharge During Pneumonia.—Dr. Bogdan has recently observed the following case in a young man, aged eighteen, who was received in the hospital for the treatment of a gonorrhœa with profuse and purulent discharge and violent pains before and after urination. Four days after admission he developed pneumonia of the left lung, and the next day he noticed that the discharge had ceased, together with the other symptoms. On the tenth day, on the beginning of convalescence from the pneumonia, the gonorrhœa reappeared in all its original intensity. Dr. Barthélémy has seen two similar cases. In both the urethral discharge disappeared after the beginning of an attack of typhoid fever. One of these patients died on the eighteenth day of the disease, without the affection again being observed, while the second was seized on the seventh day, without having left his bed, with a severe epididymitis, which would lead one to think that the gonorrhœa had only apparently been cured.—*Wiener medizinische Presse.*

How to Incise Post-pharyngeal Abscess in Children.—Dr. Pitts states that compression of the trachea in the neck may be caused in children by abscess, by enlarged glands, by goitre, or by a foreign body impacted in the œsophagus. Abscess in the neck, producing compression of the trachea or inflammatory œdema of the glottis, is most likely to be post-pharyngeal in position. The advantage of opening a post-pharyngeal abscess by incision in the neck, and not within the mouth, is now fully recognized, particularly if the abscess is dependent on vertebral disease and the discharge is likely to be continuous (*The Lancet*). If the difficulty of breathing is urgent and the dissection from the neck likely to be too prolonged, tracheotomy will be advisable as a first step. Intubation would seem to be contra-indicated by the possible alterations in the relations of the larynx and trachea. If, however, the abscess is small and there seems to be a difficulty in getting at it from the side of the neck, a vertical incision may be made from the mouth; but care should be taken to bend the child's head quickly forward so that the pus may run out of the mouth. If radical treatment is postponed, pressure symptoms may become urgent, or rapid œdema of the glottis may arise, or the abscess may burst spontaneously and death take place by suffocation, particularly if the abscess should burst while the child is asleep. In children under a year old these abscesses do not often depend on cervical caries, but arise from causes which produce similar abscesses elsewhere, such as inflammation around the lymphatic glands in front of the vertebræ; or they are secondary to tonsillitis, disease of the ear, or after catarrhal conditions of the posterior nares and fauces. In two hundred and four cases, which were recorded by Bokai as occurring in the Children's Hospital at Pesth, only seven were secondary to caries of the vertebra.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street.

New York, January 20, 1894.

BOARD OF HEALTH AND PERSONAL RIGHTS.

THERE is no doubt that before long many cases will come before the courts in which the question of personal and private rights as against the interference of Boards of Health will be raised. Compulsory vaccination, for example, is being gradually extended so that not only school children, but factory employees, clerks, and even opera troupes, are visited by the health officials with needles and vaccine. The law, as we understand it, does not directly compel vaccination, but forbids attendance at school, and even employment in large factories, unless the individuals have been properly protected against small-pox. At the present time some of the factory employees object to the operation for fear it may make them sick so that they will lose their work. It seems to us that the time has come when the statutes regarding vaccination should be more definite and explicit. Either vaccination is a safeguard or it is not; if it is, as we believe, then there is no reason why it should not be generally and directly enforced.

More important questions, perhaps, arise in connection with the abatement of nuisances. And here the law has been recently interpreted in the case of the People *v.* the Board of Health of Yonkers. The Court of Appeals has decided, in effect, that Boards of Health have the right to abate a nuisance; but the individual, on the other hand, has the right to have a trial as to whether the nuisance really is such. If it be decided that it is not, and the Board of Health is found to be mistaken, the citizen is protected and he has the right to receive compensation for damages inflicted.

In some cases the State voluntarily furnishes compensation for injury inflicted upon property, and this is often most wise and just.

POLITICS IN MEDICINE.

IN anticipation of the coming meeting of the Medical Society of the State of New York, at Albany, next month, it is desirable to call the attention of such as may be present to the proposition made at the last session to alter the by-laws so that the President could be nominated in open session. That such is a move in the right direction, no one who has watched the purely political manœuvring of the last few years can deny. The measure will doubtless commend itself to every member outside of the old rings that have governed the Society for such a long period. In fact, there has been more of petty politics in this organization than in any similar one throughout the country. And this is saying a great deal, considering what we have been called upon to notice recently in connection with elections in our own local societies. Bargains have been made with the assumed leaders which would have disgraced a ward primary. This is done year after year, until even the majority of the conscientious workers in the Society has begun to believe that the cliques own the entire concern. Thus it happens that not infrequently in farming out districts men attain the highest place who are not known outside of their counties, and whose only recommendation is centred in their ability to work their constituents.

It is now time that the members should look at the situation with the proper incentive for reform. The first step to be taken is against the so called and self-constituted district leaders. The Society should do its best to discourage lobby work in every form. If proper inquiry is made it can easily be ascertained that the men who claim the right to dictate for their districts are not really the ones who could do so when at home. It is simply because they have more leisure and taste for such work than the quieter members, who are too busy with their purely professional work to give the matter the attention which it otherwise merits.

We wish in this appeal to prepare the Society for a proper consideration of the proposed change in its management. Its adoption is not only a reasonable measure, but is fraught with the greatest good to the Society as a whole. It is a commencement in the right direction, but let it be made at once, so that other necessary reforms hinging upon it may also be in time consummated. There certainly can be no objection to making a nomination in open session. It might surprise the ring, but it would gratify the majority, which would naturally vote for the best man—the one who had fairly won the right to such an honored position. We would not then be compelled to inquire after the officer is elected, Who is he? What has he done? and Why was he chosen?

SANITARY MOTES AND BEAMS.

UNDER this suggestive title the Medical Director of the Navy, Dr. A. L. Gihon, has published in the November issue of the *Sanitarian* an interesting account of the present status of sanitary affairs in our country. While much has been accomplished, he holds that much more remains to be done. He believes that the ascendancy of hygiene has greatened and glorified medicine, without dimming the lustre of any other branch; but though her cult is established, her mission has not ended with the recognition of her supremacy and the faithful following of her own ilk. To-day she turns to the people and their rulers, outside the medical fold, and demands the place in their councils that is hers of right. A makeshift share in the administration of the sanitary interests of the country has been grudgingly allowed, but the inexorable demands of modern enlightenment cannot be satisfied until the conservator of the public health shall sit a peer among the rulers. He is emphatically of the opinion that the interests of the public health must be intrusted to a department of the Government especially charged with their administration, with equal independent execu-

tive authority as given to other national departments. Temporizing legislation under the spur of emergencies does not befit this age. As the enlightened physician seeks to prevent his charges becoming ill, so should the guardian of the public health be able to forestall these emergencies, whose pecuniary cost, in money expended and wasted, in trade paralyzed and diverted, in labor and its wages lost by the sick and terrified and dead, in a single epidemic, exceeds that of maintaining an efficient sanitary service for the whole country for a whole year. He thinks that the fault of the medical profession has always been its lack of bold assertion of its rights; but it can no longer hesitate to declare to trade and commerce and agriculture and manufacture that the health and vigor which are essential to prosperity cannot be secured by their own unskilled, uninformed efforts. They must learn, as the military services have learned, that powerful armies and navies are the results of able and untrammelled medical departments. It is as unwise to confide the care of the national health to a financier, however astute, as to expect a postmaster-general to understandingly control a bureau of agriculture, or a fishery commissioner to best administer the affairs of the public schools, or an attorney-general to direct the mining industries. The health of a nation is a national consideration involving international co-operation. There should be no priority nor clash of sectional interests. State lines are not respected by epidemic intruders. No State barrier can be so defensive and impenetrable that the toxiferous germ cannot pass through.

The readers of the RECORD know that it has repeatedly urged the establishment of a bureau of this kind. At the present session of Congress our legislators should be compelled to take action looking to the creation of a Department of Public Health. The depleted condition of the national treasury should not be accepted as a valid excuse for postponing the necessary enactments.

Dr. Gihon next takes up the discovery of motes abroad when the beams at home should first receive consideration. The scientific tendency of the day is literally toward mote-hunting through microscopes, instead of using our human eyes upon visible abominations. The sanitarian, official or amateur, need only look about him to be appalled at the spectacle of indifference of rich and poor, high and low, to dangers far greater than any from cholera microbes, which confront them every hour, and it may be worth our while to indicate some of these beams in our own eyes, which we complacently refuse to see, while we magnify the motes on our horizon. The various forms of civic filth here come in for their share of just condemnation.

The author forcibly points out that the preventable disease which kills more of the human race than cholera and yellow fever together, and in its ordinarily slow process of killing lessens the productive power of a community directly by the enfeeblement of its victims, and indirectly by its demands upon members of households and eleemosynary institutions for the care of these chronic invalids—tuberculosis—is tolerated with as little concern as the Mongolian exhibits for small-pox, or the creole for yellow fever and malaria. The consumptive, whose traits no professional acumen is required to recognize, frequents our crowded thoroughfares, sits beside us in unventilated street cars and at the hotel table, occupies Pullman sleeping-berths, and shares the steamship state room, wholly unrestrained and innocently ignorant that he or she may be sowing the seeds of disease among delicate women and children. Anyone may verify this who uses his eyes for the purpose along the railway and coastwise steamer routes to our invalid resorts.

In regard to filthy cellars, he properly observes that no city can be accounted clean until its ordinances require every cellar door to be widely opened to sun and air—that royal pair of germicides; every cellar to be emptied of its refuse; every cellar wall and ceiling to be scraped and whitewashed; every cellar floor to be taken up if rotted, and sprinkled with lime if uncovered—a tedious and expensive process; but effective sanitation, costly as it must need be, is cheap beside the outlay of a single epidemic. There are underground foulnesses in all our great cities of which they should be rid at any cost, as where rag-pickers and bone-gatherers collect their filthy stores, and Italian street-corner fruit-sellers keep their decomposing bananas, grapes, and oranges, till, rubbed off by dirty pocket-handkerchiefs, they are exposed for sale, glistening after their repulsive polish with impure saliva.

According to Dr. Gihon, the sanitary inspector is destined to become the most important agent of future civic administration. The perfunctory burning of a pan of sulphur in a diphtheritic chamber, the sprinkling here and there of a solution of corrosive sublimate, or the substitution of the sweeter scent of thymol, pinol, or some newer "ol" for the foul odor of the privy, will not then be the tolerated limit of his interference. All that science teaches and all that intelligence can devise will be exacted of him. A sanitary inspection will be a deliberate, painstaking, critical examination of nooks and corners and their disinfection, the flooding of the lairs of microscopic motes, and the deluging of unsightly beams with those unstoppled, unpatented, inexhaustible germicides—air and sunshine.

The writer also puts himself on record as opposed to indiscriminate immigration, in the following language: The great caldron in which we are mixing Celts and Saxons, Semites and Aryans, with a seasoning of syphilis, tuberculosis, and insanity, is simmering with what ultimate homogeneity can only be conjectured. When immigration was a tiny stream, however muddy and noisome, poured into a rapid river of pure water, it was soon lost in the crystal fluid; but now that huge sewers are discharging their fetid pestilential torrents into a placid lake that has no outlet, the lake itself becomes turbid and unclean. Already in the *culs-de sac* which are nearest the open mouths of these foul sewers and receive their floating scum—the prisons, reformatories, almshouses, insane asylums, and hospitals—this filthy, debased, and diseased foreign element is ascendant, and our demographers have a simple task in representing its volume by numerical statistics. Dr. Frederick H. Wines, the distinguished compiler of this portion of the census of the United States for 1890, demonstrates by the indisputable evidence of figures that, while the foreign-born constitute only seventeen per cent. of our total white population—in round numbers about one-sixth—yet they furnish over half of all the paupers in the almshouses of the country.

That Dr. Gihon has not made random assertions and

has not used colors of too sombre a hue for his pictures, can be easily ascertained by a study of facts and figures. But perhaps Congress needs the "object lesson" of actual disaster before giving sanction to any system of broad national prophylaxis, such as might come within the scope of a Bureau of Public Health.

SIZE AND QUALITY.

One of our esteemed contemporaries, the *Journal of the American Medical Association*, gives a wrong impression of its relative size by stating that it publishes in its last volume one hundred and sixty-four more pages than the Medical Record. But as there are nearly one hundred and fifty more words to a page on the Medical Record this is not a fair presentation of the matter. We have, however, always insisted that quality is better than quantity. As against the argument of mass we should be content to contend that the original articles in the Medical Record were never more original and helpful, the editorials never richer in practical interest, never more scientifically sound, syntactically correct, rhetorically resourceful, or more keenly alive to the intellectual comfort, moral aspirations, and multitudinous practical needs of its readers. Nothing occurs in the scientific world which is not brought promptly to their attention; and no question of political or economic interest which agitates any portion of this Union fails to receive proper and considerate treatment. The troublous times in Texas, the aggressive progress of Cook County, the high fees and mild temperature of the Pacific coast, the alert organization spirit of the Northwest, the struggle with commercialism in the South, the recrudescence of activity in the decadent towns of New England, the phonetic spelling of Philadelphia, the halo around Johns Hopkins, the buttons of Dr. Murphy, and the passing of Mr. Hart, all have received at our hands the consideration which their contemporaneous interest deserves. So we venture to say again that it is quality and not quantity which makes success. And we are sure that our readers will forgive the foregoing modest encomium upon ourselves, since its purpose is impersonal and general, and intended only to illustrate a great and fundamental truth.

THE STAR-SYSTEM IN MEDICAL EDUCATION.

Under this heading the *Medical News* advocates sweeping reforms in the conduct of medical faculties. Our contemporary believes that the organized and vivified medical college is to take the place of the cluster of individual medical star-professors of the past—that personalities are to be subordinated to a system, leading rôles to be merged into a harmonious unity, men into an institution. A great work is to be done, a work requiring a large number of specialized workers, each performing his peculiar function, each the equal of the other, and all running to a unity of result that leaves no place for exaggerating one or two rôles, while extinguishing all others. It is clear, therefore, that the college which soonest and best meets the new ideal will be the college of the future, and the college that clings to the methods of the past, seeking a few leading actors and cruelly silencing subordinates—with necessarily resulting jealousies and self-seekings—must assuredly go down. Such a college as this last inevitably becomes ring-ruled, the financial aspect ever uppermost, never willingly lengthening the course or raising the entrance standard.

The *News* has also discovered that the star-system of medical instruction and the monopoly it engenders seems to be arousing the indignation of our colleagues over-sea. From the recent noteworthy inaugural address of Professor Black, of Glasgow, a few paragraphs are quoted:

"If there be one thing on earth which should be as free as the winds of heaven, it is the right to impart knowledge, no less than the inalienable right, if a man feels so inclined, to make that knowledge a marketable commodity. Nothing is more tenacious of life, nothing dies harder, than a corrupt and profitable monopoly. It is surely superfluous to argue at this time of the world's history, that it should matter little to an intelligent or a discriminating public where or from whom a man receives his knowledge, providing he gives satisfactory evidence of the possession of it. It requires no argument to demonstrate that monopolies of every kind are subversive to the best and highest interests of the people, and that of all monopolies, monopolies of learning are the most wicked and the most indefensible.

"If the laborers are numerous, then we have the usual effects of competition—industry, dexterity, and moderate wages. If, on the contrary, the laborers are few in number, then we have, as usual, carelessness, bad work, insolence, and exorbitant demands."

The *News* concludes its trenchant attack on our medical colleges and the old-time professors as follows:

"This new tendency, nay, this coming and pressing necessity, does not in the least extinguish individuality, but leads to its healthy development. It was the old plan that with ruthless barbarity throttled all individuality except the egregiously selfish individuality of the star, and that smothered nascent ambition and possible teaching ability in order not to permit rivalry. The new plan, with its enormous increase in numbers of the teaching body of a college, encourages the healthy growth of individuality and of special ability. But it does one other most important thing: it reduces to useful subordination all egotistic advertisers and self seekers, and binds individualities together for a work and a system that outlasts and is of more importance than individuals."

The *News* is evidently on the war-path, and we wish it success in its campaign of reformation. There is no doubt that too many medical men become "professors" from purely selfish motives, such as building up a consultation practice, or posing as "eminent authorities" before the laity. On the other hand, unless "professorships" are made attractive and profitable, the best talent will not be eager to enter the charmed circle of professorial dignity. Human nature is not materially altered by the possession of a medical diploma. Unless professorships "bring in" something tangible, only mediocrity will stampede toward the empty honors of the college chair. Good men demand good rewards in this matter-of-fact world. Emoluments are just as attractive to doctors as they are to lawyers, or to clergymen, or to plain every-day business men. The professor of the future may not care about sordid details of compensation for his work. But we take it that that kind of professor is a dim and nebulous hypothesis, whose chair is not planted

on terra firma. A flesh and blood professor needs his three meals a day, just like ordinary mortals. And we believe, in most instances, he deserves them. If they really need more professors over there in Philadelphia, we might, on a pinch, let them have a few of our own. A famine of professors is not what we are seriously threatened with at present in New York.

News of the Week.

An Army Medical Examining Board will be in session at Washington City, D. C., during April, 1894, for the examination of candidates for appointment to the Medical Corps of the United States Army, to fill existing vacancies. Persons desiring to present themselves for examination by the Board will make application to the Secretary of War, before March 15, 1894, for the necessary invitation, giving the date and place of birth, the place and State of permanent residence, the fact of American citizenship, the name of the medical college from which they were graduated, and a record of service in hospital, if any, from the authorities thereof. The application should be accompanied by certificates, based on personal acquaintance, from at least two reputable persons, as to his citizenship, character, and habits. The candidate must be between twenty-two and twenty-eight years of age, and a graduate from a regular medical college, as evidence of which his diploma must be submitted to the Board. Successful candidates at the coming examination will be given a course of instruction at the next session of the Army Medical School, beginning in November, 1894. Further information regarding the examinations may be obtained by addressing the Surgeon-General, U. S. Army, Washington, D. C.

A Four Years' Course at Jefferson Medical College.—At a meeting of the Faculty of Jefferson Medical College, held on January 8, 1894, it was unanimously resolved to institute a compulsory four years' course with the session of 1895–96. This step was taken in order that the large clinical service of the Jefferson College Hospital (350 cases a day) might be utilized to the fullest extent in carrying out the desire of the Faculty to provide advanced medical education of a practical character.

The New York Ophthalmological Society.—At the annual meeting, held on Monday, January 8th, the following officers were elected: *President*, Dr. W. S. Dennett; *Vice-President*, Dr. Frank N. Lewis; *Secretary and Treasurer*, Dr. D. W. Hunter; *Committee on Admissions*, Dr. Henry D. Noyes, Dr. Arthur Mathewson, and Dr. J. B. Emerson.

The Lunacy State Care Act.—The report of the Board of Trustees of the St. Lawrence State Hospital has been printed and transmitted to the Legislature. In this report the State Commission on Lunacy is criticised for its construction of the lunacy laws. The trustees say:

"The Board desires to record itself again in favor of such central supervision of the management of the State hospitals as shall place salutary checks upon extravagant expenditures or other abuses of administration, as we understand the Legislature intended by powers conferred upon the State Commission in Lunacy, but we most earnestly protest against the assumption of powers on the part of the Commission which denies, or renders nugatory, authority given by statute to managers and resident officers. We believe the Legislature never intended to supersede the local authority, but instead aimed to create a wise and proper supervision of the hospitals by a central co-ordinate body; nor does the statute, to our mind, imply otherwise, though a different construction is being enforced by indirection and advantage of situation.

"The act that went into effect upon the first day of October last has given us about three months of experience, and has been in operation for a sufficient time to show us that in the administrative functions of the hospital we have practically no power. This might not be objectionable as a personal relief, provided we were at the same time relieved of responsibility; but we cannot learn that your honorable body has relieved us by statute from the responsibility created for us in the organic law. If we are relieved of both power and responsibility, then the need of Boards of Managers does not longer exist, and they should be permitted to lapse into desuetude or be wiped out altogether.

"The question that now presents itself more plainly than ever before in the history of this State, is whether the interests of the State, as well as the interests of the insane committed to its guardianship, will be better served by a Central Board with absolute power, over which there can be no supervisory or controlling body except that of the Legislature, or by a divided responsibility in the several local Boards of Managers, as heretofore, with a central supervisory body having ample power to correct abuses, either by appeal to the Executive, the Legislature, or the courts. It must appear self-evident that a better service can be maintained under the latter system than under the former. We cannot believe it is your intention to set us aside, and elevate a service that imputes to us, as to all local Boards of Managers, neglect of and incompetence for our responsibilities."

Death of Dr. Herbert Judd, of Galesburg, Ill.—Dr. Herbert Judd died suddenly from apoplexy, at his home, January 11th, aged fifty years. He graduated at the Albany Medical College in 1867, after which he settled in Galesburg, Ill., where he practised until his death. For a long time he was surgeon of the Chicago, Burlington & Quincy Railroad, and for several years previous to his death was surgeon of the Chicago, Santa Fé & California Railroad. He was a leading spirit in his community, and was in every way the type of a successful physician.

Alumni Association of the Woman's Hospital of the State of New York.—Dr. W. Gill Wylie gave a reception to the Association on Tuesday evening, January 16th. There was a large attendance of members and outside friends.

Eleventh International Medical Congress.—A letter directed to the undersigned by the Secretary-General of the Eleventh International Medical Congress, and dated December 19, 1893, contains the following communications: "American members will pay on the English, French, and Italian railways single fares for double journeys, and will obtain a reduction of twenty per cent. on fares for Italian round-trip tickets. The documents required for their identification will be sent to you in January, and Americans intending to visit the Congress

will have to apply to you for them. Full particulars concerning the journeys will accompany the documents. Messrs. Thomas Cook & Son, London, Paris, Rome, and Naples, should be applied to for accommodation and for tickets for the excursions at Rome, Naples, and to Sicily. Such excursions will be arranged at Rome under the guidance of Mr. Forbes, member of several scientific societies and correspondent of the *Times*—for Naples, three days, including Vesuvius, Pompeii, Capri, Sorrento, Castellamare, Bajae, etc.—for Sicily, ten days from Naples, including Messina, Taormina, Catania, Girgenti, Siracusa, Palermo, and return to Naples. The fares for members of the Congress will be considerably reduced, and comprise hotel accommodations, carriages, guides, boats, etc.—about 70 francs each, for the three days, and 285 francs for the ten days. Full particulars concerning these excursions will be contained in a leaflet to be added to the instructions and documents for the journey."

From former communications the following are herewith quoted: "The members' fee is five dollars, that of their wives or adult relations two dollars each. Checks or money orders may be sent to Professor L. Pagliani, Rome, Italy. Credentials have been promised in the near future. When they arrive (none were received last year), they may be too late for many who have started or are about to start. The undersigned, who is not informed of the cause of delay, proposes to supply in as official a form as he thinks he is justified in doing, credentials which are expected to be of some practical value. The North German Lloyd has promised to recognize them. It is suggested, besides, that a passport may increase the traveller's facilities. Only the North German Lloyd (22 Bowling Green) and the Compagnie Générale Transatlantique (3 Bowling Green) have thought fit to grant any reductions to Congressists. The reductions on Italian railways are available from March 1st to April 30th.—A. Jacobi, M.D."

Death of Dr. S. Guttmann.—Dr. S. Guttmann, editor of the *Deutsche Medicinische Wochenschrift*, died on December 21, 1893, in Berlin, of severe influenza with pneumonia. One of the busiest and best-known men in medical circles, his death will be widely regretted. Under his able editorship the above-mentioned journal has become one of the most widely read of German medical papers.

To Abolish the Office of Coroner.—The following is an abstract of recommendations contained in the memorial of the select committee of the Medico-Legal Society of New York, addressed to the Legislature of the State: Your memorialists after duly considering the premises unanimously recommend to your honorable body: That you amend the existing statutes, regulating the powers, duties, and compensation of coroners. (*a*) By creating a new officer to be styled "Medical Examiner," as in Massachusetts and Connecticut, or "County Physician," as in New Jersey, who shall be authorized to conduct inquests or examinations in all cases where death has occurred by violence, or there is reason to suspect that the same is due to other than natural causes, having charge of all autopsies and all questions on the medical side of the inquiry, without a jury before a competent court, or before the coroner as a judicial officer, if retained after the plan adopted in Connecticut. (*b*) That said medical examiner be appointed by the county judges of each county, except New York, and by the Chief Justice of the Court of Common Pleas in that county, and only physicians skilled in their profession, of at least five years' practice, to be eligible to such appointment, and so far as possible without reference to partisan political considerations. (*c*) That only persons learned in the law shall be eligible to the office of coroner, and that if the inquiry is conducted before the coroner, he shall have charge judicially of all legal questions, and that the hearing, inquest, and proceedings shall be the same as if before the Police Magistrate in the City of New York or other cities of over 100,000 inhabitants, and before justices of the peace in all counties of the State except New York and Kings Counties.

And your Memoralists will ever pray,

Clark Bell, *Chairman*, Theodore H. Tyndale,
Charles G. Garrison, Wyatt Johnson, M.D.,
Abram H. Bailey, H. W. Mitchell, M.D.,
Moritz Ellinger.

Dated January 10, 1894.

New York County Medical Association.—The annual meeting of this Association took place January 15th, and the following gentlemen were elected to office: *President*, Dr. S. B. W. McLeod; *Vice President*, Dr. Augustus D. Ruggles; *Recording Secretary*, Dr. P. B. Porter; *Corresponding and Statistical Secretary*, Dr. W. W. Van Arsdale; *Treasurer*, Dr. John H. Hinton; and Dr. J. Blake White, member of Executive Committee. There had been but one nominee for each office except that of President and Executive Committee.

To Investigate the State Commissions.—Senator Mullin has introduced a resolution providing for an investigation by a committee of the Senate of all the State Commissions, with a view of consolidating some of them if the information secured justifies it. This will give an opportunity for the Lunacy Commission to prove its right to exist in its present shape. Consolidation would easily solve difficulties connected with real economy in the administration of the State Care Act.

Small-pox in Charity Hospital.—Three patients in the Charity Hospital, on Blackwell's Island, developed small-pox January 16th. All were taken to Riverside Hospital. They caught the disease from a man named Schmidt, who died in the Charity Hospital last week. Schmidt's body was taken to Bellevue for dissection, and it was not until then that the discovery was made that he had died of small-pox. A diagnosis was not made at the Charity Hospital. The patient was in the hospital at least a week, and exposed many persons to the disease. The attendants and the patients in the ward in which Schmidt was have been vaccinated, and the ward fumigated. Four more cases of small-pox occurring in Harlem were reported the same date. They were sent to North Brothers' Island.

The Cincinnati Academy of Medicine in New Quarters.—The evening of January 8th was a jubilee occasion in this veteran organization. It was the inauguration of an entrance to larger accommodations, and upon a higher and greater degree of usefulness. It was a genuine field night, where there was a feast of reason and flow of soul. More than three hundred members of the medical profession were present, nearly all of whom were members.

Society Reports.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, December 18, 1893.

S. B. W. McLeod, M.D., President, in the Chair.

The Chief Factors in the Production of the Diseases Peculiar to Women.—Dr. T. Gaillard Thomas sent a paper on the above subject, which was read by his associate, Dr. Carmalt. (See p. 65.)

The Curse of Gonorrhœa.—Dr. George T. Harrison being of the impression that gonorrhœa had not been mentioned in the paper as an etiological factor in the diseases peculiar to women, spoke of it as one of the most common and potent factors. Noeggerath's position, taken many years ago, had been fully vindicated. The dangers to the wife of latent gonorrhœa in the husband were great. It was more dangerous to a woman for her husband to have gonorrhœa than syphilis. He had some faith in the microscopic examination of the chronic urethral discharge, in spite of the views held by Taylor, Sturgis, and others. A sad instance was related of marriage of an attractive young lady of nineteen, to a widower of thirty-five, followed by backache, prolonged menstruation, pelvic pain, fever, metrorrhagia, endometritis, salpingitis, oöphoritis, peri-oöphoritis, then contraction (by accident, of course) of gonorrhœal ophthalmia and loss of one eye. How often did we see young women entering upon marriage have their bright hopes for offspring blasted by a latent gonorrhœa in the husband. Almost constant results of gonorrhœa in women were ill-health, sterility, and hysteria.

Unnecessary Gynecological Interference.—Dr. H. J. Boldt thought more stress might be laid upon faulty dress and hygiene in the production of diseases peculiar to women. High heels were not a little to blame for pelvic troubles, which they induced by throwing the pelvis into an abnormal position. Gonorrhœa was an important factor, it was true, but he believed it had been over estimated. More pelvic disease came from abortion than from gonorrhœa. It was the chronic, not the acute, form of gonorrhœa which produced dire results in women. Another important factor was unnecessary gynecological interference. Men put in pessaries where there was no indication for them, and resorted to procedures which set up inflammation in the uterus and its appendages which had not existed there before, or not in acute form. The sound was introduced, or simple operations performed without such preparation as was called for by major operations, and the result was septic inflammation. The semen of the husband should always be examined where women applied for treatment because of sterility.

Neglected Dysmenorrhœa Prior to Marriage.—Dr. A. H. Goelet wished to call attention to the influence of neglected dysmenorrhœa prior to marriage in the production of suffering subsequent to that event. Although one of the most common factors in the production of uterine disease, it was frequently overlooked. The physician was not always to blame, for sometimes an examination of the unmarried woman was denied, although urgently indicated. In unmarried women with fibroid tumors he had never failed to get a history of early dysmenorrhœa. Neglect of the bowels was another frequent cause of female diseases. Still another very important factor consisted in imprudence during menstruation. Obliquity of the pelvis caused by abnormal positions of the body was another cause, and might be due to occupation and dress. Dirty operations were another cause. Every operative procedure, however simple, called for the degree of neatness observed on entering the peritoneum.

Imperfect Pelvic Organs in Well-developed Women.—Dr. Tull had seen three cases within two years in which there was quite or almost complete absence of the uterus and ovaries in women otherwise well developed, and who had lived in a manner supposed to favor development of the pelvic organs. In some cases at least, the care of the child had nothing to do with imperfect pelvic organs and diseases arising therefrom. In some patients he had elicited a history of scarlet fever at or before puberty. In one case he had found gummata of the ovary, showing that syphilis might affect those organs as well as others. He believed gonorrhœa to be the most potent cause of pelvic inflammations, yet it was difficult to prove this by comparative statistics, for the reason that so few husbands had not had gonorrhœa. Want of cleanliness on the part of women was, he believed, one of the most prolific sources of trouble. He had repeatedly seen fever and symptoms of mild septicæmia disappear after thorough cleansing of the vagina, showing that there had been absorption of retained secretions.

Dr. Boldt inquired of Dr. Tull whether he advised vaginal douche immediately after labor.

Dr. Tull said no, but he advised it after the third or fourth day, simply for cleanliness. He believed vaginal douches should be given a great many women who had never borne children.

Dr. Harrison warmly opposed the use of douches immediately after labor. The vaginal canal and uterine canal may be regarded as aseptic after normal labor. He had, indeed, performed numerous operations, resorting to the forceps, version, etc., and had not met with sepsis although douches were not employed. But he observed antisepsis with regard to instruments and hands. Dr. Harrison also combated the suggestion that uterine retroversion was unimportant. It was always abnormal.

Some further remarks were made with regard to douches, and Dr. Robert A. Murray gave the results of methods practised at the Maternity Hospital, where they had reduced the mortality and sepsis to as low a point as in any maternity hospital in the world. During the three years from 1890 they had had 957 confinements, with about 110 forceps operations, 28 versions, 8 craniotomies, 1 Cæsarean section, 2 symphyseotomies, and only one case of sepsis out of the 957 confinements. All the doctors connected with the institution had pursued the same course of treatment, which was to secure asepsis. This, however, was only possible through antisepsis. The douche was not used after ordinary labors.

Dr. Murray thought the reason why so many women suffered after abortion, was the fact that they regarded it as a trivial matter and exposed themselves afterward. In unmarried women one of the most common causes of disease was lack of care during the menstrual period. They went out in light shoes, remained up late, dressed so as to force all the organs down on the pelvis. In consequence, inflammatory states arose which were the foundation for numerous other diseases.

The President made a few remarks, and spoke of the great reduction of puerperal fever as evidence of the interest shown by the medical profession in the health of the gentler sex.

After the presentation of an instrument and some pathological specimens, the Society went into executive session and made the following nominations: For *President*, Drs. McLeod, Harrison, and Valentine; for *Vice-President*, Dr. Ruggles; for *Secretary*, Dr. Porter; for *Corresponding Secretary*, Dr. Van Arsdale; for *Treasurer*, Dr. Hinton. Member of Executive Committee, one to be elected, Drs. A. H. Goelet, J. Blake White, and Edward von Donhoven.

Lupus.—Harrison counsels the following procedure: On retiring at night the patient covers the diseased part with a compress dipped in an eight per cent. aqueous solution of sodium hyposulphite. On waking, the compress is removed and topical treatment made to the lupus nodules of hydrochloric acid, five drops in thirty grammes of distilled water. This is continued over eight days. The crusts fall off, leaving ulcerated surfaces which cicatrize rapidly under the use of zinc oxide or boric acid.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENERAL MEDICINE.

Stated Meeting, December 19, 1893.

CHARLES E. QUIMBY, M.D., CHAIRMAN.

Specific and Relative Value of the Important Factors of Longevity.—In arranging the discussion on this subject, the Chairman had requested examiners for several of the life insurance companies as well as others to take part. He first called upon DR. E. W. LAMBERT, who said he responded to the invitation with some diffidence because he found the subject so complex, the factors so many and apparently contradictory. Of course, in his long experience as examiner for life insurance, the question of longevity had naturally presented itself. In spite of the long time this question had been before him, he could not say that it had particularly cleared up; it was still debatable as to what were absolutely important and also relatively important factors of longevity in individual cases. In the first place, however, we must exclude two words, viz., always and never.

Long-lived Ancestry.—The first important factor, it seemed to him, was that the man should have a good inheritance. No one could deny that long life on the part of ancestry on both sides of the house was an important factor in considering the longevity of the individual. Indeed, he knew of no other single factor of as great importance, yet one might feel staggered at times to meet with a case in which a mixture of the blood of a long-lived couple resulted in a short lived progeny. This was the exception and due to peculiar combination.

Environment.—The next question of importance was that of environments, or the conditions in which a man was born. A comfortable, well protected, well-organized household, and sanitary surroundings were pretty sure to carry the child through early life with all its attending accidents.

Temperament.—The next important factor was temperament. It seemed to Dr. Lambert that a placid, calm, philosophical way of looking at things was much more conducive to longevity than the irritable, fretting, fussy, fault-finding way observed in some people. This was well illustrated in the case of animals. In a span of horses going up Fifth Avenue it would be observed often that one horse would go quietly along and do all the pulling while his mate danced, pranced, and cavorted around, wasting his energy and shortening his life with little good.

Manner of Living.—The next matter of importance, he thought, was the way of living. The man who was careful, considerate, and moderate in the exercise of all his faculties, whether animal or intellectual, was one who would last longer than the man who over-indulged in any one of the numerous things which go to make up life. The men who broke down and died prematurely were usually those who had not lived temperately. It was often said that men worked themselves to death, yet the more he observed people, the more did he become convinced of the correctness of the Western editor's assertion that men do not die of overwork, but rather of what they take between work. He thought it would be found that what killed men was not work, but what they did outside of their work; yet he did not believe in total abstinence in any sense. There was no law, with regard to eating and drinking and manner of living, which could be laid down as applicable to all individuals. Each person must find out the law which applied to himself and obey it. Each person could usually discover what agreed and what disagreed with him, and if longevity was sought after he would have to avoid the things which evidently disagreed with him and seek the things which did agree with him.

Exceptions.—Dr. Lambert added that he was aware that to what he had said one could bring exceptions by the thousand. Take any one of the factors which had been mentioned, and one could mention men who had lived long without any; for instance, with regard to alcohol, men could be found who had done nothing much but drink all their lives, and yet had lived to a full age; but when one found a man who had drank hard all his life, he could be pretty sure he had done nothing else.

All were subjected to circumstances which they could not altogether control, and at times found themselves compelled to do things which they were advised not to do; and now and then it happened that even then, in the case of the person who seemed to possess all the factors of longevity, death ensued early in life.

Professional Athletes Short-lived.—DR. BRANDRETH SYMONDS said that when he was asked to take part in the discussion he expressed the opinion that the subject was rather a large one, whereupon the Chairman had kindly extended him the privilege of nibbling at it here and there. With regard to the effects of athletics upon the expectation of long life, it was notorious that professional athletes were short-lived. In seeking a reason for this he had had opportunity to examine four, and only one of the four showed no abnormality. The others had cardiac hypertrophy, one a little emphysema, one a trace of albumin and sugar in the urine. It was different with amateurs, for they left the field before permanent lesions developed. He had examined eleven good amateurs with reference to the question whether they were desirable subjects to insure, and he had found all but one practically sound. The one who constituted the exception had a narrow chest, thirty inches, and secondary enlargement of the heart as a consequence.

The Influence of Build.—DR. OSCAR H. ROGERS thought Dr. Lambert was quite correct in regarding the family history as the most important factor in longevity. In the exceptional cases where longevity in the parents had not been transmitted to the offspring it might, perhaps, be accounted for by moderate extremes in some respects existing in both parents, combining and causing marked extremes in the offspring. The form of body was, he thought, next in importance to family history. A person might not only be too heavy, but his fat might also be accumulated in the abdomen instead of being evenly distributed.

About Consumption.—Dr. Rogers had once considered the question, what persons might be expected to die of consumption, and on looking through a life insurance list had found that about one-fifth of those dying of consumption gave a family history of that disease. Stated in a different form, about four-fifths of the people who died of consumption in adult life gave no history of this disease in their immediate family. Approximately, seven-tenths of those who had died of consumption were under average weight and build. Very few were of the average weight, and fewer still above it. Gout was of sufficient frequency in England to be considered in the family history by insurance companies, but in this country neither it nor rheumatism were considered of so great importance. After the question of disease in the family and the points previously mentioned, he next laid most stress upon habit. Some persons would train well on five-pound dumb-bells, others better on ten-pound ones, and it was the same with alcohol: one man would be a raving maniac with a single glass of alcoholic drink a day, of which another man might take half a dozen glasses and live to eighty or ninety years. He would, therefore, like to see a little wider latitude given the individual—not every individual—in the use of alcohol.

Dr. Rogers had looked over a list of five thousand deaths, in persons whose lives had been insured, with regard to the cause, and had found that about twenty-five per cent. had died of diseases of the lungs, and about ten per cent. of these had died of tuberculosis, probably ten per cent. of pneumonia, the other five per cent. of bronchitis and other affections of the lungs.

Dr. Rogers also said, in passing, that post-graduate instruction in New York and other centres had decidedly raised the standard of rural medical men who made preliminary examinations of those applying for life insurance.

The Mutual Influence of the Different Factors in Longevity.—The Chairman asked some questions regarding how far inherited constitution might be modified by environment, the mutual influence of the several factors relating to longevity, and the propriety of considering them in granting life insurance.

In reply Dr. Lambert said he had not gone into details, as it would have required all night. With regard to weight, there were two sources of danger, one in light weight, and a very different one in heavy weight. Light weights, as a rule, developed their diseases before forty, heavy weights after fifty. The rule applied in the selection of recruits for the army was the safest he knew with regard to relative weight and height. One was taking an extra risk in insuring a man who did not weigh two pounds to the inch in height. For instance, if a man measured five feet ten and weighed less than one hundred and forty pounds, his life was an extra risk. Of course, there were marked exceptions to this rule. In the same line, if a man's chest did not measure half his height, the risk was great. If both the weight and chest measurement were below the proper proportion compared with the height, the sooner the case was barred out the better for the insurance company.

His idea with regard to fat men was, that the danger increased in proportion to the size of the belly. He did not regard a stout man as an extra risk if he came of a good family and his flesh was well distributed. But if a man's chest measured 36 and his belly 46 inches, he was more likely to die of fatty degeneration than if the chest measured 38 inches. Such persons usually died of diseases "below the belt." The farther a man was away from the ordinary standard in build, the more critically did he inquire into the family history, his personal habits, whether he took more nourishment than any decent man could burn up, and so on. The difficulty with high living was that a man put nourishment into his stomach faster than his excretory organs could eliminate it. He put into his furnace so much coal that clinkers were sure to form, and he would die of some one of the results of carrying in his blood a lot of stuff which ought to be excreted.

The Danger from Alcohol.—Dr. Lambert thought the danger from alcohol lay less in the alcohol itself than in the fact that the subject was apt to keep his stomach on the grind from morning till night, giving it no time, much less half the time, in which to rest.

Bodily and Head Measurements and other Factors.—Dr. M. Morris continued the discussion with a paper. He had studied the subject of longevity more or less for a good many years, not alone in connection with life insurance, but also as a general practitioner should do. Inherited tendency to longevity was an important factor in treating disease. Persons inheriting short life did not present as good prognosis in disease as those inheriting long life. This was especially true in critical diseases. There was an indefinable something in the human organism, varying in degree and force, termed tenacity of life or natural resistance to disease, by which some persons passed most successfully through serious maladies and injuries, while others without so much natural resistance succumbed. This was every-day experience, especially in surgery. This statement did not, of course, imply that proper treatment had not much to do with the successful result.

In a large proportion of those endowed with tenacity of life the ancestry would also be found long lived. Like in other living organisms, some parts of man's system decayed and perished before others. The vital principle was seen to carry on its active process in one organ and another until each one in turn faded, and the being was unable longer to maintain life. It was not within human ken to describe this vital principle, but by observation it was known that certain conditions would cut it short, yet that it was impossible to prolong it by any means whatever beyond the natural inheritance. Some men were at best endowed with short life, while others, if they obeyed the law, could live a long life.

Is it Possible to Predict the Probable Duration of One's Life?—Having put this question, Dr. Morris said that inherited tendencies, habits of living, occupation, observance of sanitary laws, and residence, all had a direct bearing on the question of probable longevity. Acute diseases, bad habits, excessive indulgences, unfavorable residence, all had a life-shortening influence. In all forms of life we must find some substance in common in which life inhered and upon which life must depend. In plant life there were structures not found in animal life, and in animal life there were substances not found in plant life, but in all forms of life there was a secretory tissue. This was the only substance common to all living things. This also had its life-time, and when it ceased to exist life became extinct. This secretory tissue was the only kind of substance which was transmitted from the ancestors, and therefore it contained in itself all the ancestral influences which were transmitted But there were different kinds of secretory tissue and different proportions of each, so that the duration of life was a variable quantity. The different organs of the body were not a unit, but aggregations, and one might die and end the individual's life while others might have lived on to an advanced age. Yet a short-lived organ might not be essential to general life. A life was always a combination of inherited influences, some one of which might be of a kind to reduce the general inheritance below that of the ancestral stock. Current conditions seldom produced a better result than fairly belonged originally to the individual.

It was not unusual to remark that a person inherited red hair from the mother, or a dark complexion from the father, and so on. Why, then, not inherit the stomach from one parent, the liver from the other, and similarly with other organs? One brother resembled in outward appearance almost entirely the mother, a sister the father; if so without, why not within? A great-grandfather died of heart disease at seventy-six, a grandfather at seventy-one, a father at sixty five. A son resembling this father might rightfully infer that he would die still younger of the same disease. But instead of calling it disease, call it the natural life shortened by a weakness in the paternal ancestry. Like caused like.

Can the Constitutional Inheritance or Life-time of Organs be Discovered by External Appearances?—To this question Dr. Morris answered certainly, in the majority of cases. In the first place, by studying the physiological relations of the organs of the body and their mutual influences; second, by observing the external manifestations; also by family history of longevity. A person whose ancestors were long-lived on both sides would, as a rule, be both healthy and long-lived, and able to endure much hardship and grave maladies On the other hand, those who inherited short life could not by any prescribed system of living protract their short life inheritance. General average law did not form a basis for estimating individual longevity. Lucas had stated that the average life depended upon locality, hygiene, and civilization. But individual longevity was entirely exempt from these conditions. Everything tended to show that long life was the result of the initial principle of vitality which privileged individuals had received at their birth, and this was so deeply imprinted in their nature as to make itself apparent in every part of their organism. It was not the habit of the man who was excitable and always in a hurry, which made his life a greater risk than that of a calm, philosophical person: it was rather the inherited quality which led to the difference in behavior and, in the case of the philosophical person, gave long life.

External Indications.—There were certain external indications which would give a fair idea of long and short life. It was not in one trait, but in the entire make-up of the individual who stood before the examiner. There were the color, the motions, the measurements, including size of head, which was one of the most certain indications of long or short life, for in the brain lay the

great centre of power. A person with a head whose diameter at the thin portion of the temporal bones measured five and a half to six inches was almost sure to give a longevity on the father's side of seventy to ninety years or over. If the head measured in front from the external auditory canal to the naso-frontal suture as much as four and three fourths or five inches, we might be almost sure of long life on the maternal side. A beard which was darker or redder than the hair, indicated inheritance from the paternal side; if it were lighter than the hair, the inheritance was probably from the maternal side. The length of the chest, its proportion to the circumference, to the height of the individual, and other measurements, were important.

Emphysema and Starvation.—The Chairman, DR. QUIMBY, quite agreed with Dr. Morris as to the importance of inheritance, but he had been struck with the powerful influence which habit or conditions of life had in the production of certain diseases. He referred especially to emphysema, which he said he had encountered with startling frequency in the dispensaries, and had come to the conclusion that it was due to bad food or insufficient nourishment among poor people. He had found the emphysematous chest repeatedly in persons only twenty-five years of age, or even younger, who visited dispensaries. In striking contrast with this experience, he had not in ten years examined a musician who had emphysema.

Clinical Department.

THE PHYSIOLOGICAL AND PATHOLOGICAL INFLUENCE OF VEGETABLES UPON MAN.

By MARK I. KNAPP,

MEMBER OF THE SENIOR CLASS OF THE UNIVERSITY MEDICAL COLLEGE, NEW YORK.

MAN is made up of a multitude of elements and compounds, each of them having its exact destination and each being necessary to his constitution. Each and every one of those chemicals which make up our tissues are constantly undergoing changes, are eliminated, and must consequently be supplied with new material. Must we not, therefore, be on our constant lookout to supply as well our used-up nerve-tissue as the muscular and glandular structures, fat, bone, etc.? Remembering the diversity and multiplicity of the components of the many tissues that make up our system, can we then confine ourselves to only one certain diet? Can we feed a man with only certain articles, excluding others, without a necessary reaction or disturbance taking place? Or, have all our articles of nutrition the same chemical composition which would make a selection immaterial? No, the same chemical constituents that meats have, vegetables have not; and even if they have like quality, they do not have like quantity. The albuminous matters are in different proportions in meats and in vegetables. The proportions differ in different kinds of meat and in different kinds of vegetables; and if we have enough of nitrogenous substances in a pound of meat to supply the waste of one structure, we lack the proper amount of earthy salts to satisfy other tissues. We can, therefore, neither confine ourselves to the exclusive use of meats nor to that of vegetables: they are of like importance to sustain our equilibrium of health and life.

A few analyses, taken from "Chemie der menschlichen Nahrungs und Genussmittel," by Professor Dr. J. König, of Berlin, will conduce to a better understanding.

From these analyses we see that meats, peas, beans, and some fruits are rich in albuminous substances; whereas vegetables consist of a relatively very large amount of salts, hay being very rich in calcium salts. Whereas in taking 100 gm. of albuminous matter out of the ox's meat, we would only have 5.61 gm. of salts, we should have to ingest 65.07 gm. of salts to cover the same amount of nitrogenized substance when we take cabbage, or 29.01 gm. if oats be selected as the exclusive food, or 50.256 gm. of salts if potatoes should be the nourishment. It is therefore evident that, in order to supply the necessary quantity of albuminous matter out of vegetables, we must ingest a large amount of salts. Again, to cover our lack of salts in an animal diet, we would need to take an enormous volume of it—which would be impossible for us to do. Hence by confining ourselves to an exclusively animal diet, the tissues that depend for their existence chiefly on salts will suffer; and if preference be given to vegetables, other structures will give symptoms of insufficiency in supply. It is also to be noted that sodium is prevalent in the composition of animal tissue, potassium in that of vegetables; consequently with a larger supply of animal diet, we also introduce more sodium into our system. The necessity, therefore, suggests itself to know at each period of our life, the nature, quality, and quantity of the chemical elements or compounds needed by our economy, since our system is always changing and consequently also our diet will have to vary accordingly. That menu prescribed for the developing infant or child will not hold good for the adult and *vice versa*. At the same time, finding one article to be predominantly used at a certain period of our life, we should not drive it to an excess; for any excess of one means and causes an insufficiency of the other, and consequently doing away with the necessary equilibrium, it causes insecurity, danger, *i.e.*, it hurts.

	Water.	Nitrogen. substance.	Fat.	Extracts.	Salts	Sugar.	Dextrin.	Starch.	Woodfibre.	Ashes.
	%	%	%	%	%	%	%	%	%	%
Ox meat, very fat	72.25	20.91	5.19	0.48	1.17	....	....	....	.....	....
Cow meat, fat	70.96	19 86	7.70	0.41	1.07	....	....	....	.....	....
Cow meat, lean	76.35	20.54	1.78	.....	1.3'	....	....	....	.....	....
Veal, fat	72.31	18.88	7.41	0.07	1.33	....	....	....	.....	....
Veal, lean	78.82	19.86	0.82	.....	0.50	....	....	....	.....	....
Mutton, fat	47.91	14.80	36 39	.....	8.85	....	....	....	.....	....
Mutton, half fat	75.99	17.11	5.77	.....	1.33	....	....	....	.....	....
Pork, fat	47.40	14.54	37.34	.....	0.72	....	....	....	.....	....
Pork, lean	72.57	19.91	6 81	.....	1.10	....	....	....	.....	....
Beans	13.74	23.21	2 14	53.67	....	....	....	....	3.69	3.55
Peas	14.99	22.85	1.79	52.36	....	....	....	....	5.43	2.58
Wheat	13.56	12.35	1.73	.....	....	1.44	2.38	64 08	2.53	1.81
Barley	13.77	11.14	2.16	.....	....	1 56	1.70	61.67	5.31	2 69
Oats	12.37	10 41	5.23	.....	....	1.91	1.79	54 08	11.19	3.02
Potato	75.48	1.95	0.15	.....	....	....	....	20.69	0 76	0.98
Turnips	89 42	1.35	0.18	3.14	....	4 22	....	....	0.66	0.75
Melon	89.87	0.96	0.28	6.57	....	0.57	....	....	1.05	0.70
Asparagus	93 75	1.79	0.25	2.26	....	0.37	....	....	1.04	0.54
Cabbage	89.97	1 89	0.20	2.58	....	2.29	....	....	1.84	1.23
Spinage	88.47	3.49	0.58	4.34	....	0.10	....	....	0.93	2.09
Parsley	85.05	3.66	0.72	6.69	....	0 75	....	....	1.45	1.68
Dandelion	85.54	2.81	0.69	7.45	....	....	....	....	1.52	1.90
Nettle	82.44	5.55	0.67	7.13	....	....	....	....	1.96	2.30
Wormseed	80.80	3.94	0.76	8.93	....	....	....	....	3.82	3.02
Walnut	4.68	16.37	62.86	7.89	....	....	....	....	6.17	2.03
Hazelnut	3.77	15.62	66.47	9.03	....	....	....	....	3.28	1.83
Cocoanut (fresh)	5.32	5.49	66.16	8.06	....	....	....	....	2.91	1.55
Iceland moss	15.96	2.19	1.41	76.12*	....	....	....	....	2 91	1.41
Banana	73.10	1.87	0.63	23.05	....	....	....	....	0.29	1.06

* Of which 55.65 per cent. is starch.

As a rule, we understand by the expression "nutritious food" albuminous matter; whereas it should convey to our mind the idea of such substances as are necessary to all the different tissues of our body, and certainly albumin is not the only thing that is indispensable. That nitrogenized substances are not the ideal predominable nutritious food for the infant and early childhood, that we must not overcrowd the young growing child with albuminous matter, will readily be seen from subsequent remarks.

The framework of anything is the basis of everything, and upon a sound and solid foundation the future existence, solidity, and durability of the whole building depends. However beautifully, artistically executed, the building is always in danger of breaking down if the foundation be not properly secured. It shall therefore be our duty and our first thought to secure, fortify, and strengthen also our framework. What else is our framework but our skeleton, our bones? To strengthen, insure durability, to cause developing, growing of bone in the young children, we naturally must introduce into the

system bone-forming elements, substances of which bone can be formed; and since bone consists chiefly of earthy salts, since the earthy phosphates constitute two thirds of the constituents of bone, it will be necessary to introduce into the young, growing system, such substances that are rich in salts, which substances belong not to the animal but vegetable kingdom. The same view is also expressed by König, who says: "For the growing organism earthy phosphates are of great importance, for out of these the bony skeleton is built up." This innermost, unconsciously felt desire for earthy salts and vegetables we often have occasion to observe in small children. Not unfrequently do we wonder at the perverted appetite of those little ones whom we find at times eating chalk, shells of eggs, etc. They feel and know what they want. Many children can hardly be induced to taste meat, whereas to vegetables they take readily.

The physical development of man depends upon his height and circumference, the causative factor of the first being the relative skeletal development. Of two men, short and tall, both of whom being proportionately built, the taller has a stronger and a more durable constitution; we must consequently, in order to insure strength, insure height, and to do this we must cause growing of bone by the proper vegetable diet. But since bone, like other tissues, is also always undergoing change, *i e.*, eliminates used up matter and takes up new, the necessity of not losing sight of the importance of vegetables throughout life is apparent. We also find that the ancient Roman and Greek athletes ate no meat. From all said until now, we should infer that the height of man and all animals depends upon the growing of their bones; this latter upon the proper nutrition—an assertion also expressed by Paolo Riccardi. *Only the sufficient or insufficient supply of vegetables determines the respective height of all animals and man; an abundance of vegetables which contain the earthy salts, brings forth tall, an abundance of albuminous animal diet—insufficiency of the bone-forming salts—is the cause of the non development of the skeleton, of the short people.*

Heredity and climate have been thought as probable causes of development of stature by some, who necessarily had to find an external cause for simple phenomena. Neither climate not heredity directly influence the height of man nor of animal. Nor is it the altitude. For we find tall and short men in the same village, in the same city, in the same country; we see tall people of very short parents, and *vice versa*. We meet with tall and short people in the mountainous regions, as well as in the deep valleys; tall and small men are encountered along the sea coast, as well as in the very heart of the continent. Could it be then anything else but the difference in diet that influences the growth of man and animal? Could it be anything else but the difference in the material supplied, that causes difference in appearance, quality, and durability of the machine or building produced by such material? Is it not self evident that food, and food only—that which is absolutely necessary to give to the living, life—also determines life? That with a suited nutrition growth is produced, and with a diet wanting the necessary ingredients neither growth nor long life can be sustained? Should we not look for physical and chemical causes only to explain our chemical and physical phenomena of life, instead of looking and seeking for as many causes for as many phenomena?

Of the fact that only a vegetable diet produces height of animals and man, there is sufficient proof. We only compare the two great classes of animals, the "herbivora" and "carnivora," and the most striking difference not only in height but also in other respects is at once seen. The herbivora, the older animals of our planet, are proportionately built; the carnivora, not. The height of the herbivora corresponds to the length of their body; in the carnivora the body is longer. The head of the herbivora is much larger than that of the carnivora. Herbivora are known to reach an age of up to two hundred years (elephant). Carnivora die very much earlier. Compare side by side the giraffe, elephant, camel, ox, horse, sheep, goat, with the lion, tiger, bear, fox, cat, and see the height attained by the first, exclusively vegetarians; see how proportionately they are built, their height equalling the length of their body, whereby the best of all proportions, that of a square, is given to them, and observe the shortness of legs in the carnivora. In all of these latter, the body-length is greater than their height. The mastodon and other prehistoric, very large animals, were herbivorous, as seen by the formation of their teeth. Here, certainly, nothing else but the difference in nutrition can make that diversity in appearance and character of those animals, those children of nature upon whom civilization and progress of science cannot pour its enlightening rays. Climate and altitude have no influence here either. For both herbivora and carnivora live in the same woods, on the same mountains, in the same valleys, and necessarily the carnivorous must live where the herbivorous exist. Heredity could be brought up here probably better than in man, but of whom did the first carnivorous animal inherit his shortness?

Not only, however, does the animal kingdom give us more than sufficient proof of the fallacy of any other theory than diet as the cause of height, also the ethnography of man, who has not yet been brought into intimate connection with the civilized world, proves it with certainty and positiveness.

Even at the present time, almost debarred from any industrial and commercial intercourse, many human tribes exist who are restricted to the products of their own land only, who have to live upon what only their own country grows—many human races who know nothing of agriculture either of their own fault or that of their climate. The blessing of the rapid railroad train, that medium which serves as an equalizer and rapid distributor of the goods and products of one country to others, that medium which makes failure of crops of one region unfelt by the immediate introduction of superabundance from elsewhere, are as yet unknown to many peoples. Many of these yet live in a primitive state, varying in their daily habits only very slightly or not at all, and consequently can be studied and inferences from them can be much more readily and easily drawn than from civilized people, whose habits regarding diet are much more complex. Such primitive races are found in the North as well as in the South, and like these extremes of climate also those tribes are extremes in regard to their nourishment and consequent height. The one occupying the North, the Esquimaux, Samoyedes, and the Lapps are the races known as the shortest; the tallest known are the Patagonians and Polynesians, who inhabit the South. What a difference of diet in those extremes!

Fr. Müller (Reise der österreichischen Fregatte Novara um die Erde, Ethnographie, Wien, 1879), gives us the following account: The nourishment of the Polynesian was always predominantly of a vegetable nature. Roots of ferns, berries, cabbage-shoots, bread fruit, cocoanut, manioc, and sweet potatoes formed the chief nourishment; animal products were taken seldom, as a rule only at festivities.

From Friedrich Ratzel's Völkerkunde I took the following extracts: The Hyperboraci do not belong to the tall-grown. A Samoyede—a tribe of Northern Siberia—of 150 ctm. height, Middendorf regards as tall among the dwarfs. The shortness of legs of all these races is striking, to which shortness of legs, in the case of the Lapps, also shortness of arms corresponds. The best foods preferred by them are: Reindeer flesh, dried blood, the contents of the stomach of the reindeer, eggs, some roots, and mossberries. In another chapter, treating of the same short people, he says: "Fishing is the chief source of nourishment besides hunting and reindeer breeding. The nourishment of the nomads of North Asia is preeminently of an animal nature. The Obongos, a family of African dwarfs, are experienced hunters; their nutrition consists predominantly of animal matter."

Rev. S. W. Kölle relates, in his "Polyglotta Africana," that a man of Pati, the residence of Bayon (landinwards of Cameroon), told him, there lived at the sea Liba, a tribe only three to four feet high; Kenkob was their name, strong people, excellent marksmen, peaceable, and very liberal men, who lived from the results of their hunting.

According to Emin Bey, who in the year 1882 came in contact with the Akkas, a family of dwarfs in Central Africa, his measurement of a twenty-four year old man gave a height of 124 ctm., and that of a thirty-five year old man 136 ctm. height; they are a good and genuine hunting tribe.

Do not these extracts from very competent authorities give us the true and the most satisfactory evidence that to the nutrition, that to the diet only, the height of man is to be ascribed? that the tall man is indebted for his body length to the abundance of vegetables he takes, and that the exclusive animal diet, the insufficiency of the earthy salts, keeps back the development of the skeleton, keeps back, restricts the growth of bone, and thus is the cause of the short man? Does it need any better or more convincing facts?

I myself have not yet failed in correctly telling a person his likings, whether he rather ate vegetables or meat, which I inferred from his stature; the above theory proved to be correct, proved to be a fact in every instance without exception. The short man is fond of meat, without which he says he could not live; indifferent to it is the tall man. "I must have soup and vegetables every time; about meats I don't care very much," the latter says. "If I should always have my own choice," one tall man told me, "I would always take vegetables."

Of two children, both girls, the one living in our house, the other the child of a friend of our family; the first being about three, the second about five years of age; the first child is strong, robust, fat, and large for her age, the second is small and thin, and everyone remarks "she never grows." As to their diet, the first one, says the mother, eats much potatoes, bread, soup, and vegetables, little meat; the latter gets no vegetables at all, or only very seldom, although she takes them, if given to her, with great avidity, and must be forced invariably every time to take meat, which the child gets every day, sometimes several times during the day. Another fact—Mrs. F——, thirty-five years of age, rather above woman's average height, not exactly tall, corpulent, and strong, when asked whether she liked and ate much meat she replied in a certain tone of pride and self-reliance, "I don't relish meat at all, I must have potatoes at every meal and enough of them; very often I leave the meat untouched. I never did care for meat." Also other vegetables and cereals form factors of her meals. Her husband is tall and shares the same views with his wife regarding diet. What wonder if her children (boys), are also tall. Is it heredity? Have her children inherited the tall stature of their parents? No, decidedly not. "A bove majori discat arare minor." As infants and in early childhood they were simply brought up to the same conditions as favored by their parents, as their parents, judging from their own likings, thought wise and correct; they were subjected also here, as in many other cases of supposed heredity, to the influence of the same causes that typified their parents; also they have received largely a vegetable diet, considered by their parents as the proper one, they were not asked but given, and of course, as to be expected, the same conditions obtained.

The rejection of meat, so common in pregnant women, and coming on about the beginning of the third month, *i.e.*, commencement of ossification in the fœtus, and at the same time "the capricious appetite, which assumes the form of longing for strange and even disgusting articles of diet" (Playfair) are again proofs for the insufficiency of vegetables, of the bone-forming salts, in the then present condition of the woman's system.

Not only is height dependent upon a vegetable diet, also longevity and mental development are largely influenced by it. This we may infer from the fact that people in bygone years and centuries, at a time when meat was consumed much less generally and in much less quantities, than is now, not only were larger but also lived longer. It is self-evident that a structure constantly being kept in repair, a building whose main walls of support are constantly looked after, and any damage, slight as it be, immediately remedied, will naturally last longer. Again, it is also known that the first to suffer, in another building left to itself, are those parts upon which the safety of the house rests and not the façades or any other ornamental work. Just the same is in man. Bone is the first to show signs of weakness when all other organs still do their work satisfactorily. This, however, is conjecture, and even if vegetables are not the only causative factor of longevity, a factor they certainly are.

Regarding their effect upon the mental faculties, vegetables seem to be of a negative nature. Here again the herbivora and carnivora give us satisfactory proof; higher mental development we find in the carnivora.

To account for the necessity of vegetables to height is easy enough, but I could not yet find any reason why meat should have that effect upon the brain that it does have unless that it is reasonable to judge *a priori* "food of a higher organic development must also bring forth higher mental development." Or, the more readily coal, wood, or any other material burns, the larger and brighter is the fire. The more readily the food brought into the stomach is burnt up, digested, the brighter is also the fire here, and since meat is more readily and completely digested and assimilated, the greater probably is its stimulating effect upon the nervous system. (The fluid in the cerebral ventricles consists almost exclusively of sodium chlorid. Is it the greater quantity of the sodium that is taken in with the animal diet that stimulates the brain? Sodium predominating in animal, potassium in vegetable tissue.) In the case of the two children related above, the small one—fed mostly on meat—evinces remarkably high mental faculties for her age, whereas the other, the large, with a vegetable diet, shows nothing of sharpness of mind; in fact rather the reverse is true. We had delight in talking to the first—smaller child—as soon as she could express herself distinctly.

So much for what we may call the physiological effects of vegetables. Now let us consider their pathological influence, if used in insufficient quantity or ill proportion.

The deleterious effects of abstinence from vegetables for a length of time has been recognized already in scurvy. But also in rachitis, lack of earthy salts, *i.e.*, insufficiency of vegetables, is doubtless the cause. Such was my opinion, such was my conclusion about a year ago when after some time of observation I noted the fact of the influence of vegetables upon growth, and only a few weeks ago when looking around for some book which treated of the chemical analyses of food stuffs and found Koenig to answer my purposes, I read in the same book the confirmation of my views by several authorities; also according to these, insufficiency of vegetables causes rachitis, not the lactic acid. Following are the extracts taken:

Experiments by F. Roloff[1] prove that in young growing animals with insufficiency of lime and phosphoric acid, diseases of the bones always manifest themselves, and that, the stronger and sooner the greater is their insufficiency. Also the many experiments by E. Voit and Fr. Tuczek[2] gave the same results. The researches of Hofmeister and Siedamgrotzky[3] prove that the addition of more or less lactic acid, given together with enough of calcium phosphate (hay) produced no such symptoms as are characteristic of osteo-malacia or rachitis, a disease due to lime insufficiency." Rachitis is

[1] Zeitschr. d. landw. Centralvereins d. Prov. Sachsen, 1875, p. 261.
[2] Zeitschr. f. Biologie, 1880, vol. 16, p. 55.
[3] Mittheil aus d. chem. phys. Versuchs station d. Thierarzneischule zu Dresden.

a disease of the children of the poor, who in the larger cities cannot afford to buy vegetables, which are there much more expensive than meat. These poor children are fed largely on beans, peas, meat, and potatoes; the relation between albumin and salts in the first three being nearly the same, and of the latter, the starch being the principal part, they cannot digest enough to give them the necessary quantity of salts. Osteo-malacia is also common in "women who have borne many children," *i.e.*, women who had to give off bone elements from their own constitution to supply the demand of their developing fœtus.

Gout is another disease acknowledged to be due to a high nitrogenous living among others, also to excess of meat.

Laboring under the impression that excess of one means diminution, insufficiency, of the other, that therefore excess of meats means insufficiency of vegetables, I had the opportunity to experiment on a gentleman, Mr. N——, whose urine I examine every month. This is the history: The first analysis I made on May 2, 1892, when I looked for albumin, sugar, excess of phosphates, and although the color of the urine did not indicate any bile or blood, yet I did it for the sake of thoroughness. Regarding these I found nothing abnormal. On July 19th followed the second analysis, when I looked for the same and found the same as on May 2d. The third analysis, on August 16th, resulted similarly. On September 20th, however, I recognized hyperacidity, which led me to look for excess of urates, which I found. Being asked by that gentleman the cause of the excess of urates, I answered, it may probably be due to the bottle, which was not the same as the other three times, and which contained some kind of drug before it was filled. On October 15th I found nothing abnormal; whether it was a faulty analysis or not I could not tell. But the following three analyses, those of November 12th, December 24th, and especially that of February 4, 1893, were charged abundantly with excess of urates. Mr. N—— asked me what harm might arise, to which I responded, it may lead to stone in the bladder or gout; and as his brother has already had several attacks of gout, I told him he was likely to get it unless he changed his diet, which consisted of meat three times a day, and some spirits; of vegetables, which he absolutely disliked, he took very few potatoes. My advice was, not to stop his meats, beer, or wine, but to have plenty of vegetables at every meal, which of course itself must diminish the quantity of meat, the stomach having been satiated already by vegetables. Mr. N——, who is a graduate of the City College, a member of a downtown wholesale firm, and of good social standing, thought there was a difference between fluid and solid meat, abstained from the first, and with the latter he took sufficient vegetables. I was surprised not to find any trace of excess of urates at the next analysis, March 18th, since which time the urine remained normal, Mr. N—— now being fond of vegetables.

The deposit of urates in the joints may probably be due to the following chemical changes: Uric acid, an animal product, found only in the carnivora, not herbivora, is produced only by animal and not by vegetable tissues. Consequently an increased supply of the material will increase the quantity of the output, *i.e.*, increased animal diet will increase the volume of uric acid in man. Finding no substances which, if vegetables were taken the free sulfuric acid contained in them would counteract, the excessive amount of the uric acid circulating in the body, combines with the sodium (which with increased animal diet is also increased) of the synovial fluids to form the urate of soda, which is deposited. That the great toe is usually first to be involved may be due probably to the fact that the great toe joint is the least disturbed or exercised of all the other joints in the body and therefore any formation of deposits is undisturbed.

Related to gout, the difference being probably one of degree, is rheumatism. Here, as in gout, the joints are the site of disease; here, as in gout, there is "hyperacidity," or diminished alkalinity of the blood; here, as in gout, exists an ill proportion between meat and vegetables. Of the four patients I saw in Bellevue, 1, John C. O'C——, aged forty three, admitted October 1, 1893; 2, Charles B——, admitted September 21, 1893; 3. Nicholas M——, admitted March 22, 1893; and 4, Alfred K——, admitted October 2, 1893—there were no more in our wards at that time—everyone preferred meat, which they had taken several times a day, almost abstaining from vegetables; also to them meat was the nutritious food, the diet. In gout the excess of meat is apparent, easily detected, in rheumatism, a disease more of the lower class, the deficiency of vegetables is of a slow coming character. That in fishermen exposure to wet and cold should be regarded as the cause is not necessary; these people live on an animal diet almost exclusively. How well can each of the symptoms of rheumatism be explained should insufficiency of vegetables, or what is the same thing, excessive consumption of meat—the cause of the hyperacidity—be considered the etiological factor. Skin diseases and all other diseases that are the result of hyperacidity of the blood may thus have for their first, predisposing, if not exciting cause, an ill proportion between meat and vegetables, the predominating one being meat.

If the foregoing be recognized would we not be just in saying that as well as excess of meats, also excess of vegetables must induce sooner or later a pathological condition? that excess of vegetables or diminished quantity of meat, may be the idiosyncrasy, predisposing or exciting cause, of another class of diseases?

Surgical Suggestions.

A. C. E. Mixture.—I fully believe it to be as safe an anæsthetic as any, and one by which the dangers of chloroform and the inconveniences of ether are alike avoided.—Reeves.

Sponges may be made aseptic after use, but there is no known agent on which we can rely to counteract possible toxic albumoses and ptomaïnes.—Mayland.

Cancer.—Belief in heredity is derived merely from popular tradition, and is wanting in any sound basis of scientific proof. Extremely practical issues are involved, and the views now prevalent often lead to disastrous results.—Snow.

Thiersch's Solution, which is not irritating, as the other antiseptic fluids are:

℞ Salicylic acid..... ʒ ss.
Boracic acid..... ʒ ss.
Aquæ..... O. viij.

Labyrinthine Disease due to secondary syphilis, occurring after the appearance of pharyngeal mucous patches and simultaneously with the roseola, without implication of the middle ear, is reported in a case recently seen by Toeplitz.

Tenorrhaphy.—Where a gap exists, no matter how slight, in the continuity of a tendon, we should never sew the ends together, under the impression that a slight shortening will do no harm. Any shortening, however slight, of a flexor will be sure to prevent complete extension of a finger, and *vice versa*.—Lund.

Rupture of the Male Urethra.—The suprapubic method should relegate the uncertain perineal method of treating this dangerous injury to the same obscurity that the suprapubic method has relegated the perineal method of extracting stone from the bladder.—Stewart.

Epithelioma of superficial variety—alternate applications of ten per cent. methyl-blue and twenty per cent. chromic acid.—Darier.

Symphyseotomy.—The writer concludes, after two operations and some investigations on the cadaver, that not more than two centimetres separation of the pubic joint follows simple division of the articulation, while by section of the ligamentum arcuatum inferius the joint will separate to the extent of 5 to 6 ctm.—DÖDERLEIN.

Pneumonectomy.—One great difficulty will be to determine the cases that are suitable for pneumonectomy. It is said that in the living collapsed lung foci of disease are readily detected by palpation, and many portions might be ligated and removed if necessary.—LAWSON.

Indications for Cholecystotomy.—Frequently recurring biliary colic without jaundice, where medical treatment has failed. Persistent jaundice where the onset is ushered in with pain, and where recurring pains, with or without ague-like attacks, render it probable that the cause is gall stones in the common duct. Distended gall-bladder from impaction of calculi in the ducts. Empyema of the gall bladder. Persistent jaundice with enlargement of the gall bladder dependent on some obstruction in the common duct, even where the cause cannot be clearly made out.—ROBSON.

Perityphlitis.—In 112 cases of perityphlitis, in which post mortem examination was made at the Berlin Anatomical Institute, 24 were found due to coproliths, 4 to foreign bodies, 29 to ulcerations. In 459 cases collected from literature coproliths were present 179 times, foreign bodies, 16. Perforations of cæcum are rare, being found 29 times in 218 autopsies. Four to five per cent. of those affected die.—RENVERS.

Metritis may give symptoms referable to the kidney.

Chloroform Syncope.—The heart cannot be weakened under chloroform except by interference with the breathing. It is useless and dangerous to take the pulse as a guide. Watch the respiration. Safety is insured only by regular natural breathing.—LAWRIE.

Supra sphincteric Ulcers of the Rectum require the galvano cautery under anæsthesia and with the aid of a speculum. Boric-acid lotions and iodoform tampons may be used in the after-treatment, and antiseptics, such as naphthol, administered internally.—QUÉNN.

Guushot Wounds.—Recent fractures and dislocations of the spine should be operated. The large mortality should not deter, since cases that would surely die or recover hopelessly paralyzed may be saved.—PHELPS.

Rosacea.—

Ichthyol	2 parts.
Resorcin	1 part.
Collod. flex.	30 parts.

—PETRINIO.

Tubercular Ostitis of the Knee in Children (white swelling).—It has long since been established that the growth of bone is seriously interfered with by excision, and surgeons, as a rule, avoid operating on the knee-joint. The cases that I have presented lend additional weight to the argument against the operation. The appearance of sinuses, the infiltration and distortion of the limb, seem to demoralize the surgeon at times, and he feels that only an incision will save life.—GIBNEY.

Cancer of the Uterus.—Total extirpation is destined to be the operation for cancer of the uterus, whether the disease is cervical or corporeal, and if done in time will permanently cure a certain portion of cases. If any tissues adjacent to the uterus are already involved, it should not be attempted.—LEWIS.

Too Small Doses of arsenic are usually given. In skin diseases the sufficient dose is the one the patient can stand. Arsenious acid is the best tolerated. Diascordium facilitates tolerance. One grain can be ordered with one-sixtieth grain of arsenic for each pill.—BESNIER.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

MR. HUTCHINSON'S CLINICAL CONFERENCES—NOTES OF HIS VIEWS ON SOME CASES OF SKIN DISEASES EXHIBITED—RED ECZEMA—BAZIN'S MALADY—HERPES—SENILE SCROFULA—LEUCOMA OF THE TONGUE—MOLLUSCUM CONTAGIOSUM—RECOVERIES FROM LEPROSY—CHRISTMAS IN THE HOSPITALS—A FEVER HOSPITAL PROPOSED CLOSE TO A MILITARY HOSPITAL—QUESTION IN PARLIAMENT—SANITARY REPORT OF EGYPT—COMPULSORY NOTIFICATION—DEATH OF PROFESSOR BENTLEY.

LONDON, December 27, 1893.

I HAVE in a former letter (MEDICAL RECORD, November 18th), described Mr. Hutchinson's new museum, and intimated an intention of recording some of his remarks at the clinical conferences he is holding there. The following notes, selected from his observations at four different demonstrations, will redeem my promise, and give your readers some idea of these interesting meetings.

A girl, aged eleven, on whose right leg red eczema appeared, was one day exhibited. The skin of the whole body had from time to time been attacked. The appearance was suggestive of inflammatory icthyosis, but it was pointed out that that would affect the whole surface at once. The rather trite observation was made that eczema is always worse in hot weather, and aggravated by soap and hard water.

Erythematous patches on the legs of a woman aged thirty two, first appeared a year ago, about two months after her last confinement. Some of the patches had ulcerated. There was no history of tubercle, and no other part of the surface was affected, so that the case resembled Bazin's disease, of which a case was exhibited another day in an anæmic young girl. On both of her legs were indurated nodules between knees and ankles, and there was no ulceration, so that this case was more like those described by Bazin some twenty-five years ago, under the term "indurated erythema of scrofulous persons." English dermatologists are becoming interested in these cases of Bazin's disease, which may be described as small, hard knots under the skin of the legs in young persons, looking like erythema nodosum but not painful, and as often on the back of the legs as the front. But Bazin never mentioned ulceration, and this Mr. Hutchinson suggested might be because as a physician he was not consulted for ulcerated legs, and when his cases passed to this stage they might go to surgeons. The multiple ulcers strongly resemble those of a syphilitic type, and Mr. Hutchinson confessed that a case he had related in his books on syphilis he now knows to have been free from that disease, although at the time he treated it as such. It is good to hear skilled and patient observers acknowledge mistakes, and may well stimulate all to be careful. In this case mercury was administered for two years, but seemed to suit the patient rather than injure, thus confirming Mr. Hutchinson in his belief that mercury given judiciously is not injurious to strumous persons. In this belief I am inclined to share, but it must be judiciously given. If the patient improve and gain flesh, it is well; but if the contrary occur, the drug should be at once omitted. Multiple ulcers in scrofulous persons (sometimes in healthy ones), limited to the leg between the ankle and knee, are the characteristics of Bazin's disease. It is quite exceptional to find induration above the knee. Sometimes the disease appears behind the upper arm. Pustular ophthalmia is a common complication, indicating again the connection with scrofula, which Mr. Hutchinson distinguishes from tuberculosis, regarding it as that state of health which renders a person susceptible to the attack of the tubercle bacillus. The reason the legs are the seat of Bazin's disease he attributes to some defect of the circulation, though it must be confessed varicose veins are not associated with it,

nor for that matter is any known circulatory change. He also thinks there must be some infective influence from the first ulcer, as when one forms others occur. But what causes the first? He suggests the sting of some insect, and we know how severely such injuries act on some persons. He thinks, too, that bromide or iodide may start the disease. As to treatment, he puts the patients to bed for a few days, and then sends them out to be active in the fresh air or to the seaside. The legs he keeps moderately bandaged, and dresses the ulcers with an ointment of hydrarg. bisulphuret, four grains to the ounce. The great thing is to improve the general health.

Herpes affecting the digits is rare, but Mr. Hutchinson showed a case in a married woman, aged about thirty, who during the last three years had suffered from attacks again and again. The recurrence seems to come at shorter and shorter intervals; now not more than six weeks intervene. It is the ring-finger of the right hand which is affected, and each attack lasts about ten days. A six months' course of arsenic was recommended. In contrast with this localized case I may cite a more extensive one shown another day, which occupied the course of the posterior branches of the cervical nerves, and on which the remark was made that shingles gives us anatomical instruction, and that anatomists had gathered some minute details from the way in which the eruptions followed the course of nerves.

Senile scrofula was the diagnosis in a man aged sixty-two, who had enlarged glands of the neck extending to the axilla. The swellings were quiescent and freely movable, the condition spoken of as the "bunch of grapes," thus excluding malignancy, in which "all the glands are glued together." The main point in tuberculous glands, Mr. Hutchinson said, is their infective nature, so that as soon as one becomes enlarged others follow suit, being successively infected, and this establishes the treatment, extirpation. But in this case the age forbids operation, though in young persons removal of glands likely to be infective is always to be attempted; even repeated operations may be performed if necessary. This man had a smoker's tongue, which is a superficial leucoma of the tongue, and another patient exhibited a more advanced stage of this, the so called "white-paint condition." The man had old syphilitic scars on his face, and Mr. Hutchinson remarked that when he was a student this sort of tongue was commonly attributed to three S's, viz., syphilis, salivation, and smoking. He considered that the term icthyosis was quite inapplicable to the disease, which begins as a superficial glossitis, and proceeds to the formation of white patches. Then sometimes the disease becomes epitheliomatous, so that if ulceration and a sore form operation should not be delayed; but while there is no solution of continuity there is nothing to be feared. A drawing illustrating this was exhibited of a tongue removed ten years ago, and the patient being still well.

Molluscum contagiosum is comparatively rare in adults, but Mr. Hutchinson has often been consulted for it in private practice by men, not once by a woman. All these men took Turkish baths, and probably contracted the disease there, though it was not easy to see how. The contagion might possibly adhere to the towels, but it is difficult to see in what way. It had been suggested that the profuse perspiration induced it, but in that case it would be disseminated, not just a patch or two, as it is found in adults. In children, however, the spots are multiple and diffused, showing a greater susceptibility in them. The disease is no doubt often taken by sucklings from their mothers, as the breasts of women are the favorite seat of the spots. It may last six or twelve months, but does not remain a life time, in which sense no one has seen it to be chronic.

In leprosy and recovery from it, Mr. Hutchinson still holds to the fish theory of causation. He says it is certain the bacillus must enter the body either in the food or by direct contagion, but that it is not transmitted by the latter, nor by heredity, and Englishmen who acquire the disease abroad may return home without risk of giving it to their friends. Those, too, who go to leprosy countries may acquire the disease without any exposure to contagion. So he concludes the bacillus enters in the food, and the only article of diet open to suspicion is fish. A patient was shown who had recovered from what, three years ago, Mr. Hutchinson had no doubt was true leprosy. The disease was contracted abroad. The brown patches have all gone, but of course the anæsthesia remains, and is a source of frequent injuries, but these always heal well.

Avoidance of "anything taken out of the water" for food, and three minims of Fowler's solution three times a day, has been the treatment during these three years. It was stated that the anæsthesia has somewhat diminished. A reference was made to other cases of recovery, one recorded by Mr. Hutchinson in the "Transactions of the Royal Medical and Chirurgical Society" for 1879. Another case was that of an officer seen ten years ago with undoubted leprosy, seen a second time lately for another affection, when the leprosy was found to have disappeared, but blindness remained from previous destruction of the cornea. The case of the man Yoxhall, which will be remembered as having no little influence in bringing about the leprosy commission, was adduced as a recovery, although his hands are much crippled, and he is still liable to some ulceration of both feet and hands; but Mr. Hutchinson attributes this to malnutrition of the skin. Another case was that of a young man, who so far recovered from leprosy as to return to his studies, but was afterward carried off by acute tuberculosis; and it was remarked that the bacillus of tubercle and the bacillus of leprosy being undistinguishable, are probably identical, although differentiated in some way yet to be discovered. This is perhaps why those lepers who have recovered generally become tuberculous. Lepers coming to England from a district where the disease is endemic may be said, as a rule, to recover, and careful investigations by American physicians have established the same rule for the United States.

LONDON, December 30, 1893.

During the Christmas recess not a few of the younger staff and students at our hospitals take a pleasure in helping at the entertainments which are commonly given to those patients who can attend them. The nursing staff is invariably to the front in the decoration of the wards, and as many donations of flowers and plants are presented the task of arranging them usually results in great satisfaction to the workers and much pleasure to the patients. A Christmas dinner is also a feature of hospital administration, and the patients who can partake of turkey or roast-beef are seldom the worse for it. Whether the same may be said for plum-pudding and mince-pies is another question. Perhaps the childrens' wards and the childrens' hospitals are the most pleasant to see during the festivities, for the little patients have of late been carefully catered for by various philanthropists, and their joy in the toys and other presents they receive is untinctured by the reflections that too often depress the adults.

A remarkable fact transpired in the House of Commons the other day. The Secretary of War acknowledged that his department had objected, but without success, to a proposed site for a new fever hospital which is to accommodate five hundred patients. The proposed site is said to be within one hundred and fifty yards of the National Military Hospital, at Woolwich! In connection with this fact I may remark that the great difficulty of obtaining suitable sites experienced by the Asylum's Board has also been the subject of parliamentary questions, and the statement was made that the Local Government Board dealt with every case on its merits, regard being had to the report of inspectors who inquired into the circumstances of each.

The first annual report of the Director-General of the Sanitary Department of Egypt, Dr. J. G. Rogers Pasha, is worth the attention of all sanitarians. As might

be expected it discloses a number of terrible defects in Egyptian sanitation, and points out the urgent need of various reforms. With a death-rate of forty, and this probably an understatement, one is prepared to hear of polluted water, foul soil, leaking cesspools, overcrowded dwellings, and other abominations. On the other hand a commencement of reform has been made and a better era may have been begun. Hospitals and dispensaries are at work. A pavilion for infectious diseases has been constructed at Alexandria. An attempt at registration of births and deaths has been made. Some towns are partly supplied with filtered water and other reforms, such as preventing cemeteries being established near crowded localities, are under consideration. Perhaps as much has been done as could have been expected in dealing with an Eastern people.

Mr. Hart, as chairman of one of the committees of the British Medical Association, has issued a special report, in the journal, on Compulsory Notification, of which he is a strong advocate. I can hardly deny that notification is just now in the ascendant, and perhaps the majority of medical men would support compulsion. But a very influential party would protest, and some of our most thoughtful physicians dislike the idea. But what strikes me as curious is the argument that if statistics of death-rates are of such great value would not attack-rates be equally so? But surely we might equally say that if attack rates of a few diseases are useful to science, so would be those of all diseases, and assuredly the people are not prepared to notify all their ailments for the sake of improving medical statistics. Even Mr. Hart is not prepared to include measles in notification returns.

Professor Bentley died on the 24th inst. at the age of seventy-two. He had a long and popular career as Professor of Botany at King's College and other institutions. He was also Professor of Materia Medica and Botany at the Pharmaceutical Society. I have known him more than thirty years, though, curiously enough, I never heard him lecture. Yet I have talked with those in whom he had kindled a great enthusiasm for botany. He was one of the editors of the British Pharmacopœia of 1885, and author of perhaps the best Manual of Botany for Medical Students—a manual full enough and accurate enough to serve as a ready book of reference throughout a career of practice.

THE PRIVATE-ROOM QUESTION IN HOSPITAL TREATMENT.

To the Editor of the Medical Record.

Sir: May I be permitted to trespass once more upon your valuable space in order to acknowledge that your criticisms upon my letter of January 8th are unanswerable?

In my letter I did not consider the private-room question in all its bearings. I believe that my statement is correct, so far as it goes; but it is correct only when applied to the subject of the relations of the medical staff of a hospital (considered simply in its official character—as a part of the machinery of the institution, not as a group of individual citizens) to the managing board of that hospital. That is to say, that the medical men on the staff of a hospital have no right to complain if they are called upon to treat any or all of the patients in it gratis. The managing board has a perfect right to make such rules as to it seem best for the conduct of its medical officials in this respect. The private room system may or may not be objectionable; but it is no hardship for the hospital doctor if he voluntarily accepts a position in a place where it is in vogue.

It is, however, a hardship for those who are not on the staff, as you justly remark. It is more than a hardship; it is a wrong. While it is the duty of the managers to administer their trust without regard for sentiment, it is no part of their duty to do so without regard for principle. Although bound to increase the income by all legitimate means, they have no right to do so by improper methods. Offering inducements to the patients of any doctor to leave him and enter a hospital is really little, if at all, different from stealing some of his money. The fact that it is done for the benefit of a charitable institution does not alter the case. It is probable that the income of any hospital could be much increased should its funds be invested in well-appointed liquor saloons, but the managers would justly object to such a way of getting money. Now the reason that such an objection is just, is that bar-rooms do harm to certain members of the community in particular, and demoralize the public at large. The same may be said of the private-room system; it injures the defrauded doctor, and it pauperizes (the word is correctly used)—it pauperizes to a greater or lesser extent the public.

Of course, when drawing a parallel between running a liquor saloon and keeping a sort of sanitarium, I disregard the legal questions involved. That the courts would forbid the former use of trust-funds is tolerably certain; I do not know whether the legality of the latter plan has been tested.

It seems to me, Mr. Editor, that the objections which you urge, and which are merely amplified in this letter, apply, not to the remuneration of hospital doctors, but to the whole private-room system. If the system is wrong, I fail to see how it is bettered by providing pay for the medical men who are called upon to treat patients who have been lured away from other doctors! It must not be forgotten that private patients always enter a hospital for the reason that they think to obtain some advantage not possible outside. While exacting pay for medical attendance would reduce the number of people who would leave their medical men and enter, some would be led to do so. Is there not some resemblance between the attitude of one who seeks to protect the outside practitioner to a certain extent only, and who does not object to the infliction of some wrong upon him, and that of the girl with the illegitimate baby who said in palliation of the act which resulted in the infant's advent, and in justification of her conduct, "that it was such a little one?" J. West Roosevelt, M.D.

New York, January 13, 1894.

[Yet as a little thing it was enough to prove the case. We still contend that it is not right to treat such patients for nothing in hospitals. An extra fee should always be charged by the attending physician or surgeon. The really poor are the only ones entitled to free treatment. —Ed.]

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 13, 1894.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	8	5
Scarlet fever	92	9
Cerebro-spinal meningitis	1	4
Measles	456	29
Diphtheria	192	63
Small-pox	11	3
Cholera	0	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0

Doctors' Drummers must Wear Tags.—We learn from the *Hot Springs Medical Journal* that the City Council of that enterprising resort has enacted that hereafter the drummers who solicit patronage for the local physicians must be duly labelled according to law, and wear a numbered tag.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 45, No. 4.
Whole No. 1212.

NEW YORK, JANUARY 27, 1894.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

THE IMPLIED CONTRACT TO PAY FOR MEDICAL ATTENDANCE.

BY WILLARD A. MITCHELL, COUNSELLOR AT LAW, NEW YORK.

IN these hard times, when the physician sees nearly all of his patients trying to economize, and many of them apparently coming to the conclusion that the best place to begin is with the doctor's bill, he is apt to ask himself what his legal rights are, and to what extent he could, if necessary, enforce payment for his services through the courts. It is attempted in this article to state briefly some of the principles of law applicable to the inquiry, and to point out some of the leading cases by means of which the matter may be more fully investigated.

Little difficulty is presented by those cases in which there has been an express contract as to who shall be responsible for the bill, and what the rate of compensation shall be. But in the majority of cases no definite contract is made, and the parties are left to the contract implied by law.

Although medical services may be rendered under such circumstances as to impose no legal liability for compensation, the presumption of law is that such liability does arise, and the burden is upon the patient to show that the services were mutually intended to be gratuitous. (In re Scott, 1 Redf., 234; and see Smith v. L. I. R. R., 102 N. Y., 190.)

This is true even when the services were rendered voluntarily and without request, if they were accepted without objection. A mere intention not to charge for services, which intention was not communicated at the time to the person for whom they were rendered, will not prevent a recovery for their value.

If services are rendered gratuitously in the hope of a legacy or other benefit under the patient's will, no recovery can be had. But if one agrees to provide by will remuneration for medical services, equity will decree specific performance when the agreement was definite and certain, and when not, the value of the services may be recovered in an action at law. (Shakespeare v. Markham, 10 Hun, 322.) Recovery may also be had where no definite sum was agreed upon, and the provision made by will is inadequate. (Porter v. Dunn, 131 N. Y., 314.)

The right to recover for medical services belongs only to a duly licensed physician, and one not so licensed cannot recover even on an express contract. (Fox v. Dixon, 12 N. Y. Suppl., 257.) And a note received by him for his services is void for lack of consideration. (Holland v. Adams, 21 Ala., 680.) A physician is required to be licensed only in that county in which his principal office is located (Martins v. Kirk, 55 Hun, 474), and one duly licensed may recover for services rendered by his students or assistants, although the latter are unlicensed. (Waring v. Monroe, 4 Wend., 200.)

An exception to the rule that the presumption is in favor of an intention to compensate, prevails in the case of services rendered to a near relative, especially one living in the same family with the physician. No recovery can be had in that case, unless there is an express contract, or evidence showing that there was an expectation on both sides that compensation should be made. (Lynn v. Smith, 35 Hun, 275; Dye v. Kerr, 15 Barb., 444; Ross v. Ross, 6 Hun, 182.) But this exception does not extend to the case of a more distant relative, as an aunt or grandfather not living in the same house. (Succession of Dickey, 41 La. Ann., 1010; Walters v. Mahew, 30 St. Rep., 96.) The question as to whether services to a relative were intended to be gratuitous, frequently arises after a patient's death, and upon the settlement of his estate.

When there is no doubt that the services were rendered with an expectation that payment should be made, some uncertainty may arise as to who the person legally liable is. The law will cast this legal liability either upon the patient himself, upon some person who stands in such relation to the patient as to be liable for necessaries furnished to him, or, in some cases, upon a third person not under such obligation.

Those who stand in such relation to others as to be liable for necessaries furnished to them are husbands, fathers of minor children, and guardians. The obligation to support another may also arise by contract. Where one under such obligation summons a physician, or, knowing the circumstances, acquiesces in his rendering services, he becomes liable to pay their value. (Rundell v. Bentley, 53 Hun, 272.)

The liability of the father for services rendered to his children ceases upon their majority. So where an adult daughter was ill in her father's house, the physician was not allowed to recover from the father for his services, although the latter had been present at the rendering of the services and had said nothing to disclaim liability. (Crane v. Baudouine, 55 N. Y., 256.) It was even questioned if the father, in that case, would have been liable had he himself summoned the physician, the court citing with approval a Pennsylvania case (Boyd v. Sappington, 4 Watts, 247) in which a father summoned a physician to his house to attend an adult son, but was held not liable for the services. A husband, or the father of a minor child, may also be liable on the theory of agency, for necessary services rendered without his knowledge. While a father provides for his child, the latter has no implied authority to act as the father's agent in procuring necessary medical attendance for himself; but very slight circumstances will be sufficient to show such authority; as that the father had previously paid bills contracted by the child (Neilson v. Ray, 44 State Rep., 125), or that the father has sent the child to school at a distance and pays his expenses. (Baker v. Keen, 2 Stark, 501.) And a recovery may be had without showing any authority as agent, when the father has deserted his child or utterly failed to provide for it. (Van Valkenburgh v. Watson, 14 Johns., 480.) So also an infant, who has no parent or guardian, may be held personally liable for necessary medical services rendered to himself. (Kline v. Amoureux, 2 Paige, 419.)

No proof need be given of a married woman's authority to act as her husband's agent in procuring necessary medical attendance for herself and her family, as "it is presumed that the husband assents to contracts made by his wife for necessaries . . . which presumption can be repelled only by proof of express notice of previous dissent, or a notice not to trust the wife." (Mott v. Grunhut, 8 Daly, 544.) It is not necessary, in order to charge the husband, that the marriage be valid. It is sufficient if he has represented the patient as his wife. (McCutchen v. McGahay, 11 Johns., 280; Gerlach v. Turner, 98 Cal., 446.) Where, therefore, a physician is called in by a married woman, or renders services to her or her children, in the absence of any special agreement

on the part of the wife to pay, the husband is liable. (Estate of Mrs. Shipman, 22 Abb., N. C., 291.) But the husband is relieved from liability and the wife becomes responsible when she pledges her personal credit. (Ellison v. Sessions, 44 N. Y. State Rep., 644; Hallock v. Bacon, 45 N. Y. State Rep., 484.) Whether she has so pledged her personal credit is a question of fact for the jury. (Cutter v. Morris, 116 N. Y., 310.) The fact that the services were charged to her on the books, or a bill rendered to her personally, unless acknowledged or acquiesced in by her, is not admissible as evidence against her (Crane v. Baudouine, supra), and even if she acknowledged the bill and made payments upon it, the presumption is that she was acting as her husband's agent: and although it is some evidence that she has pledged her own credit, it has been held not sufficient to defeat an action against the husband. (Furlong v. Hyson, 35 Me., 332; and see also Meiker v. Claghorn, 44 N. Y., 352; and Foster v. Persch, 68 N. Y., 400.)

There are two cases in which, in the absence of an express contract, the physician may recover if either husband or wife has property. The first is the case in which a physician renders services to a woman not knowing her to be married. Here the husband is liable as an undisclosed principal, but the wife is also liable as an agent who has made a contract without disclosing the fact of agency, and either could be sued notwithstanding a previous judgment against the other for the same cause, if it had not been satisfied. (Cobb v. Knapp, 71 N. Y., 348.) The second is the case in which a married woman, who has been abandoned by her husband, or is living apart from him for good cause, renders him liable for necessaries furnished to herself and her children. Here the debt is that of the husband, and the wife may not be sued directly. But a judgment against the husband may be enforced against the wife's separate property, by an action instituted for that purpose. (Edwards v. Woods, 131 N. Y., 350, *obiter*.)

A third party, not under legal obligation to furnish necessaries to the patient, may be compelled to pay for medical attendance when he has made an express promise to do so, although no benefit to the promisor is shown; and where his agreement is that he shall be liable primarily, and not as guarantor, it is not required to be in writing. (Hanford v. Higgins, 1 Bos., 441.) An outsider who has not made a definite agreement may be held liable where the circumstances are such as to raise an implied promise. The question is entirely "one of the intention of the parties, as deduced from the facts and circumstances of the case." (Buck v. Amidon, 41 How. Pr., 370.)

It often happens, however, as is shown by the reports, that physicians, occupied with the professional aspects of a case, rely too confidingly on the moral responsibility of some well-to-do friend or relative of the patient, without taking the proper steps to hold him legally responsible. In the case above cited, the defendant, a wealthy New Yorker, received a telegram requesting him to summon the plaintiff, a physician, to perform an operation upon defendant's brother in Connecticut. Defendant called upon the plaintiff, showed him the telegram, asked him if he could go, and when answered in the affirmative, accompanied him to the patient's house, paying the travelling expenses of both. The patient was unknown to the physician, who had, however, satisfied himself as to the defendant's financial responsibility. The Court held that on these facts a verdict against the defendant could not be sustained. He had merely acted as agent, had disclosed the fact of his agency by showing the telegram, and the circumstances were not such as to render him personally liable. A circumstance of some weight, as an admission against the plaintiff, was the fact that he had rendered a bill to the patient personally.

In the later case of Bradley v. Dodge (45 How. Pr., 57, Common Pleas), the physician was more fortunate. Defendant called at plaintiff's office and left his card, with the following message written upon it: "Call on Mrs. Day, at No. 769 Broadway." From that fact alone, a promise was implied on the part of defendant to pay for all the services rendered by plaintiff during the patient's illness; the Court saying: "The defendant might very readily have screened himself from all liability by simply writing the memorandum on a blank card, or by adding . . . something that would have apprised the plaintiff of the fact that he acted in the transaction for Mrs. Day, as her agent." It seems somewhat severe to place upon one who goes to summon the doctor for a sick neighbor, the burden of explaining in full that he is merely acting as an agent in the matter, and to hold him personally liable if he omits to do so; and the above case was severely criticised for that reason by the reporter. It goes further than the cases in other States (Boyd v. Sappington, 4 Watts, 247; Williams v. Bricknell, 37 Miss., 682; Meisenbach v. S. C. Co., 45 Mo. App., 232); and that its doctrine might not be sustained by our own Court of Appeals is indicated by a dictum in Crane v. Baudouine (supra), the Court remarking that even if the father in that case had gone himself to summon the plaintiff to attend his adult daughter living at home, no promise to pay would have been implied. But it is not impossible to distinguish the case of Bradley v. Dodge from the other cases cited. The fact that the defendant therein left his own name and address, so obtruding his own personality in a way not necessary in one merely acting as an agent, may be considered as justifying the finding against him.

In cases where reliance is placed upon the express or implied promise of a third party to be responsible for the bill, it is necessary to distinguish between primary liability and liability as guarantor. The importance of the distinction is illustrated by a recent case in this city. Dr. A—— had been called out of town to attend Miss B——, who was afterward brought here to the house of a wealthy brother. The brother called upon Dr. A——, and said, "I desire you to continue your attendance upon my sister. You need have no fear as to your bill, for if she does not pay you, I will." This would have been a valid contract if in writing, but our statute provides that "every special promise to answer for the debt, default, or miscarriage of another person," shall be void unless in writing. When, therefore, after a long illness requiring constant attendance, the lady died, leaving no property, and the brother, although not denying his promise, refused to pay the bill, the doctor was without legal remedy. An unconditional oral promise by the brother to pay the bill would have been legally valid. In a case where dispute arises as to whether the oral promise of a third party was that the promisor should be liable primarily or only secondarily, or where it is sought to hold a third party on a contract implied from the circumstances, the fact that a bill had been rendered in the name of someone other than the defendant would be an admission of great weight against the plaintiff, unless he could show that it was by mistake. (Buck v. Amidon, supra.)

As to the amount of compensation, a physician must be paid the reasonable value of his services, which, in case of suit, shall be determined by expert witnesses, and no one but a physician may testify as to such value. (Mock v. Kelly, 3 Ala., 387.) This does not leave the decision of the question of amount wholly to the physicians themselves, as the jury are not bound by their estimates, but may act on their own "knowledge and ideas." (Knapp v. Monell, 4 Month. Law Bul., 91.) The plaintiff may show that his standing in his profession is high: and the financial ability of the patient may also be considered. (Lange v. Kearney, 4 N. Y. Supp., 14.)

The general rule that one who receives a bill or account, and retains it without objection, will be deemed to have acquiesced in its correctness, does not apply to a bill rendered for personal services without previous agreement as to rate of compensation. But where a part payment is made on such bill without protest, it becomes an account stated, which may be sued upon without giv-

ing evidence as to the value of the services rendered (Bronson v. Hoffman, 7 Hun, 674); and the bill need not have been an itemized one. (May v. Kloss, 44 Mo., 300.)

Where the bill has not been acknowledged to be correct, and no payment has been made on it, the physician is not estopped by the amount originally charged from showing that the services were worth a larger sum. An interesting case in this connection is Williams v. Glenny (16 N. Y., 389), in which a bill of $150 had been rendered for legal services. No payment was made upon the bill nor other indication of acceptance given. In a suit for the value of the services, the plaintiff was allowed to show that their real value was $500, and he was given judgment for that amount. In Harrison v. Ayres (18 Hun, 336), an architect recovered the amount of an increased charge under similar circumstances.

The question as to whether or not it is good policy for a physician to enforce, in the courts, his right to compensation, is one which must depend upon circumstances. Such suits are more common in large cities than in the country, for reasons which are evident The two cases last cited indicate a means of redress against a patient, who, out of consideration, has been charged less than the real value of the services rendered, and then puts the physician to the trouble of a suit to collect his fee.

114 Nassau Street.

SOME OBSERVATIONS ON THE ACTION AND VALUE OF HYOSCYAMINE IN NERVOUS AND MENTAL DISEASES.

A Personal Experiment with the Drug.[1]

By WILLIAM PHILIP SPRATLING, M.D.,

New York,

Formerly First Assistant Physician to the New Jersey State Hospital for the Insane at Morris Plains; Member New York County Medical Society and of the Harlem Medical Society of the City of New York.

The use of this drug in mental diseases, especially in the acute types where marked exhaustion is liable to occur, is not only of questionable value, but may do the patient material harm. In stating this opinion, I have in mind the manner in which the drug is used in many institutions for the insane, which is merely to quiet the frenzy of the patient.

In such cases large doses are usually hypodermatically administered; the desired effect promptly secured, and lasting injury often done the patient. I speak from an experience of five years in a State hospital for the insane, where from one hundred and seventy-five to two hundred acute cases were annually received.

For the purpose of further studying the largely unknown action of the drug, as regards its hypnotic properties, I administered to myself one fifteenth of a grain of the sulphate of hyoscyamine with the hypodermic needle. Its effects will be described later on.

Hyoscyamus, known also as henbane, is a European plant, but can be grown in some parts of the Northern United States. The drug depends for its active properties upon the presence of two alkaloids.

One is crystallized, having the chemical formula, $C_{17}H_{23}NO_3$, and is termed hyoscyamine. The other is an amorphous brown liquid, and called by Ladenburg, a German chemist, hyoscine. The former is isomeric with atropine. The latter while being isomeric with hyoscyamine, differs from it materially. Hyoscyamine can be split into tropic acid and tropine, while hyoscine can be split into tropic acid and pseudo-tropine. Both will unite with acids to form salts. The sulphate of hyoscyamine seems to be the form of the drug most frequently used to quiet the excitement of the insane, though of late years hyoscine has come into popular favor for the same purpose. The action of the two alkaloids is very similar, and for practical purposes we may consider them together. The dose, however, of hyoscine is very much smaller than that of hyoscyamine. The physiological action of the drug upon man may be briefly summed up as follows: Great dryness of throat and mouth; mydriasis; insecurity of gait; giddiness; muscular weakness: brief sinking of pulse-rate, followed by increased frequency, and possibly in some soporific.

In looking over the literature bearing upon the study of its supposed hypnotic properties, it is astonishing to find how widely at variance are the opinions of therapeutists of repute upon this point. Most experiments that have been made to determine its action in this particular have been confined to animals of the lower order, and to insane members of the human family.

Hypodermatically administered in doses of from one-twentieth to one-fifteenth of a grain, the drug produces such absolute motor paralysis, and so checks, for the time being, all manifestations of voluntary action that we may easily be deluded into the belief that sleep is actually present. Dr. H. C. Wood, in writing upon the physiological action of hyoscyamine, says: "Dr. Shaw, as well as many other alienists, believes that hyoscyamine acts as a soporific. Dr. Shaw's opinion only is given. Richter, in his studies upon normal man, noted no tendency to sleep from its administration. It is a matter for regret that full data of Richter's experiments are not given. Let us not forget, however, that his observations, so far as we can find, are the only ones that were made upon normal man, *i.e.*, men who were not insane; and especially should we not forget the additional and more important fact that Richter failed to note that the drug possessed any hypnotic virtues. The sulphate of hyoscyamine is recommended by Brown,[1] and confirmed by Germaine,[2] "to quiet the violence of, and produce tranquil sleep without disagreeable sequelæ in, acute mania, though without curative effects." It would be interesting to know just how these observers arrived at the happy conclusion that the use of this drug in acute mania was followed by no disagreeable sequelæ. Persons suffering from acute mania are usually not capable of making, and afterward stating, trustworthy observations upon the after-effects of medicines.

White says that hyoscyamine is a powerful cerebral and spinal stimulant. Biddle states that it differs from opium in its general effects upon the system, in its comparatively feeble hypnotic effects. Hare, in his "System of Therapeutics," states that the hydrochlorate and hydrobromate of hyoscine, employed hypodermically, have recently come into use as pure motor depressants. It is well known, he adds, that after the exhibition of a dose sufficient to cause complete paralysis, that when recovery occurs, it is complete. The fact that neither muscle nor the motor nerves are sensibly affected, shows that the paralysis was due to depression of the motor centres.

In the Medical Record for July 29, 1893, Dr. James Porter Fiske reports "Some Peculiar Effects from Large Doses of Hyoscine." Dr. Fiske first gave a man, forty years of age, who was suffering from acute alcoholism, one one-hundredth of a grain of the hydrobromate of hyoscine. It produced no effect. Forty-five minutes later the dose was repeated. This caused the man to doze for half an hour. This made one-fiftieth of a grain he had received in less than an hour. Nine hours after the second dose, one-fiftieth of a grain was again administered. In fifteen minutes the patient complained of his extremities feeling peculiar, somewhat "numb and prickly." He rose from the bed and attempted to walk, but after going four feet fell to the floor. His speech had become confused; markedly difficult; his voice husky. The pulse was 90.

Two and a half hours later his walk was again steady, and his speech clear. One-half grain of sulphate of morphia was then tried, with no better results. Hallucinations of sight now appeared, and some hours later he received the third one-fiftieth of a grain of hyoscine: with the same result as before. At no time had the

[1] Read before the New York County Medical Society, November 27, 1893.

[1] British Medical Journal, November 25, 1882.

[2] Congrès International de Médecine mentale, Paris, 1889.

hyoscine produced a hypnotic effect; the chief effects being motor paralysis, as indicated by loss of power in the extremities; sensory disturbances and impairment of speech, with some circulatory disturbances.

The dose given by Dr. Fiske, one fiftieth of a grain, is small compared with doses that are frequently given in hospitals for the insane. One-twentieth, one-fifteenth, and even one-tenth and one-fifth grain are in some instances boldly given.

Had Dr. Fiske given his patient a larger dose than he did, the result would have been more prompt and lasting. Motor paralysis, in our opinion, would have been all.

Hare states the dose of the sulphate of hyoscyamine to be from one-sixtieth to one-fiftieth of a grain, and of hyoscine from one one-hundredth to one-ninetieth, given hypodermatically; and by the mouth from one ninetieth to one-eightieth.

Hare adds that he has given one-tenth of a grain of Merck's hyoscine in twenty four hours, obtained from two different and reliable stores, without producing sleep, although the respiration was much quickened. Dr. Hare is also authority for the statement that when given in delirium tremens it may cause cerebral congestion and Cheyne-Stokes breathing, and adds that the applicability of the drug is limited indeed, and that untoward effects are common. Wood advises that the dose of the drug to be given at first should, on account of the unusual susceptibility sometimes met with, be less than the one hundred and fiftieth of a grain.

I have many times given as much as one-tenth and one-eighth of a grain of the sulphate of hyoscyamine. Let me add, however, that it was before I had much experience in the use of the drug, and knew but little of its true action. I recall the case of a young man, twenty years of age, who suffered from periodic mania, and whose maniacal outbursts were so fierce and persistent, that for ten days he received, hypodermatically, one-fifth of a grain of hyoscyamine every six to eight hours.

Another case I recall that came under my observation was one of acute delirious mania in a vigorous young Irish woman, twenty-six years of age, who was given one-eighth of a grain every twelve hours for a period of ten days. This amount was given her simply to keep her in a semi tractable condition. She was a person of wonderful strength and remarkable physique; she destroyed all articles of furniture in the room, including bed, bedding, and clothing, and would have done herself bodily harm had she not been put under the influence of chemical restraint. Mechanical restraint was forbidden. Manual restraint was out of the question, four attendants could not keep her in bed. The quantity of hyoscyamine she received merely sufficed to render her motor system partially inactive. On the tenth day of her illness, death suddenly occurred, and was attributed to overdistention and paralysis of the heart. The autopsy, made six hours later, showed the heart enormously distended with partially clotted blood almost as black as tar. The heart-muscle was pale and extremely friable. The vessels of the scalp, of the coverings of the brain, and of all the abdominal organs, were greatly distended; the blood being almost black, and of a watery consistence. The lungs were in a condition similar to that of the first stage of the pneumonic process. It would be a delicate matter to decide just how far the drug was responsible for this woman's death. That it was a potent factor in causing it we can never doubt. When death occurs in the course of an acute mental disease like this, we always find, on post-mortem examination, evidences of congestion throughout the body, and particularly in the brain, but we do not find such plainly marked evidences of poison as were noted in this case, and shown especially in the condition of the blood.

With the object of knowing something more definite of the physiological effects of the drug, I took, at nine o'clock one evening in May, 1890, beneath the skin of the left forearm, one-fifteenth of a grain of the sulphate of hyoscyamine. A stinging tingling pain immediately followed the withdrawal of the needle, and ran rapidly down the ulnar side of the arm, and caused a burning sensation and numbness that involved the fourth and outer half of the third fingers. In five minutes a decided fulness in the head was experienced; objects about the room began to appear hazy and assume a wavy outline. Walking into an adjoining room, I sat down, and while stooping over in the act of untying my shoe, as I felt the need of going at once to bed, I pitched headlong upon the floor. At that moment began what has been termed a "jolly delirium." The fact that I had fallen headlong upon the floor appeared to strike the keenest chord of humor, and provoked, on my part, immoderate laughter.

After many fruitless and powerful efforts I succeeded in getting into bed. My reason at this time was in no way affected. I counted the pulse-rate, and found it to be about 90. Respiration was appreciably increased. It occurred to me to test cutaneous sensibility, which I did by pinching, as hard as I could, the skin of the right leg, above the knee. No pain whatever was felt; only a sensation as if some blunt object was being pressed against the limb. Tests at other points showed the loss of sensation to be general, though not in so marked a degree as over the lower extremities.

Twenty minutes after receiving the drug, motor paralysis was complete. The lower extremities were first affected, then the power to move the body, as sitting up in bed. Then the upper extremities; and finally, movements of the head became impossible. The grosser movements suffered first. The arms and fingers could be used with a degree of ease some moments after the lower extremities had become absolutely paralyzed. A furry feeling in the mouth and over the tongue, as if the parts had been scalded, was due no doubt to central sensory paralysis; and on this point I wish to say a few words later on. The faculty of speech became involved fifteen minutes after taking the drug, and was first shown by leaving off parts of long words; then mincing and cutting small words in two; and finally, no sound save mumbled and unintelligent whispers could be made, and these soon disappeared entirely. Motor and sensory paralysis was now complete. This condition of absolute helplessness lasted about four and a half hours.

At no time, however, was sleep present; at no moment did I become unconscious of my surroundings. The condition of jolly delirium, referred to above, was still present, and as the check that had been put upon motor activity began to disappear, mental confusion increased.

A homœopathic colleague who happened to be visiting me on this occasion, and who did not know of my rash experiment, recognized the effects of hyoscyamus in my symptoms and prescribed that drug for me in one one-hundredth grain doses.

All manner of strange and fantastic fancies, delusions and hallucinations, crowded before my vision, and presented themselves to normal reason and intelligence as actual living realities. This jolly delirium, in the course of two hours, passed into a more active and agitated delirium. The pleasant features all passed from it. It became painful and disagreeable, and then horrible. Every instant some new picture would be flashed before a distorted field of vision, and some horrible delusion force itself upon my consciousness. A condition of double consciousness was present. Normal reason, judgment, and personality took no part in these weird and fantastic fancies. They stood apart, apparently unimpaired, realizing and recording what was transpiring, and so vividly were they presented, and so firmly recorded, that almost every fancy, delusion, and hallucination can be recalled after the lapse of nearly four years.

Eight hours after the drug was taken all evidence of motor disturbance had passed away. Much sensory disorder, however, was still present. Hallucinations of sight remained for twenty-four hours.

Let me again repeat and emphasize the fact, that dur

ing all this time I did not sleep. Cerebration had been driven from its normal channels; not into lessened activity and repose, but into intense and maddening activity. Images, unstable, imperative conceptions, and distorted ideas sprang for hours from a congested and poisoned brain.

The condition brought about in the sensorium by the action of the drug was as opposite to the condition that is now almost universally believed to be present during sleep as it could possibly have been.

Nothing could be more unqualifiedly disagreeable than the after-effects of the drug. The disturbance of vision, which lasted for days after, was the least disagreeable of them all. The mouth was devoid of all moisture, save a slight, sticky, and unpleasant secretion, the product of the buccal, salivary, and parotid glands that had undergone chemical change. The drying up of the secretions of these glands, which are so essential in food digestion, is in itself alone a strong argument against the use of the drug in exhaustive diseases where nutrition plays so important a part. Not only do the secretions of the mouth suffer, but we have no reason for believing otherwise than that the glands throughout the alimentary system are similarly affected.

Headache, general and persistent, is another most unpleasant after-effect.

In reference to the action of the drug upon the sensory centres in the cortex, this experiment seems to have been of considerable interest. It furnished another link in the chain of evidence that has been produced to show that the sensory and motor centres in the cortex are most intimately connected.

Dr. Charles L. Dana reports, in the MEDICAL RECORD for May 13, 1893, an interesting and valuable experiment to determine the identity of the two centres. The experiment was made upon a man who suffered from hereditary chorea, and who had been trephined and a piece of skull removed from the right convexity, at a point over the middle part of the pre-central convolution and the parts in front. Four months later Dr. Dana made the experiment by using cocaine, and thrusting two long, sharp, insulated needles into the shoulder and arm centre. Turning on the current and manipulating the needles a little, convulsive movements of the left arm and shoulder were noted. The electrode was withdrawn, and the patient questioned as to his sensations. He said at the time of the movement of the arm he felt in it a numbness and heaviness; and otherwise described the feeling as though it were much the sort of sensation produced by pressure upon the nerve. The experiment was repeated with a stronger current, when movement of the left arm and leg and face occurred with much more violence. After this the patient said he had felt a sudden numbness in the left arm and shoulder. He experienced no pain, either peripherally or locally. From this experiment, and the fact that hyoscyamine, which we know is the most absolute and powerful motor paralyzant, and from the fact that it destroys the sense of feeling, we are justified in believing that the cortical centres of motion and sensation are identical.

Little remains to be said about the use of the drug in general diseases of the nervous system. Here, too, I believe its field of usefulness is small. It has been used a good deal in diseases characterized by tremors and mild convulsive movements, necessarily of central origin. In paralysis agitans of long standing it often does good in a limited degree, given in one two-hundredth grain doses, and not too often repeated.

Its action is to lessen the violence of the tremors by suppressing the motor area in the brain. It is doubtful if it possesses curative virtues.

In some forms of chronic diseases of the mind, notably in chronic mania, or terminal dementia, where some continual restlessness is present, and where the patient's physical condition is good, it may be of service in very small doses. In such cases I have more often ascribed the good results that followed to the moral effect of the needle in giving the drug than to the action of the drug itself. The conclusions I have reached as to the use of the drug are as follows:

1. That it should never be given in doses of any size in acute diseases of the mind.

2. That it should never be given in any disease in which the least degree of inflammatory action, or congestion, is going on: especially in the brain or its membranes.

3. That it should not be given to a patient who is exhausted, or in cases where exhaustion is likely to occur.

4. That it should not be given in any case for the purpose of producing sleep. It has not been shown by any authority that it has any hypnotic properties.

5. That its use is advisable only in chronic diseases of the nervous system, to quiet excessive tremor, and in chronic diseases of the mind where motor disturbances take precedence over disturbances of the sensorial centres.

70 WEST EIGHTY-EIGHTH STREET.

WHAT IS THE SITE OF INFECTIONS CAUSING EPITROCHLEAR GLANDULAR ENLARGEMENT?[1]

BY HOWARD LILIENTHAL, M.D.,

ASSISTANT VISITING SURGEON TO MT. SINAI HOSPITAL, LECTURER ON SURGERY TO THE NEW YORK POLYCLINIC, ETC.

IN answering this question I shall use notes on cases which have all been under my own observation. No case, however, has lacked confirmation by at least one other physician.

All doubtful cases, *e.g.*, where infection or adenitis was bilateral, have been discarded unless the clinical features were quite unmistakable.

My experience has been with the various forms of ordinary suppurative infections, with pseudo-erysipelas, with epithelioma, and with one unusual case of syphilis.

No finger chancre appears in my table, but it seems to me that syphilis, under such circumstances, might be presumed to follow the path of other infections.

Observation as to the axillary nodes has not been fully carried out, but I believe that any infection of hand or arm may cause their intumescence.

Taking with the cases in my list very many others which, for one or another reason, I was not able to use in this paper, I cannot help feeling convinced of the correctness of my conclusions. They are the following:

A. Cubital lymph-node enlargement is probable,

1. Where an infection enters on the dorsum of the hand or wrist anywhere from the finger-tips to the forearm. 2. Where an infection enters anywhere from the styloid process of the ulna to the tip of the olecranon, in that region where the bone is nearest the surface. 3. Where volar infection involves the deeper tissues.

B. Cubital lymph-node enlargement is improbable in superficial volar infections.

Forty one cases have been tabulated. Eleven are anterior, twenty-nine are posterior, and one is doubtful, being an infection of the extreme ulnar portion of the hypothenar eminence. In this case there was suppurative cubital adenitis.

Among the eleven anterior infections there are two exceptions to the rule. In six of the cases there was marked axillary adenitis with no epitrochlear swelling or tenderness.

Of the twenty-nine dorsal cases but one has proved to be an exception. It was an angry-looking paronychia, very tender and painful, but with neither cubital nor axillary involvement.

Two cases of epithelioma, one volar and one dorsal, followed the rule.

The epitrochlear adenitis does not seem to bear the slightest relation to the position of the digit involved. Thus the list is found to contain cubital enlargement in connection with infection of any one of the fingers.

[1] Read, January 9, 1894, before the New York Academy of Medicine, Surgical Section.

Name.	Age.	Date.	Region of infection. Anterior.	Posterior.	Enlarged cubital node.	Remarks.
A. Bernard	45	November 19, 189[illegible]		Contused wound of middle finger.	Present.	
Morits Zinger	39	November 22, 1892		Paronychia of thumb	Present.	
Reuben Rubinowitch	20	May 24, 1892	Volar cellulitis of middle finger.		Present.	
G. Hansen	29	May 24, 1892		Paronychia of middle finger.	Present.	
Abe Goldstein	20	May 7, 1892	Volar cellulitis of thumb		Absent	Axillary enlarged and tender.
Pincus Schalitte	17	May 5, 1892	Ulnar hypothenar, healed wound.		Present.	Suppurative.
John Friedrichs	21	April 12, 1892		Infected wound of dorsum of wrist.	Present.	
Nelly Green	17	June 28, 189[illegible]	Thenar abscess		Absent	Axillary nodes enlarged and tender.
Fred Baumbusch	18	June 28, 1892		Infected incised wound of knuckle of ring-finger.	Present.	
Harry Feem	18	December 22, 1882.	Superficial infected laceration of right index.		Absent	Axillary considerably enlarged and painful.
E. P. N., Jr.	21	January 15, 1890		Abrasion of second knuckle of right index.	Present.	Suppuration; removal of gland; sore on penis four weeks before; no secondary and no other glands, but cured by antiluetic remedies.
Patient of Dr. M. H. Richardson, Boston.	15	Summer of 1885		Large epithelioma of dorsum of left hand.	Present.	Amputation. Seen by the writer at Massachusetts General Hospital.
Dr. E. S.	25	July, 1892		Paronychia of right index	Present.	
Dr. F. E. D.	35	August, 1892		Infected contusion of left thumb, ungual region.	Present.	
Sophie Rubinowitch	34	August 13, 1892		Left thumb metacarpal	Present.	
Paula Gross	18	August 23, 1892	Deep volar cellulitis of middle finger.		Present.	Later there was necrosis of the phalanx.
Louis Rubinowitch	15	August 23, 1892	Deep thenar phlegmon		Present.	
Fromnie Liberman	33	August 30, 1892		Furuncle of hand	Present.	
Christine Andesen	30	August 30, 1892	Volar cellulitis of finger		Present.	Inflammation down to the tendons.
George Conmey	15	August 4, 1892	Palmar abscess		Absent.	
Louis Kohn	33	October 8, 1892		Furuncle of finger	Present.	
Adolph Weisenthal	36	October 15, 1892	Large hypothenar furuncle.		Absent.	
M. Flataw	36	October 29, 1892		Furuncle of middle finger.	Present.	Very much enlarged.
Tim Curran	44	October 29, 1892		Superficial infected wound of hand.	Present.	
Mike Conkling	20	November 10, 1892.		Abrasion of little finger	Present.	Node very painful and tender.
Barnard Smith	38	November 15, 1892.		Infected wound of hand	Present.	
William Hanover	17	November 17, 1892.		Dorsal pseudo-erysipelas	Present.	Later there was palmar pseudo erysipelas; gland very large.
John Banon	27	December 13, 1892.	Superficial palmar abscess.		Absent	Abscess followed infection of a callosity over root of middle finger; axillary glands enlarged and tender.
Herman Salomon	20	December 13, 1892.		Paronychia of right middle finger.	Present.	Both epitrochlears to be felt; right much larger and tender.
Jacob de Walter	23	November 15, 1892.		Paronychia	Absent.	No axillary nodes.
John Parini	21	December 12, 1892.		Dog-bite of little finger (right).	Present.	Was bitten four weeks before, but wound had broken down; cubital node greatly enlarged.
Harry Sofion	10	June 25, 1892		Infected laceration of fingers.	Present.	Suppuration, with extensive cellulitis.
Sara Zofen	55	May 7, 1892	Epithelioma of right index; ungual phalanx.		Absent.	Axillary nodes enlarged and hard. Seen by Dr. Goldenberg. Microscopic examination of tumor.
H. Bierman	36	June, 1892.		Infected incised wound over olecranon.	Present.	Cellulitis. Incision with Dr. H. Heiman.
Mary Probinko	42	December 20, 1892.		Infected "brush burn" over olecranon.	Present.	Very tender and painful.
Thomas Kane	31	December 17, 1892		Furuncle of wrist	Present.	
Max Talmage	17	July 14, 1892		Furuncle of index	Present.	
Anna Tyrol	28	July 23, 1892		Furuncle of middle finger.	Present.	Axillary enlarged.
Bernard Held	24	July 28, 1892	Cellulitis of thumb and thenar region.		Present.	Suppurative.
William Preston	17	August 11, 1892	Puncture of palm, suppurating.		Absent	Axillary enlarged and tender.
John Thorn	52	January 7, 1893		Infected wound of proximal knuckle of left middle finger.	Present.	Size of marble; no axillary glands. Seen by Ladinski, Goldenberg, et al. Shown to Surgical Section.

Anatomists vary considerably in their descriptions of the lymphatic system of the hand and forearm. In a letter by Dr. H. Goldenberg to the June, 1892, number of the *Journal of Cutaneous and Genito-Urinary Diseases*, the theory is advanced that, reasoning from Sappey's description of the lymphatics, infections of the three radial digits should skip the epitrochlear node, while infections of the two ulnar digits should cause enlargement of this body. Professor Lewin, however, believed that the superficial lymph-vessels entered the axillary nodes direct, while the deeper ones passed through the epitrochlear. Judging by my observations the latter view seems to be the correct one.

The reason for my conclusions would then be that, on the back of the fingers and hand, and over the superficial portions of the ulna, there is so little tissue between skin and bone that superficial and deep lymphatics must be influenced by nearly all infections. On the anterior surface of fingers, hand, and forearm, however, there is such a thick pad of tissue that a superficial infection may exist without involvement of the deep lymph-spaces.

Since the above paper was read, Dr. R. W. Taylor has told me of two cases of chancre of the hand, both of which were exceptions to the rule which I have deduced from my observations. One was volar, with epitrochlear nodes first involved; the other dorsal and superficial, with axillary nodes and no epitrochlear. These and similar exceptions may show that syphilis follows an erratic course as to involvement of these lymphatics, or that there may exist an undiscovered law for this class of infections.

Ferratin.—This is the name given by Professor Schmeideberg, of Strassburg, to a compound of iron which he has extracted from the liver of the hog. Ordinarily, he says, it contains six per cent. of iron. As now prepared, and to be obtained in commerce, it occurs in the form of a fine powder of a reddish-brown color, of two varieties, one of which is insoluble, and the other, combined with sodium, easily soluble in water on agitation. For the purpose of dissolving the second form of the powder the water must be as free as possible from lime, otherwise an insoluble calcium ferratin will be formed. A watery solution of the sodium compound may be added to milk or to any other liquid food, especially in the diet of little children. Either form of ferratin may be administered in the shape of powder. From a grain and a half to seven grains may be given daily to children, and from fifteen to twenty-two grains to adults. It may be given in one dose or in two or three doses. Acid articles of food should not be taken during the employment of ferratin.—*New York Medical Journal.*

Vesical pain may be a symptom of pyonephrosis.—Guyon.

ENTERECTOMY—END-TO-END ANASTOMOSIS—CHOLECYSTENTEROSTOMY WITH MURPHY'S BUTTON.[1]

By W. B. ROGERS, M.D.,

PROFESSOR OF PRINCIPLES AND PRACTICE OF SURGERY AND CLINICAL SURGERY IN MEMPHIS HOSPITAL MEDICAL COLLEGE; CONSULTING SURGEON AND VISITING SURGEON AT ST. JOSEPH'S HOSPITAL; CHIEF SURGEON TO KANSAS CITY, MEMPHIS AND BIRMINGHAM RAILROAD, AND TO YAZOO AND MISSISSIPPI VALLEY RAILROAD; FELLOW OF SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION, ETC.

Case I. *Resection of Small Intestine for Gangrene—End-to-end Anastomosis with Murphy Button.*—Thursday, October 12, 1893, R. H——, male, twenty years of age, jumped from a wagon to the ground. The jar caused the descent of a right inguinal hernia, to which he had been subject for several years. He had theretofore been able to reduce the hernia, whenever it appeared, without the aid of a physician. On this occasion, however, he failed, and called his physician, who without the aid of an anæsthetic, and with very little effort by taxis, succeeded in pressing the hernia apparently back into the abdomen. The patient, however, continued to complain of pain extending from the inguinal canal toward the umbilicus. There was a slight fulness or induration at the site of the internal ring, but apparently within the abdominal cavity. The patient's general condition was nearly normal. During the next two days calomel, salts, and oil failed to act on the bowels. So also did repeated enemas of large quantities of water fail to bring away fecal matter. The abdomen was gradually becoming distended and tympanitic, and when I saw him, two days after the occurrence of the hernia, I found belly greatly swollen, tympanitic, with marked tenderness from the umbilicus down to the inguinal canal on the right side. He was vomiting a dirty greenish looking fluid, with distinctly fecal odor. Pulse and temperature about normal. I invaginated the scrotum with my finger, carrying it well up into the inguinal canal, but was unable to feel the hernia there, though just above Poupart's ligament, and just under the internal ring, there remained a small induration, indistinctly felt by reason of distention of the abdomen. The conclusion was that the hernia had either been reduced in its sac, or else that both had been well pressed up the inguinal canal, and between the peritoneum and wall proper. An operation was at once decided upon. An incision three inches long was made over the site of the appendix. At least a pint of blood stained water escaped from the peritoneal cavity. Inserting my two fingers I detected a constriction at the internal ring, and succeeded in drawing out eight inches of intestine. This I brought through the abdominal wound to the outer surface of the abdomen. It was so congested that at each end of the eight inches, where the encircling band had constricted it, that the peritoneum had given way and gangrene was imminent. I immediately cut out ten inches of intestine and made end-to-end approximation by means of Murphy's button. All hemorrhage was arrested, the abdomen cleansed, and drainage-tube so placed as to reach the bottom of the pelvis. The wound was closed with silk suture and the patient taken off the table with a pulse of 80. The reaction that night was pronounced, temperature reaching 103° F., but fell promptly by morning to 99½° F. His pulse from that time on did not go above 86; his temperature ranging under 100° F. Fifteen grains of calomel were given the night after the operation; ten grains were repeated the next day, and by means of oft-repeated large enemas the intestinal canal was thoroughly emptied of all gas and fecal matter at the end of sixty hours. The patient's general condition was good all of the time after the operation, and he expressed himself ready at any time to get out of bed and go to work. Thirty-two days have now elapsed and his bowels are acting every day without medicine. His appetite is good, and he is eating ordinary food. The drainage-tube was removed on the third day. The button was passed at the end of the seventh day.

The patient was then presented for examination by the fellows of the Association.

Case II. *Distended Gall bladder—Cholecystenterostomy by Murphy's Button.*—Captain L——, fifty-three years of age, of sedentary habits, and had suffered more or less with dyspepsia for years. Six months before he became very much jaundiced. The liver was greatly enlarged. He had no fever; pulse feeble at sixty beats per minute; was emaciated to almost the last degree. There was great pain over the pyloric region, with tenderness all along the liver, which projected in a uniform line three inches and a half below the border of the ribs. At the anterior axillary line there was a distinct projection downward from the liver reaching the anterior superior spinous process of the ilium. The case had been diagnosed by several physicians as cancer of the liver. While the symptoms pointed strongly to such a condition, I was not willing to consent to the diagnosis without an operation. This growth had been so rapid, had overreached the rapidity of growth so characteristic of malignancy. I detected what I thought to be the rounded end of the gall-bladder projecting at the lowest point of the enlarged liver. An incision was made two and a half inches below the anterior extremity of the ninth rib, extending downward three inches. Upon entering the abdomen I found the liver greatly enlarged and very much congested; it was blue at its surface, and projecting at its lowest point was the gall-bladder. I succeeded in bringing the fundus of the gall-bladder in the incision, and opening it evacuated fourteen ounces of bile. With a probe introduced into the gall-bladder, and my two fingers in the abdominal cavity, I was enabled to follow the cystic to the common duct, but no farther. I examined with my two fingers the under surface of the liver, and found no signs of malignant disease. I tested the common duct to the duodenum, and could find neither gall-stone nor malignant growth, but the liver was so swollen that a stone in the common duct might easily have escaped touch.

The condition of the patient at this time admonished a rapid completion of the operation, so that I did not attempt a cholecystenterostomy, but sutured the gall-bladder to the anterior wall of the abdomen, hoping that under the use of liberal douches of hot water I might succeed in clearing out the common duct. He reacted slowly after the operation, but in a few days was out of all danger. The hot-water douching was tried, and every effort made to pass a probe along the common duct without success.

At the end of three weeks he had gained some in strength, his appetite was good, and his color had nearly resumed the natural. The liver had receded beneath the ribs. In this state I allowed him to return to his home to recuperate before I operated for cholecystenterostomy.

Second Operation.—Patient returned after three weeks with general condition very little improved, but the absence of bile from his bowel seemed to have prevented his gaining in flesh. The prospect of improvement in the absence of bile was so unpromising that, although his condition was bad, in consultation it was deemed advisable to connect the gall-bladder and the bowel. At the time of this operation I again explored the tract of the common duct and felt two distinct enlargements, believed to be calculi. The case was not one to waste time in efforts at removal of calculi from the common duct, so I hastily did the cholecystenterostomy and used the Murphy button. The case progressed favorably, the button coming away from the fistula in the abdomen on the seventh day. We had much trouble in keeping the food from escaping *via* the gall-bladder. Most of the bile passed into the bowel. His condition for ten days was precarious indeed, but he slowly improved, and he went to his home at the end of four weeks. There he gained about fifteen pounds in flesh, and was slowly but

[1] Read before the Southern Surgical and Gynecological Association, New Orleans, November 15, 1893.

steadily improving until, three months after the operation, when he was taken with diarrhœa, which soon becoming dysenteric, caused death on the third day.

The operation, however, of gastroenterostomy with the Murphy button proved entirely satisfactory, and, so far as an operation was concerned, is to be regarded as a success in this case.

TWO CASES OF CHANCRE OF THE TONSIL.

By WALTER F. CHAPPELL, M.D., M.R.C.S. Eng.

SURGEON TO THE MANHATTAN EYE AND EAR HOSPITAL, NEW YORK (THROAT DEPARTMENT).

Mr. A——, aged thirty-two, married, consulted me on December 8, 1893, for a sore throat, of which he gave the following history: Seven weeks ago he began to have slight pain and soreness on the left side of his throat in the tonsillar region; this gave him little anxiety, as he frequently had sore throat from excessive cigarette smoking. Not improving after a week or ten days he consulted a physician, who prescribed a gargle which was used for some days without any relief. Two weeks later, while on a Western trip, he consulted another physician, and received tincture of iron and chlorate of potash to take internally and to gargle. On November 25th he returned home, feeling weak, and with considerable pain of a stinging character over the left tonsil and running into the left ear. The submaxillary gland of that side was slightly enlarged, and he felt the sore place on the tonsil with his finger, and describes it as a hard lump which seemed to pass up behind the soft palate.

On examination I found Mr. A—— looked pale, exhausted, and complaining of burning pain in the left side of pharynx and ear, especially severe at night, and accompanied by profuse perspiration, necessitating a change of night shirt. Temperature ranged from 99⅘° F., A.M., to 101° P.M., pulse 100, left tonsil moderately enlarged and very hard at its upper part. Its surface was red, and a small, superficial, grayish looking ulceration was apparent at the superior end of the tonsil; below this some grayish, sticky fluid adhered to the surface. Another small, grayish, superficial ulceration appeared on the anterior surface of the soft palate, just above the margin of the arch, and close to the uvula. The surrounding tissues were moderately red and hardened. The anterior and posterior pillars, especially the latter, were red and hard. The same condition extended to the left lateral fold of the pharynx and passed up behind the soft palate. The right tonsil and other parts of the pharynx and mouth were healthy.

There was little pain in swallowing. The left submaxillary gland was enlarged, but not tender. On questioning he admitted that about two weeks before his throat began to be sore, that "a friend" had put her tongue in his mouth a great many times while he kissed her. Some sputa and small pieces of grayish membrane taken from the ulcerated surface were referred to an expert microscopist, who reported as follows:

"Six cover-glass preparations from the well-teased specimen, double stained Nelson Ziehl method, fuchsin and methyl blue, were examined with a Zeiss apochromatic one twelfth homog. immers., and the four and five compensating eye-pieces failed to indicate the presence of any tubercle bacilli. Pieces of the membrane subjected to a special microscopic examination were found to possess the following characters:

"Fibrillar connective tissue, the greater portion consisting of intercellular substance, with isolated portions containing connective-tissue corpuscles and a few pus-cells." Dr. A. H. Smith examined the lungs and pronounced them sound. Primary chancre of the tonsil was diagnosed, and two-grain tablets of hydrargyrum cum cretâ ordered every two hours, with a soothing gargle, and a hot bath every night. Three days later Mr. A—— appeared with a macular rash on the neck, arms, chest, and back. The throat had improved in appearance, and the hardness of the tonsil and submaxillary gland much lessened.

On December 22d, fourteen days after my first examination, the sore on the tonsil and soft palate had healed, and the surrounding hardness of the tonsil and submaxillary gland nearly disappeared.

In June of this year I saw another case of chancre of the tonsil, but, with several others, did not make a diagnosis for some time after first seeing it. It was supposed to be a later manifestation of syphilis, and treated with iodide of potash without any benefit. From further information obtained regarding the man's habits, and subsequent developments, it proved to be a primary affection of both tonsils which yielded at once to mercurial treatment.

Previous to reading Dr. L. Duncan Bulkley's report in the "Transactions of the Medical Society of the State of New York," I had supposed that a primary sore on the tonsil was extremely rare. It would seem, however, that its occurrence is not at all uncommon, but may be easily overlooked.

22 East Forty-second Street.

TREATMENT OF MYOPIA WITHOUT GLASSES.

By W. H. BATES, M.D.,

NEW YORK,

ASSISTANT SURGEON NEW YORK INFIRMARY.

Acquired myopia is very prevalent. More than twenty-five per cent. of all students twenty-one years of age are myopic. Among older students the proportion of acquired myopia is more than sixty per cent. (H. Cohn, Erismann, Conrad, Reuss, Pflüger, Agnew, E. G. Loring, H. Derby, R. H. Derby, Norsa, Belt, Randall, and others).

Object of Treatment.—1. To cure functional myopia caused by spasm of the accommodation. 2. To improve the vision of axial myopia so that glasses will not be necessary.

Results of Treatment.—1. Functional myopia caused by spasm of the accommodation has been cured by treatment, and normal vision obtained without glasses. 2. The vision of a number of cases of axial myopia has been improved by treatment so that glasses were no longer necessary. 3. The eyeball has never been shortened by treatment in a single case of myopia.

The first stage of acquired myopia is usually spasm of the accommodation; tension of the ciliary muscle. The eyes are constantly focussed or accommodated for near objects, and do not relax in order to see distant objects. Concave glasses are necessary for distant vision and such eyes are practically myopic. It is only in this stage that myopia can be cured. Spasm of the accommodation may last for years, or it may, early or late, cause elongation of the eyeball, incurable axial myopia.

Glasses are often prescribed in the first stage of acquired myopia, when treatment of the spasm of accommodation by appropriate hygienic, local, or constitutional measures would have cured the near-sightedness without glasses. It is the rule that acute diseases of the lungs, stomach, and other parts of the body tend to complete recovery, and the same fact is true of the eye. Acute myopia is usually a functional disease, and glasses should never be prescribed until treatment to relieve spasm of the accommodation has failed.

Acquired myopia is often caused by the injurious effects of light on eyes which are weak from various causes. A temporary myopia from spasm of the accommodation may be produced in normal eyes by sudden exposure to strong light. Individuals whose eyes have been strained by near work suffer more from spasm of the accommodation by sudden exposure to strong light, and the poor vision lasts longer. Individuals whose eyes are weakened by constitutional debility; school children especially, who obtain little fresh air and exercise; and individuals who suffer from inflammations of the eye (conjunctivitis, keratitis, iritis, etc.), are particularly liable to develop spasm of the accommodation from the effects of strong

light. In some cases the eyes may be so sensitive that even moderate daylight or artificial light is sufficient to cause spasm of the accommodation. Astigmatism, weak interni, and opacities of the media are predisposing causes of spasm of the accommodation.

The differential diagnosis of functional myopia caused by spasm of the accommodation, and axial myopia from elongation of the eyeball, can be made in a variety of ways:

1. Atropine usually paralyzes the accommodation and relieves functional myopia. The test with atropine is by no means conclusive, because many cases of undoubted spasm of the accommodation have not been relieved by its use.

2. Rest of the eyes in a dark room for a few minutes, and later testing the vision, will show greatly improved or normal distant vision for a short time in some cases of functional myopia.

3. Some cases of spasm of the accommodation for distant vision can read diamond type (Jaeger No. 1) at a farther point than their degree of apparent myopia would allow. For example, a patient who requires a concave twenty-inch glass for distant vision has at least some spasm if able to read Jaeger No. 1 at more than twenty inches.

4 With the ophthalmoscope in spasm of the accommodation the macular region can be distinctly seen without the aid of a minus glass. In some cases the retina can always be distinctly seen. In other cases it comes and goes, or appears and disappears. In still other cases there will be days when the macula cannot be distinctly seen without a minus glass, and the patient will appear to have axial myopia, but an examination made at another time will show spasm of the accommodation.

5. Wearing convex glasses relaxes the spasm temporarily in some cases of functional myopia.

Possibilities in the Treatment of the Vision of Axial Myopia.—As a general rule the vision of the higher degrees of myopia is poor without glasses. In a myopia of 4 D. or more, the vision is usually $\frac{1}{2}\frac{0}{0}$ or less. Exceptional cases are found where the vision is unusually good without glasses, and these cases suggest the possibilities of treatment.

Dr. Seabrook, of New York, kindly furnished me with the notes of the following case of myopia: Miss T——, aged seventeen, under atropine, vision of both eyes $\frac{2}{1}\frac{0}{0}$, with -6 D. S. $\bigcirc -2$ D. C. $180° = \frac{2}{5}\frac{0}{0}$.

A very remarkable case was the following: Miss M——, aged thirty-nine, had a vision of $\frac{2}{4}\frac{0}{0}$ without glasses. She had used atropine repeatedly, and the degree of myopia found was more than 8 D. The patient had been examined by many well-known physicians in New York and elsewhere, and there was no doubt of the degree of myopia being at least 8 D. Pupils large. Some tension of the globe. With -8 D., vision was not improved. Noted that with -6 D. the vision was less than without glasses. The patient was asked to describe the difference between her vision with, and her vision without, her proper glasses. With glasses objects appeared distinct, but very small. Efforts to see distinctly with glasses caused so much pain that she was unable to wear them. Without glasses, objects could be seen and appeared much larger, but surrounded by a haze (circles of dispersion). She could recognize faces across the street, read signs, tell the time on a town-clock, and appeared to see very well for ordinary purposes. In order to see at a distance it was necessary for her to make a peculiar movement of her eyes which cannot be described. An ophthalmoscopic examination of one eye while the other eye saw well in the distance, revealed no change in the degree of myopia. The shadow test determined both eyes myopic during the time her distant vision was good. For several months her vision was $\frac{2}{4}\frac{0}{0}$, when it suddenly dropped to $\frac{1}{2}\frac{0}{0}$, after an attack of pain in both eyes. Treatment improved the vision.

A number of other cases of myopia (with good vision) have been observed where the vision was not materially improved by glasses. The fact which has suggested treatment of the vision of axial myopia without glasses is: "Cases of myopia occur in which the vision is good and in which glasses do not materially improve the vision." As a general rule, it may be stated that treatment of the vision of myopia without glasses will improve the vision to what it was previously with glasses. Spasm of the accommodation after recovery has a great tendency to relapse. H. Derby recommends such patients to visit their physician at least once a year. If they gave their eyes as much attention as some people do their teeth, many cases of acute myopia would obtain permanent relief from the use of glasses.

The vision of axial myopia improved by treatment also tends to relapse. It is necessary for such patients to avoid over-use of their eyes in order to preserve good vision. It is an unfortunate fact that myopes are more inclined to abuse their eyes than persons with normal refraction.

The Atropine Treatment.—Professor Schiess advocated early treatment of acquired myopia. He treated 101 eyes with atropine, gr. iv.–℥ j., instilled twice daily for one to nine months. "The result was a conviction that atropine was capable of bringing about a permanent improvement in a very large number of cases of myopia, and of causing the complete disappearance of this error of refraction in certain cases where it was but slightly developed." Of 101 eyes, 20 showed no myopia after atropinization, 66 showed less, and in 15 the myopia was unaltered or progressive.

H. Derby has reported good results from the use of atropine. Of 67 eyes treated, 15 showed no myopia after atropine, 45 showed less, and in 7 the myopia was unaltered or progressive. In one case a spasm of 7 D. was relieved in two weeks. In another case a spasm of 4.5 D. was relieved in two months.

In some cases atropine is not sufficient to relieve the congestion of the ciliary muscle or relax the spasm of the accommodation, just as in some cases of iritis and keratitis atropine does not readily dilate the pupil. Good results may be obtained in many of these cases of myopia by the use of hot water locally, and by the application of leeches to the temples in connection with the use of atropine. Dark glasses should be worn to protect the eyes from the strong light. As a general rule, the use of atropine is beneficial in all degrees of myopia. But some cases have been observed in which, after the use of atropine, the spasm of the accommodation was worse in functional myopia. The vision of axial myopia was lowered in some cases after atropine was used. A certain similarity has been suggested between glaucoma and myopia; and as atropine is usually harmful in glaucoma, its use may be expected to be injurious in some cases of myopia.

Treatment of the Conjunctiva.—Treatment of the myopia by local applications of astringents to the conjunctiva of the lids relieves some cases of functional myopia, has a negative effect in others, and in still other cases seems to be injurious. The indication for such treatment is found by trial with cocaine. The cocaine should be applied lightly to the conjunctiva of the upper lid, and not dropped into the eye. If the vision improves immediately, applications of nitrate of silver or other astringents to the palpebral conjunctiva will be of benefit. The applications should be made of sufficient strength to pale the mucous membrane. It is important to avoid irritating the eye by too strong solutions. No pain, smarting, or lachrymation should follow the treatment. It is better to make a number of applications of weak solutions at each sitting rather than a stronger solution used a less number of times. The vision should improve immediately after each application. After a time the use of nitrate of silver may cease to improve the vision. Solutions of copper, alum, gold, mercury, cadmium, zinc, have then been used and further improvement of the vision obtained. Later, silver improved the vision.

The degree of spasm of the accommodation and the

objective symptoms of conjunctivitis are not always in direct proportion to each other. A mild conjunctivitis may cause considerable functional myopia; the converse is also true. In some cases there was very little redness of the conjunctiva and no discharge of mucus; yet the application of astringents to the conjunctiva was followed by great improvement in the vision. In other cases where there was greater redness and swelling of the conjunctiva, with more discharge of mucus, very little improvement in the vision followed the application of astringents to the conjunctiva.

Treatment of the conjunctiva has cured functional myopia after atropine had failed to relieve. The vision of axial myopia has been decidedly improved by local applications to the conjunctiva.

Nasal Treatment.—The removal of spurs on the septum and hypertrophies of the turbinated bodies cured some cases of functional myopia by relieving the spasm of the ciliary muscle. The vision of some cases of axial myopia improved after nasal treatment, and the improvement in the vision seemed to be coincident with the lessened nasal congestion. The indication for nasal treatment was determined by the use of cocaine. When no improvement in the vision followed after the application of cocaine to the mucous membrane of the nose, the vision of a number of cases of myopia was not improved by the removal of projections of the septum, or by the removal of hypertrophies of the turbinated bodies.

When cocaine applied to a spur on the septum was followed by immediate temporary improvement in the vision, this improvement was permanent after the removal of the spur. In some cases a number of projections of the septum in contact with the turbinated bodies were removed with benefit. The naso-pharyngeal catarrh was not relieved in some cases of myopia in which the vision was improved by nasal treatment. The ages of the patients benefited varied from eighteen to thirty. All degrees of myopia were benefited.

The Pressure Bandage.—Many cases of myopia are improved by the use of the pressure bandage. The improvement in the vision is sometimes very decided. The bandage may be worn for an hour every day, or it may be worn all night. Patients have kept one eye constantly bandaged day and night for three months with benefit. Von Graefe many years ago called attention to the fact that the pressure bandage lessened intra-ocular tension, and the pressure bandage certainly lessens the tension of the eyeball in many cases of myopia. This may suggest the reason why the bandage is beneficial, etc. The bandage does not shorten the length of the eyeball.

Objections to the Pressure Bandage.—1. Some appear to be made worse immediately. The bandage produces too much irritation, the spasm is increased, the whole eye becomes congested, and the vision is decidedly lowered. 2. Conjunctivitis, usually mild, is caused in the majority of cases. 3. Photophobia, as a rule, is increased. 4. Opacity of the cornea occurs in some of the cases. The opacity is in the form of light lines crossing the cornea in all directions; it requires a strong glass on the ophthalmoscope to be seen, and is made out with difficulty by oblique illumination. The opacity disappears in a few days after leaving off the use of the bandage.

Some cases are improved by atropine up to a certain point, when the improvement in the vision stops. Nasal treatment may bring about further benefit. Treatment of the conjunctivitis and the use of the pressure bandage may produce still further improvement in the vision.

In conclusion, it may be stated positively that myopia tends to increase after it has once begun, unless efforts are made to prevent it. It is the rule that acquired myopia in its earlier stages is curable by treatment. No treatment has ever shortened the length of the eyeball.

64 East Fifty eighth Street.

A SURE SIGN FOR THE DIAGNOSIS OF SMALL EFFUSIONS IN THE PERITONEAL CAVITY.

By SALVADOR GARCIADIEGO, M.D.,

GUADALAJARA, MEX.

PRESIDENT OF THE SUPERIOR COUNCIL OF PUBLIC HEALTH; DIRECTOR OF THE ACADEMIC HOSPITAL SAN MIGUEL DE BELEN; DIRECTOR OF THE SCHOOL OF MEDICINE OF GUADALAJARA; PROFESSOR OF INTERNAL PATHOLOGY OF THE SAME; AND CORRESPONDING MEMBER OF THE ACADEMY OF MEDICINE OF MEXICO, AND SEVERAL OTHER SCIENTIFIC SOCIETIES OF THAT COUNTRY.

The reading of an article which appeared in the *Journal de Médecine et Chirurgie* of Paris, France, in which the early practice of the operation of laparotomy is recommended in the treatment of intestinal invagination and internal strangulated hernia, adducing as a sure sign of their existence the detection, by means of percussion of the lateral dependent walls of the abdomen, of a small sero-sanguineous effusion which generally accompanies the beginning of said lesions, suggested to me the idea of publishing a much surer and accurate way of detecting the presence of the fluid, which is at the same time applicable even in those cases in which the existence of extreme tympanitis would render percussion useless as a diagnostic measure.

I attribute some practical importance to the publication of this method, because in the article quoted early surgical interference is advocated as justified on the existence of the said effusion and its clinical detection; and if this symptom really is of such an important diagnostic value, it is very important the surgeons should have at their disposal various and sure means of discovering it with complete certainty.

The method I employ, and which can be appreciated by any practitioner who may wish to use it, is as follows: Placing the patient on his back on an inclined plane of 45°, the index-finger, well greased, is introduced into the rectum in order to examine the posterior peritoneal fold, in men; in women, the posterior vaginal cul-de-sac is examined.

If any effusion exists in the peritoneal cavity, no matter how small it may be, gravity will cause the liquid to descend to the most dependent parts, and in consequence of the position in which the patient is placed, it will gravitate toward the posterior part of the pelvic portion of the peritoneum. The exploring finger will clearly discover fluctuation, and to make sure that it is produced by a peritoneal effusion it will suffice to change the patient's position, while the surgeon's finger continues in contact with the postero-superior part of the rectum, and the liquid will be observed to change to the side on which the patient lies in his new position, and fluctuation immediately disappears, because the fluid which produced it has changed place and it cannot any longer be recognized by the exploring finger. If the patient is again placed in the former position, the fluctuation is at once felt by the examiner's finger, a circumstance which permits the surgeon to make sure, in the most positive and satisfactory way, of the existence of an effusion.

Practice has shown me the value, certainty, and importance of this diagnostic sign, and this is the reason why I believe it my duty to publish it, so that it can be employed by other practitioners who can judge of its merits.

In cases in which pain or any great susceptibility in the part of a patient renders the rectal or vaginal examination difficult, an anæsthetic can be used.

Traction of the Tongue in Asphyxia of the New-born.—Dr. Laborde reports sixty-four cases of successful resuscitation in asphyxia of the new-born by means of rhythmical traction of the tongue. Dr. Laborde thinks there must be something in it, but we do not agree with him. Most cases of asphyxia recover anyway by any simple measure of treatment. With collapsed lungs no method is of any use, and the same may be said when the heart is paralyzed. The old treatment for respiratory failure has proved itself useful, and we should hesitate to abandon it and begin to pull on the tongue. Professor Pinard has tried it three times unsuccessfully.

HERNIA AND ITS MECHANICAL TREATMENT.[1]

By JOHN B. WALKER, M.D.,

LECTURER ON HERNIA AT THE NEW YORK POLYCLINIC; ASSISTANT SURGEON TO THE NEW YORK CANCER HOSPITAL.

FOSTER defines a "hernia as a protrusion of a part, especially an internal organ, through an opening in one or more of the layers forming the wall of the cavity in which it is normally contained, usually the abdomen." Probably this condition is more frequent than is generally supposed. It seems much more evident when one remembers the number of different trusses which are advertised. Last year a single firm in Philadelphia made more than four hundred and fifty thousand trusses. Within a month a Hernia Specialty Company has been incorporated (with a capital stock of $500,000) to treat hernia in New York. Surgeon-General F. H. Baxter, U. S. A., stated that among 334,321 examinations for recruits, 16,900 were rejected on account of hernia. In the census of 1880, under the head of vital statistics, it is stated that among 756,893 deaths from all causes, 1 in every 600 died from hernia. Among 1,286 deaths from hernia, 141 deaths occurred in children under one year.

During the last three years twenty-one thousand different patients have applied at the London Truss Society. At the Hospital for the Ruptured and Crippled, New York City, about four thousand cases yearly apply for relief. These represent only a portion of the cases existing in New York City, for these cases are made up from the poorest of the laboring classes.

It is very difficult to estimate the real frequency of hernia among the general population, first, because there are very few places where any large number are observed; and secondly, because in these places, in the course of years, a large number of the cases are entered more than once—they lose their old cards, change their names, and are re entered. Malgaigne estimated that in France one in every thirteen males, and one in every fifty-two females was ruptured. Various authorities give different proportions, ranging from one to eight and one to sixteen, but probably the true proportion is less than three per cent.

Age.—The age at which hernia occurs most frequently is during the first ten years of life (probably from a lack of closure of the vaginal process of peritoneum which covers the spermatic cord). The period next most common is between twenty years and forty years, and the least common period is between ten years and twenty years.

Sex.—Hernia occurs about four times more frequently in males than in females, probably because the former work much harder and take more violent exercise.

Occupation.—The greater number of cases occur among the laboring class.

Predisposing Causes.—Probably a hereditary tendency exists as a factor in a number of cases, for among these a history of a rupture in a parent of the present patient can be obtained. The type of the structural weakness at the point of the hernia reappears in the infant, and under certain conditions a hernia is more apt to occur than in those more robust. In the infant, perhaps the most frequent and important factor is the undescended testis. Normally it should have descended from the abdominal cavity to its natural location at the bottom of the scrotum; the inguinal should have been closed, and the outlet through the peritoneum should have become obliterated before the time of birth, but in many cases there is some delay in the completion of this process. There may be adhesions within the abdomen, or the cord may be too short, so that the testis may enter the internal ring, pass partially through the canal, and there remain stationary for months, and sometimes for years. The internal ring is thus kept distended and open, therefore when the intra-abdominal pressure becomes intensified a portion of the intestine may enter, and we have a bubonocele—a beginning hernia. It may not advance further for some time, but generally it acts as a dilating wedge, and the ultimately increasing pressure pushes it downward and out through the external ring into the scrotum, thus producing the ordinary scrotal hernia. The other important factors in producing a hernia in the child are those which tend to increase the intra abdominal pressure, such as the prolonged straining when constipation exists; in cases of marked phimosis; whooping-cough; too tight belly-bands which direct the pressure downward toward the naturally weakest parts of the abdominal wall.

In the adult any cause which increases the intra-abdominal pressure upon the lower portions of the abdominal wall, such as the straining due to lifting very heavy articles, jumping from a carriage, accidents where one is thrown heavily, etc. In cases where the abdominal walls have been weakened by an operation, as in cœliotomy, operations for appendicitis, etc. In pregnant women as the result of over distention—twins, hydramnios, etc. Further, the violent muscular spasms at the time of confinement. Especially is this true in those cases of poorly nourished women who do not take the proper care after confinement, who begin work too early, and in those who bear children in too rapid succession.

Persons who are deficient in general strength and tone as age advances after middle life, have a tendency to increase in weight, and as their tissues become weaker and more lax, it is not uncommon for a hernia to develop.

Among the different varieties of hernia the inguinal is by far the most frequent. Among 100 men who are ruptured, 97.5 cases are inguinal and 2.5 cases are femoral. While among 100 women, 60.3 are inguinal and 39.7 are femoral. The inguinal variety occurs more often upon the right than upon the left side; the latter may be due to the fact that the right side of the pelvis is larger than the left, or that the greatest exertions are usually made on the right side. Next to the inguinal variety the umbilical is most frequent; this frequency is especially marked among children. It occurs about twice as often in females as in males.

There have been a larger number of ventral herniæ as the number of cœliotomies have increased. This may indicate that the abdominal wall is not so strong after it has been once incised.

Treatment.—The treatment of these cases may be considered either under mechanical or surgical methods. As the largest number of patients may be treated by the mechanical means, so this method will be described in this paper. During the past eighteen months the writer has seen at the Hospital for the Ruptured and Crippled about five thousand cases of hernia, the larger number occurring in working-men. The majority of these cases were reducible and could be well retained by a suitably adjusted truss.

In regard to the selection of a suitable truss, one should study each case carefully until he understands clearly what it is desired to accomplish. The chief aim is to keep a small, well-fitting pad directly over the internal ring, so as to close the mouth of the canal and thus destroy the communication with the abdominal cavity. The truss should be adjusted so as to fit perfectly the individual patient. It should lie above the glutei muscles, so that when one is walking the action will not tend to disturb the position of the truss and its pad. It should press backward and upward, but never downward upon the spine of the pubis. The tension of the spring must be tested, for it should not press too hard, only strongly enough to retain the hernia. The shape of the pad should be oval, but not too conical, otherwise it allows itself to be forced into the ring, and in time it gradually dilates the opening. Some have claimed that unless the pad had a groove on its under surface it would compress the cord and thus cause atrophy of the testis. The best authorities state that this groove is entirely unnecessary. The pads may be covered with leather or chamois skin, but in the warm weather a smoothly polished hard-wood, ivory, or rubber pad, is the least disagreeable, especially if the patient perspires freely.

[1] Read before the Harvard Medical Society of New York City, December 4, 1893.

In certain cases where the patient is so very thin that the hard pad presses upon the pubis, much relief will be found by replacing the hard pad by a water pad. Elastic trusses are not generally satisfactory, for they cannot maintain a constant, even pressure over the internal ring; sooner or later they lose their elasticity and the hernia ceases to be retained. A truss must be durable. One used for children should be impervious to moisture so that it may be easily cleaned.

"The best is that which holds the pad in position; keeps it there under all movements; counteracts any expulsive action of the hernia, and causes little if any discomfort. The lighter it is under these circumstances

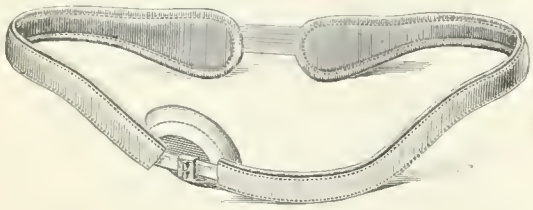


Fig. 1.

the better, and the closer it is adapted to the body the more comfort it affords."

There are three general forms of trusses which may be used in appropriately selected cases:

1. The "frame" or "hood" pattern, the best model of which is to be found in the "Pomeroy" truss. This is probably the most satisfactory variety of a truss, from the fact that it fits the pelvis so accurately and also retains the hernia so perfectly without undue pressure; firm pressure being exerted only when the hernia attempts to descend.

2. The "opposite-side" truss, so designated because it is applied from the sound side and the arm to which the pad is attached, passes across in front of the lower abdomen toward the affected side. A good truss of this variety is made by Penfield.

3. The "same-side" truss so called because it is applied from the affected side, is well represented by the well-known French truss.

In taking the measurement for a truss one should first measure the distance between the external rings, then

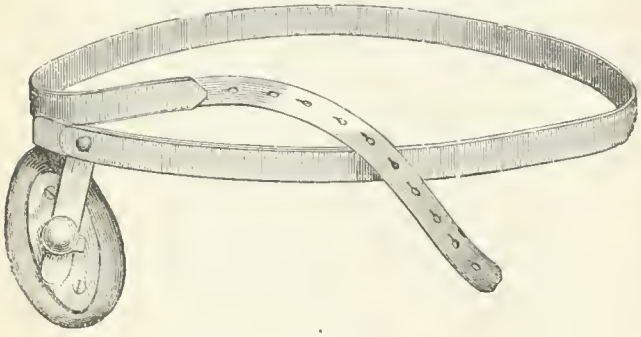


Fig. 2.

measure around the hips midway between the crest of the ilium and the trochanter major.

The cases which present themselves for trusses may be divided into the following general classes:

1. Where there is a simple bubonocele—that is, an inguinal hernia in which the hernia remains in the canal, and has not yet passed through the external ring and descended into the scrotum. Any one of the above trusses may be satisfactorily used for this class.

2. The more advanced cases, where the hernia has passed down into the scrotum, the canal has become dilated, but it retains its obliquity. Here more skill is required to select and to adjust the truss; for the opening has become larger, and it is more difficult to keep the pad in the proper place so as to retain the hernia perfectly. Truss 1 or 2 may best be used.

3. In old long-standing cases where the internal ring has been so largely dilated that the canal has become obliterated, and the hernia comes directly through the external ring. Here the opening generally admits, at least, two finger tips, and the hernia is a very large one. Thus, a much stronger spring and a larger ovoid pad will be needed. In some cases when the pad tends to slip upward and to allow the hernia to slip out underneath, it will be necessary to retain the pad in place by a perineal band passed between the legs and under the gluteal fold.

In a few special cases where the opening admits three or four fingers and the hernia has increased to the size of a child's head, no truss which can be applied will retain the hernia. A specially devised suspensory bag must be made, and these are generally quite satisfactory.

In the case of very stout patients with protuberant abdomens it is not easy, and it is oftentimes impossible, to use any other truss, except the ones figured 1 and 3.

In the femoral variety the French truss (Fig. 3) is most satisfactory in many cases. If a truss similar to Fig. 1 or Fig. 2 is used, the shank must be longer, and it must be curved more inward toward the body. It must be so adjusted as not to be moved out of position much when the leg is flexed upon the body, as in the sitting position. These cases, as a rule, are more difficult to hold than the inguinal.

In regard to children's trusses one must be very careful to see that the springs are not too stiff, for they fre-

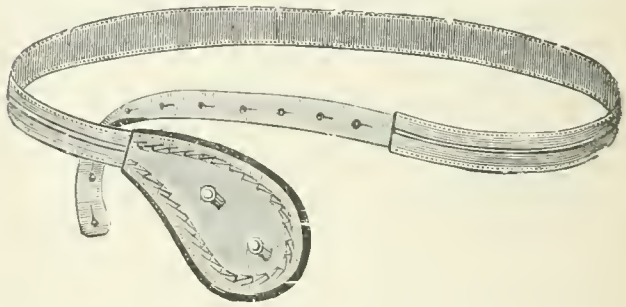


Fig. 3.

quently have this fault. They press too strongly upon the thin, tender, abdominal walls so as to pain the child. The child becomes fretful, cries, and continually disturbs the truss. He should be kept as quiet as possible, and free from all strain. In some cases, among the very thin, poorly nourished infants, it is very difficult to retain the hernia with the usual forms of trusses. Recourse may be had to the Hank truss, which is so soft that it may be very closely applied; but the general use of this truss is to be discouraged; it cannot sustain its pressure directly over the internal ring, and the hernia continually slips down.

In some cases the treatment is complicated by the presence of an undescended testis. The end to be desired is to close the ring, and to retain the testis in the scrotum. For this purpose the pad should be applied above the testis so that it will not only close the opening, but also will tend to press the testis down toward the scrotum. From time to time the parent should apply gentle traction to the testis to facilitate its descent into the scrotum. If after prolonged and thorough treatment the testis still remains in the canal and keeps the ring open, surgical measures should be considered which will fix and retain the testis in the scrotum.

It is necessary that children should be very carefully watched, and that their trusses be exchanged for larger ones as they outgrow the present one, for each truss must fit accurately if a cure is expected.

Umbilical.—In this variety in young children it is best not to depend upon the ordinary belts made for them, but to construct one as follows: A strip of adhesive plaster, two and one-half inches wide and about eighteen inches long, is laid upon the table, the child is then placed upon its back upon the middle of this plaster, the two ends are then brought forward around the child and over the pad, which is placed over the umbilicus. In

this case the pad cannot slip, whereas when the plaster is put on in front and the ends are carried backward, it will slip. The pad must not be too conical, but rather elliptical. This band must be kept firm, and it should be changed every two weeks. In favorable cases a cure may be hoped for in eighteen months.

When the umbilical hernia occurs in the adult it is best to use an abdominal belt. The belt should be made of such firm material as will not easily stretch. It should be six or eight inches wide in front, narrowing at the sides, where it is gored, to comfortably fit the patient. The pad should be slightly convex, but should not press into the ring. It should overlap the edges of the ring for about an inch on each side. A similar belt should be used in cases of ventral hernia, but a larger pad will probably be required.

It may happen in any variety of hernia, as time progresses, that the hernia slips down, adhesions form, and the hernia becomes irreducible. In an acute case no truss should be applied. If the patient comes to the clinic, a compression bandage, generally a spica, is applied, and the patient is directed to go to bed, placing himself under careful observation, so that should the hernia become strangulated it may receive immediate attention. There are, however, quite a number applying for trusses who have had a small irreducible hernia for several months, sometimes for years, without any apparent trouble. In these cases it is sometimes possible to adjust a truss with a concave pad which will just fit over the irreducible mass, and which will so compress the structures about the canal as to prevent any further increase in the hernia. In a certain number of cases the hernia later becomes reducible from being subjected to a constant even pressure, but one that is not too strong. Among two hundred and fifty eight cases which were irreducible when they applied at the London Truss Society, one hundred and fifty-six were reduced by the above treatment—fifty per cent. became reducible within three months.

Prognosis.—It has been observed by those of the largest experience that a large number of children are cured when suitable care has been taken to retain the hernia, and to keep up a continual pressure over the internal ring, thus causing adhesions between the walls of the canal. It is not infrequently the case that an adult of thirty-five or forty years of age states that he had had a rupture when an infant, that he wore a truss for a year, and was cured. The hernia had never returned until three or four days ago when he strained himself by lifting a very heavy weight, and now he has a hernia. The fact that he was free from this hernia for thirty-five or forty years would indicate that a cure had occurred in infancy. Congenital cases are much more difficult to retain, consequently the prognosis for their cure is not good. They require specially close observation, and after five years, if they are no better, the Bassini operation is recommended. In adults the prognosis for acquiring a cure by the use of a truss is unfavorable; only a few remain ultimately cured. There is a larger class who are said to be cured temporarily. The London Truss Society reports two hundred and forty cases where the hernia did not reappear for an average of 22.5 years. One hundred of these cases were in children where the hernia had occurred during the first year. In only eighteen of these cases was the patient over twenty five years of age. There were no reported cures in cases of femoral hernia. The prognosis, however, is most satisfactory and favorable for obtaining a symptomatic cure—that is, the hernia is well retained, and they are relieved of all their unpleasant symptoms. Later they are able to wear a much lighter truss.

While there is not much hope for a complete recovery in the adult, still there exists a very large class who will not submit to any operation. Indeed, few individuals after middle life expect to be cured, but these patients can be so well fitted with a satisfactory truss, that they wear them for years with great comfort and safety.

It is very necessary that they should be fitted accurately and be kept under careful observation by one who understands their infirmity and who appreciates thoroughly the dangers which may befall them if they neglect themselves. The patient should also understand the principle and purpose of the truss, and appreciate the risks which may arise if the truss fails to continually fulfil its purpose.

33 East Thirty-third Street.

Progress of Medical Science.

The Treatment of Eclampsia.—From a new study of this important subject Dr. Charpentier, of Paris, has been led to draw the following conclusions: 1. As every albuminuric pregnant woman is liable to eclampsia, and as milk diet gives such marvellous results in albuminuria, and especially in the albuminuria of pregnancy, one should examine with the greatest care the urine of all pregnant women; and if albumin be found in no matter how small a quantity, milk diet, absolute and exclusive, should be instituted at once. This is the best prophylactic treatment of eclampsia. 2. Given a case of eclampsia, if the patient is strong and vigorous and much cyanosed, begin by bleeding to the extent of 400 to 500 grams. Then administer chloral, at the same time getting the patient to begin on milk as soon as possible. 3. If the patient is delicate, and the cyanosis less marked and the attacks less frequent, the treatment should be limited to chloral. 4. Wait for labor to come on of itself, and allow it to terminate spontaneously, whenever possible. 5. Cases of tardy labor due to uterine atony should be terminated by the forceps or version, if the child be still living: or by cephalotripsy, basiotripsy, or cranioclasis, if dead. 6. Wait before any such interference until the maternal parts are in such condition that it can be done without violence, and therefore without danger to the mother, namely, until complete dilatation of the cervix. 7. Reserve induced labor for the exceptional cases in which treatment by drugs has wholly failed. 8. Cæsarean section, accouchement forcé, and above all, accouchement forcé with deep incisions of the cervix, are to be rejected absolutely.—*Archives de Tocologie.*

The Anti-toxic Function of the Liver.—The Paris correspondent of the London *Lancet* writes that those acquainted with the views propounded by Professor Bouchard will be conversant with his ideas concerning the poison-destroying properties of the liver. He and his followers attach great importance to the power of the liver-cells to nullify the effects of the toxines manufactured in the intestines. The correctness of this has been corroborated by the experiments of Schiff, Heger, Roger, and others, who found that alkaloids injected into the branches of the portal vein were much less toxic than when they were introduced into the general venous circulation. M. Pavlow has confirmed these results by a series of experiments, of which I give a *résumé*. If, by means of a ligature placed on the portal vein, the blood is compelled to deviate from the liver and pass directly into the general circulation, poisonous symptoms appear, consisting of fever and nephritis, with albuminuria. That this nephritis is not due to hypertension of the blood in the renal vessels is proved by the fact that no such kidney trouble is caused by ligature of the inferior vena cava, although this manœuvre is productive of a greater tension in the renal vessels than the operation in question. A wound artificially produced in an animal whose portal vein has been tied heals very slowly; whereas a similar wound in an animal where the inferior vena cava has been ligatured cicatrizes without difficulty. The conclusion is that, when the blood is prevented from passing through the liver toxæmia occurs, which is solely due to the fact that the liver no longer plays a protective rôle against toxines, which are being continually fabricated in the intestinal canal.

Tamponnade of the Bladder after Suprapubic Incision.—Dr. Desnos reports three cases of suprapubic incision of the bladder where tamponnade of the bladder was necessary in the after treatment. The interior of the bladder was filled with strips of iodoform gauze, one end of each being left hanging out. The upper portion of the vesical wound was closed by sutures. In one of the writer's cases this procedure was done on account of extensive tuberculous ulceration of the mucous membrane. The bladder remained open about a year, when the fistula was stitched up. The patient was freed from his disease, and remains in excellent health. In the second and third cases tamponnade was done with salol gauze on account of uncontrollable hemorrhage following extirpation of a tumor. In both patients it was successful. Tamponnade of the bladder causes no inconvenience in passing urine, for the urine flows away through the drainage-tubes, and the dressing is but little soiled. In this author's cases the first strips were removed in four to six days.—*Annales des Maladies des Organes Génito Urinaires.*

Large Doses of Bismuth in Gastric Catarrh.—Dr. Pick objects to the small quantities of bismuth usually administered. He believes that the frequent failure of the drug is due to that fact. With doses of ten to twenty grains he estimates that a certain proportion does not reach the stomach for some time, being retained in the mouth, pharynx, and œsophagus. This consideration, and the fact that bismuth is almost insoluble, and the danger of poisoning therefore very remote, led him to use, in chronic gastric catarrh, much larger doses than hitherto customary, and according to a method he has adopted for the last five years. In order to free the mucous membrane from adherent mucus, the patient takes in the morning, on an empty stomach, a teaspoonful or less of Carlsbad salt dissolved in about half a pint of warm water. Half an hour later he has a teaspoonful well heaped up of the subnitrate of bismuth administered in wafer paper—in two parts, the one after the other, as the quantity is rather large to swallow at once. The gastric region is now treated to massage for a short time, in order to bring the bismuth into as close apposition to the mucous membrane as possible, and half an hour after the dose breakfast is allowed to be taken. The diet is of course duly attended to. With this method of treatment Pick has obtained very favorable results in a large number of cases. Prominent symptoms, such as a feeling of distention, tenderness in the epigastrium, and eructations, rapidly disappear, the coated tongue becomes clean, and increased appetite is established. In slight cases this has set in within eight days; in more severe cases a course of three or four weeks is necessary. No unpleasant after-effects of any description were observed.—*Berliner klinische Wochenschrift.*

Gonorrhœa and Childbed —Dr. Kronig has studied the development of gonococci in nine women after labor. The germs are easily found in the lochia. It is certain that in women with vaginal gonorrhœa the disease may extend into the uterus during the puerperium. Gonorrhœal infection of the uterine cavity may also set up fever even when there is no trace of mixed infection, no other germs being present. Gonorrhœal infection in the puerperium is not of direct danger to life, but frequently leads to complications late in the puerperium, the disease progressing from the endometrium to the tubes. Two cases of this kind are recorded. The first, after the usual careful routine treatment, left the hospital on the fourteenth day. Two weeks later she returned. A perimetric exudation was detected to the left of the cervix. The second case was graver. On the fourteenth day the temperature rose to over 103° F., the right elbow became painful, and effusion into the extensor tendons of the right hand occurred. During the third week right parametritis set in, the temperature rising to 104° F. Then the pain and parametric swelling subsided. The fluid from the tenosynovitis was sero-purulent, but free from germs.—*Centralblatt für Gynækologie.*

Surgical Treatment of Perforating Gastric Ulcer.—Dr. Barling publishes three records of surgical intervention in perforating ulcer of the stomach. In one of these cases, notwithstanding a very unfavorable prognosis, the patient made a good recovery. For success in the operative treatment of cases of this kind, two things, it is stated, are unnecessary—early diagnosis and prompt operation following on this. The following are described as the main outlines of the operation to be performed in cases of acute peritonitis from perforation of the walls of the stomach: The abdomen should be opened in the middle line above the umbilicus, but not too near the costal margin. Positive evidence may at once be found of perforation in the presence of free gas or food. The area between the stomach and the liver should be examined with care, so that any localized collection in this region may, if possible, be prevented from soiling the more distant parts of the cavity. After the removal of extravasated matter, the perforation should be sought for. It will usually be found on the anterior wall of the organ near the lesser curvature. The perforation, if accessible, should be sutured, the sutures being applied, if possible, with the involved portion of the stomach outside the peritoneal cavity. It would be advisable, the author thinks, before doing this, to pass a piece of drainage-tube through the hole into the stomach and to draw off any fluid contained in its cavity. It is not necessary to pare the edges of the ulcer. In one of the author's cases, the only one in which the opening was closed by stitching, the edges were tough, and held the sutures well. Should the edges be found to be friable, the difficulty might be met by extensive infolding of the margins of the ulcer. Paring the edges takes time to effect, and should be avoided, as prolonged exposure of the patient militates greatly against recovery. If the ulcer cannot be closed by sutures its edges might be stitched to the lower angle of the external wound. If this cannot be done, the only resource left to the surgeon is drainage by a tube leading directly to the point of leakage. The abdominal cavity should be washed out and thoroughly flushed with hot water. A drainage-tube should be left *in situ* close to the perforation, whether this has been sutured or not. A second tube should be inserted into the abdomen just above the pubes, otherwise the drainage of the peritoneal cavity would be very imperfect, and a considerable quantity of fluid might collect in the pelvis and greatly interfere with a successful issue. In chronic cases of leakage from a gastric ulcer the author would make an incision directly into any inflammatory swelling that might exist, and, in the event of pus or other fluid being found, would remove this with the greatest care. He would refrain from washing out the abdomen, but would insert a drainage-tube into the cavity of the abscess. To search for the perforation with a view to closing it would, it is held, be useless and dangerous.—*Birmingham Medical Review.*

The Influence of Neutral Salts on Serum Alexine, Enzyme, Toxalbumine, Blood-corpuscles, and Anthrax Spores.—Writing on this subject, the Berlin correspondent of the *Medical Press* says that Professor H. Buchner found that the activity of the serum of dogs and rabbits was destroyed by the addition of water, and restored by the addition of normal neutral solution. The *rôle* of the chloride of sodium can only be indicated, as its presence alone renders the action of the serum alexine possible. Serum alexine, according to the author's terminology, being the anti-bacterial material of normal blood. Besides chloride of sodium a series of other substances can also exercise this function, such as potassium, lithium, ammonium, chlorides and sodium, potassium, ammonium, and magnesium sulphates. The saline requirements of the serum are identical with those of the whole organism. In the serum there must be an albuminous constituent which is in relation to the function of the salt; the alexines must, therefore, be considered as albuminous bodies. The presence of sulphates of the alkalies (the best is equal

parts of an eight per cent. ammonium sulphate, or 28.4 per cent. sodium sulphate solution) increases the activity of the serum alexines, and increases its power of resistance to heat about ten degrees of temperature. Sodium chloride acts also as a preservative against heat when added, but in equal quantities not so powerfully as the sulphate, and the nitrate possesses less power still. The conserving action of the saline addition depends on the relative attraction for water of the various salts, this attraction, according to Hofmeister, being strongest in the sulphates, weakest in the nitrates, while the chlorides occupy a middle place. The invertine of yeast shows a heightened resistance to ten degrees on the addition of sodium sulphate, but when the nitrate is added an only slight one on the addition of the chloride. The toxalbumin of tetanus and the bacillus of diphtheria evince a similar behavior in the presence of salt, as do also the blood corpuscles of the dog and the rabbit. The spores of anthrax are more resistant to heat in strong saline solution than in plain water. In a dried state, not only enzymes and toxalbumins, but also serum alexines, bear a materially higher temperature without losing their power. All these individual phenomena appear to the author to be comprehensible only under the assumption that plain water has an injurious action on the active albuminous bodies under investigation, on alexines, enzymes, and toxalbumins. At ordinary temperatures this injurious power comes into force only on the least resistant, the alexines and blood corpuscles, but at higher temperatures also on enzymes, toxalbumins, and anthrax spores. This injurious action is diminished by the presence of salts in the solution, while drying is another means of protecting active albuminous bodies from the injurious effects of plain water.

The Blood in Purpura Hæmorrhagica.—Dr. Denys has made observations on a fatal case of this disease occurring in a woman who was suffering for several days from some indefinite gastro-intestinal disturbance, and three days before death, without apparent cause, profuse hemorrhage took place from the vagina. Denys saw her six hours before death, and found her very anæmic, and the skin was covered with small dark-red hemorrhagic spots. Examination of blood taken from the finger-tip showed marked diminution in the number of red corpuscles and an increase of leucocytes. Peculiar small spherical bodies, like the nuclei of leucocytes, were present in considerable numbers. These showed no tendency to adhere, and were considered to be fragments of disintegrating leucocytes. No blood plaques were seen. Cultures made at the autopsy from the tissues, and hemorrhagic spots, revealed nothing that would cause a mycotic origin for the disease to be inferred.—*Indian Medical Gazette.*

Trismus Neonatorum Treated with Tetanus Antitoxin.—According to Dr. Escherich, this disease has been proved to be due to a local infection of the umbilical wound with the tetanus bacillus. But this knowledge has not hitherto yielded any therapeutic results. He reports four cases treated with Tizzoni's antitoxin. The remains of the umbilical cord fell off on the sixth, third, fourth, and fourth days, respectively. The incubation period lasted two, nine, seven, and one days, and the duration of the disease was two, five, twelve, and two days, respectively. The third case recovered, but the others died. At the autopsies septic inflammation of the umbilical wound was found in all three cases, with peritonitis in one case, and pneumonia in the other two. All the cases had septic symptoms, but it could not be positively asserted what part sepsis played in the fatal event. In cases 1 and 4 inoculation of mice with a bit of tissue taken from near the umbilicus produced typical tetanus, but in the other cases it was without result. In case 4 the disease was exceptionally acute, so that any good result could hardly be expected, and in case 1 the doses were too small. There remain cases 2 and 3, in which cure might have been expected, but in case 2 the injections were discontinued because the symptoms of septic pneumonia prevailed, and those of tetanus subsided. In case 3 the length of the incubation period and the early commencement of the disease, permitted only a fatal issue to be expected, yet this case recovered. Here one injection was given on the third day, and two similar ones on the fourth day, and a sublimate dressing was applied to the wound. In the other cases thermocautery was also used. While these results were far from satisfactory, they were nevertheless better than those obtained by other methods in this generally fatal melody. —*Wiener klinische Wochenschrift.*

The Retention of Urine after Operations.—Retention of urine is a symptom so often observed after operations that it appears strange that text books have so far paid little or no attention to the same. According to Dr. Guépin, urinary retention may occur at every age after puberty, it never has been observed before the fifteenth year. It is most frequently observed after operations upon the belly and the lower extremities, and it becomes rarer the farther away from those parts the operation took place; after operations upon the face and upper extremities it has been observed very rarely. There are two forms of retention, which differ distinctly in a clinical sense; these are the indolent and the painful forms. The former occurs in individuals with healthy urinary organs, and the latter in individuals whose urinary apparatus is diseased. The duration of retention varies a great deal. The indolent form usually disappears after the first catheterism. The second form may last from eight hours to three days, and sometimes longer. Various hypotheses have been advanced to explain the production of this kind of retention, some of them being of a rather adventurous nature. Swelling of the urethra, the dressings, pain, paresis of the abdominal muscles, anæsthesia, etc., have been made responsible for the occurrence. Guépin mentions three different causes of retention after operations: 1. Spasm of urethra, particularly of the bulbous portion. 2. Paresis of bladder. 3. Posture of patient, many persons not being able to urinate in the attitude of lying immovably upon the back. The treatment consists in change of posture and, if this is insufficient, a warm clysma, and as a last resort, catheterization.—*Medical Review.*

Relation Between the Alkalinity of the Blood and Intestinal Absorption.—Drs. Castellino and Cavazzani have sought to ascertain whether, and if so how, the process of absorption from the intestine is modified in association with altered physical and chemical conditions of the blood; secondly, they have sought to establish how such changes of the blood influence in the human subject the general metabolism of the body. (*British Medical Journal.*) The study is not as yet complete, but the authors have ascertained the following facts: In distinctly alkaline serum, the reticulum of the hyaloplasm of leucocytes undergoes stimulation, which causes increased irritability and more active vital manifestations in the protoplasm. In liquids poor in alkali the protoplasm appears torpid and slow in its reactions, but in these cases contact with alkaline serum speedily evokes increased activity. Contact of faintly alkaline serum with leucocytes, in a medium favorable to their activity, depresses their movements and accelerates the processes of degeneration. Serum which is but faintly alkaline nearly always produces transparency of the protoplasm, and throws out the nucleus. From the above facts the authors argue, first, that alkalinization of the blood favors intestinal absorption; and secondly, that as the passage of foods from the intestine through the lining mucous membrane is probably due in great measure to the activity of the cells lining the villi and to the leucocytes, alkalies would cause an increase in the rapidity of absorption by stimulating the activity of the protoplasm, and increasing its chimiotactic powers.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street.

New York, January 27, 1894.

HARD TIMES AND SUICIDE.

DURING the past year the number of suicides has increased from 241 in 1892 to 313 in 1893. This is an increase of 72, or nearly one-third over the previous year. The average percentage of suicides on the population ten years ago was about twelve per 100,000. Every year from 1870 to 1880 about one hundred and fifty persons killed themselves. During the decade ending in the present year there have been, in round numbers, 2,400 suicides, or about two hundred and forty a year. Ten years ago there were just 161 suicides; hence the number has almost doubled since that time.

New York has always been something of a suicidigenous centre. The only city that has ever exceeded it in suicidal rates is San Francisco, where 7 out of every 20,000 kill themselves annually. Life seems pleasant to the Quakers, for in Philadelphia their suicides were only 8.03 per 100,000. Even the Puritan of Boston prefers to take his East wind rather than poison. Chicago people find it easier to move away than to kill themselves.

No extensive study of American suicidal statistics has been published quite recently, but so far as New York City is concerned, it looks as though Morselli's law was finding its illustration here.

"In the aggregate of the civilized states of Europe and America the frequency of suicide shows a growing and uniform increase, so that generally voluntary death since the beginning of the century has increased, and goes on increasing more rapidly than the geometrical augmentation of the population and of the general mortality."

This law is shown more strikingly in New York City by a comparison of the total mortality with the suicidal mortality. Thus, for example:

	Total mortality.	Suicides.
1883	34,011	161
1884	35,044	229
1887	38,933	235
1888	40,175	247
1889	39,679	244
1890	40,103	239
1891	43,659	300
1892	44,329	241
1893	44,370	313

Thus it will be seen that while the general mortality has increased since 1883 about one fourth, the suicidal mortality has increased nearly one-half.

Unquestionably suicide is increased somewhat by hard times, privation, and suffering, but these are not the most potent causes of fluctuations in one way or the other. Suicide depends very largely upon race and temperament. While in Central Europe 1 out of every 4,000 kills himself, in New England only 1 out of 25,000 will do it. Socquel's statistics, published in 1889, show that while insanity is the leading exciting cause of suicide, yet in these latter days drunkenness is becoming the preponderating factor. It would appear that alcohol depresses the highly organized nervous systems more than it used to do. Another fact of interest regarding modern suicide is its prevalence among the aged. While absolutely the most suicides occur between the ages of thirty-five and forty in New York, yet Thivet declares that at the age-period sixty to seventy the relative number is much greater, being 7.5 per 10,000, as against 4.7 between the fortieth and sixtieth years.

The facts above given regarding the increase of suicide in this city should be considered in connection with the anti-suicide law which was passed by the New York State Legislature. This law was an experiment, and it seems, so far as the facts can be collected, to have been a failure. It is possible that the number of unsuccessful attempts and feigned attempts at self-destruction may have been lessened, but a determination of this point would be very difficult.

On the whole, it seems that the suicidal mortality in this city has kept at about its normal, and we presume economists might say healthy, growth. For there may be good reasons advanced to support the view that suicide is a beneficent effort of nature to rid itself of the submerged and useless elements. Its special increase in 1893 is due doubtless to the hard times; but the increase is not at all proportional to the enormous increase of suffering to which New York and all other parts of the land are being subjected.

THE CITY HOSPITAL EPIDEMIC.

THE existence of small-pox at Charity, with its dozen victims, including the warden, has not occasioned more comment than has the peculiar nature of the origin of the outbreak, and the fact that the diagnosis in the first case could be overlooked, especially as it occurred in the skin department, which is in charge of an able dermatologist. So much notoriety has been given the unfortunate event, and so much uncomplimentary criticism has been poured upon the heads of those directly or indirectly concerned, that we are pleased to give the results of an investigation, which not only serve to remove unmerited reproach from the gentlemen in question, but which prove at the same time of unusual clinical interest. The report goes to show that the patient, Schmidt, a vagrant, an alcoholic, and a syphilitic, entered the hospital with a marked tubercular syphilide covering the whole body, which had existed, according to the patient's statement, for three weeks, but which from clinical appearances has been present longer. There was no fever, and no evidence of small-pox. The patient was in a low and weak state, had incontinence of urine; and for this reason it could not be collected and was not examined. There was mental hebetude and some symptoms of uræmia, and it was from the latter condition that the patient was supposed to have died about a week later. Shortly before death pus-

tules appeared upon the body, and in view of possible variola a consultation of the house-staff was held, at which it was decided that the pustules were part and parcel of the syphilitic process. One chief reason in support of this view was that the rectal temperature did not exceed 99° F.

After lying in the morgue for five days, which of itself is not an agreeable thing to contemplate, the unclaimed body was taken into the dissecting room to perform its last duties to science. And here let the sad reflection occupy us for one moment: that the schools must needs supply to their students material covered with lesions of syphilis in an infectious stage. Here, at last, the diagnosis was made. It is hardly to be supposed that this was an instance of post-mortem variola, hence the man must have had the disease at least several days before he died. A mistake had evidently been made; but was a mistake, under the conditions presented, to be looked upon as criminal, culpable, or even unpardonable? Considered in all fairness, it would seem that such an oversight might happen to even the elect. Small-pox by itself is not invariably of such pronounced type that a diagnosis, at first glance, must be made; but when small-pox and great-pox join forces to deceive, one must indeed be on the alert.

Let the lesson, with all its painful impressiveness, be learned by others as well as by those who have gone through the experience.

Although but one body can exist in one place at one time, two or more eruptive diseases can coincidently occupy the surface of the body, and one of them may be small-pox.

LIFE TENURE ON HOSPITAL BOARDS.

A CORRESPONDENT, whose letter is published elsewhere, writes us a somewhat emphatic letter concerning the burning question of hospital managers and hospital physicians. Regarding the particular case of the New York Infant Asylum, he has quite missed the point. As we are informed, the Medical Board resigned because of grossly discourteous personal treatment, and because they were refused any voice whatsoever in selecting the members of the Medical Board with whom they were to associate.

But apart from this, our correspondent raises a question which is really deserving of careful consideration. He does not believe in life-appointments to hospitals, and he thinks apparently that every man ought to have his chance. We do not think that anyone will deny that the proposition as regards life-tenure of office is a just one. On the other hand, the view that a hospital physician should have only one or two years' tenure is most fallacious. Many attending physicians and surgeons do a great deal of work, and expend a great deal of time in their hospital practice, because they hope that in future years this work, if continued, will bring them some reward. In a year or two, however, but little could be accomplished. It is too short a term to establish a reputation or win any superior skill, while the knowledge that one's place will soon be taken by another who may enjoy the fruits of work already begun, is most discouraging.

We believe that some middle ground is the safest, and would be most satisfactory.

It is curious, we would add, that no one seems to think of the advantages that might accrue from some other way of appointing and keeping up the membership of managerial boards. Most of these boards are close corporations, and their methods of self-propagation are not always wise.

THE LOCAL LESION OF SCARLET FEVER.

WHEN we have once learned surely the portals by which disease enters the human system, it becomes much easier to keep it out. Thus, it is agreed that typhoid fever and cholera can only infect through the alimentary tract, and with this knowledge everyone feels safer. It would be very comforting if we could believe that scarlet fever was introduced into the system in only one way and through only one channel. Dr. Dowson, of Bristol, has put forth a theory that this is the case, and that the channel of infection is the throat, or more particularly the tonsils.

He begins his argument by reference to the question of immunity. Scarlet fever, he says, is a disease which is always with us more or less, unlike measles, which disappears at times. This prevalence, says Dr. Dowson, suggests a process of selection, large numbers of otherwise eligible children escaping infection in spite of reiterated exposure. The prevalence of scarlet fever during the year 1892, in Bristol, was about .64 per cent., but during a severe epidemic in that town in 1863 the proportion was, as nearly as can be calculated, 4.5 per cent. It may, therefore, safely be affirmed that the incidence on the general population is under five per cent.; from which it may be inferred that the immunity against scarlet fever is great. Dr. Whitelegge gives 9.6 per cent. as the proportion of persons attacked during the age-period 0–15, and he attributes the decrease in the proportion after that age to "greater insusceptibility."

As a matter of fact, scarlet fever all but disappears after the age of fifteen, the returns of the fever hospitals showing less than two per cent. Not only, therefore, is the natural immunity very great, but an acquired immunity seems to come into play after the age of fifteen, which is not due to a previous attack or to diminished exposure. Dr. Dowson endeavors to explain this immunity by proceeding on the following premises, viz: 1, That the primary local lesion of scarlet fever is in the tonsils; 2, that this disease is a local disease of these parts and associated lymphatic glands, the general symptoms being caused by the absorption of toxins produced by the microbial growth at the seat of the local lesion; 3, that the incidence of the disease and the subsequent immunity are related to the structure and life-history of the tonsils.

Dr. Dowson points out that the throat affection of scarlet fever is a destructive inflammation which is always present in a more or less marked degree. His hypothesis requires that the throat lesion should be always present; that it should be among the first observable signs: that the disease should not occur apart from it; and finally, that a difference in severity of the disease should be accompanied by a proportional difference in the extent of the local lesion. The throat lesion of scarlet fever ranks among those which permanently damage the tonsils. Dr. Dowson made some five hundred observations on this point, which convinced him that after the age of fifteen there is an increasing number of patients with atrophic tonsils.

If the throat is the seat of the primary lesion in scarlet fever, it follows that the condition of these organs at different age-periods would exercise some controlling influence upon the incidence, and perhaps the severity, of the disease. The atrophy following destructive inflammation of the tonsils, for instance, would reduce the risk of inoculation and afford a less suitable nidus for microbial invasion. Out of a total of 508 observations there were only 7 instances of normal tonsils after the age of thirty; 115 persons in all possessed normal tonsils. This gives twenty-two per cent. for all ages, 21 of which occurred in the period of 0–30. Of these 115 persons, 89 had not suffered from scarlet fever, 10 had, and 16 were uncertain. Reckoning one-half of these last cases as affirmative and half as negative, we get the numbers 97 and 18, according to which eighty-four per cent. of those who have normal tonsils have not been affected with scarlet fever.

Dr. Dowson's argument is ingenious and based on a good deal of study and observation. We wish we could believe it even true, for then by destroying or disinfecting the tonsils scarlet fever could be prevented. It is difficult to understand, however, how the epidermis becomes so persistently infectious if the disease is located in the tonsils. Dr. Dowson suggests that the expired air infects the skin. A more reasonable theory would be that the system, becoming infected by the throat, throws off the poison by the skin.

LIGHT ON THE SMALL POX QUESTION.

One is brought back to the days of blue glass as a cure for consumption, by reading the accounts which come to us of the good effects of red light upon the course of variola. The combined testimony of Svendsen, Finsen, Lindholm, and others, goes to show that when the chemical rays are excluded from the light which surrounds the small-pox patient, suppurative fever does not occur, œdema rapidly disappears, suppuration of the individual lesions does not take place, but instead the vesicles dry up quickly, and all is well. Truly a rosy picture. It is recalled by Hogner, writing in the *Boston Medical and Surgical Journal*, that as early as 1300 this treatment was in vogue, and that the sickbed was covered and surrounded with red hangings to drive away the disease. The revival of this so long dead and so nearly forgotten empiricism is vested with a scientific explanation which does not seem wholly to explain. It has been shown that the sun, as well as the arc electric light, have the power to produce skin irritation, which is due to the chemical rays alone. Now, just as a photographer shuts off these rays from his dark room by the interposition of a red pane, so can a lady who is susceptible to eczema solare, go in the sun with impunity by wearing a red veil. If by red glass windows you shut off the ultra-violet rays from a face covered with the early lesions of variola, it is claimed that the skin irritation which favors the development of micro-organisms is prevented and pustules do not form. On the other hand, it has been claimed that the chemical rays of light are the most active in the destruction of bacteria, and it would seem that what would be gained on the one side by shutting them out would be lost on the other. However, when we read of twenty cases treated after this method by one observer, ten of them being in children who had not been vaccinated, and are told that all made rapid recoveries without passing into the pustular or suppurative stage, we are warranted in looking into the matter. Let us have all the light possible thrown upon the disease, and at any rate a little that is red can do no harm.

THE DEFECT IN THE DENTIST.

The dentists of America are the best in the world, but they are, nevertheless, away behind the mark. We appreciate their ingenuity, their skill, their drills and dams, their composite fillings and artificial teeth. They make the best kind of golden crowns, but they do not deserve to wear them. This is because they do not sterilize themselves or teach their patients how to prevent caries. They are wonderful patchers-up of things half gone; but they do not show us how to prevent the going.

There is hardly a dentist (there are a few) who works in an aseptic way or uses aseptic instruments. Some do not know any better, some do not think it necessary. But both are wrong; the one class should learn, the other class should think. How many dentists can tell surely when they are dealing with a syphilitic mouth? Yet if such a mouth is being treated we do not believe that any one would like to be the next patient, though the dentist should first wash his hands.

The mouth is a rich culture-ground for microbes; and caries, it is taught, is a microbic disease. Yet the dentist is content to fill the teeth, then disburse a bottle of his own special mixture of chalk, orris, and wintergreen, and tell his patient to brush the teeth *bis die*. The ordinary tooth-brushing is entirely ineffective in preventing caries or disinfecting the mouth. For this purpose a genuinely antiseptic wash is needed, and this should be used for a considerable time. Just what this wash or powder should be, and just how long it should be used, is one of the things the dentist should find out. Let the American dentist devise a way of making the teeth and gums aseptic and preventing caries. He will then be greater than if he had invented a new filling or a novel drill, or transplanted a whole jawful of teeth.

The Growing Popularity of Ether Anæsthesia in London.—*The Medical Press and Circular* has had a series of reports on the anæsthetic procedures in several hospitals of London. King's College Hospital and the Royal Free Hospital are not free users of ether; the former relies on chloroform in a majority of cases, while the latter is partial to the A. C. E. mixture. In the case of nine other hospitals, the anæsthetists administer ether in the larger proportion of cases. At the London Hospital a very notable change has taken place in this regard; ether is the anæsthetic chiefly used, being administered twice as frequently as chloroform. A few years ago the opposite preference ruled, but a careful and extensive study of the relative workings of the two substances has effected this reversal.—*The New York Medical Journal.*

Fainting.—As a rapidly acting stimulant give alcohol, hot and concentrated. The hot alcohol acts much more quickly than cold, because before it could be absorbed it must be heated up to the temperature of the body.—Hare.

News of the Week.

A College President and Football.—President Patton, of Princeton College, N. J., is reported to have said at a recent meeting of the Presbyterian Union, that "he considered football as one of the greatest moralizing forces in the college, and also that if he were a college man and had the proper physique he would try for a place in the College Eleven." The recent successes of Princeton have evidently been upsetting the worthy President, so that his feet are where his head should be. He evidently believes that the moralizing influences should come from below, instead of above, the belt. In olden times the cultivation of the upper end of the body was considered the most important, but in the new order of things we must commence at the feet and work up. Even a half-back gets more applause than a whole head.

Syracuse Academy of Medicine.—The profession in Syracuse, N. Y., have just completed the reorganization of their old City Association, calling the new society the Syracuse Academy of Medicine. They have obtained permanent quarters in the centre of the city, and have furnished the rooms handsomely for the purposes of reading-room, library, and assembly. A bequest of the late Dr. Shipman, of $500, to be invested in books, will be the nucleus of what is expected to be a good and growing library. The Academy starts out with over one hundred charter members, and the membership is expected to increase to include all eligible men in the city. Regular meetings will be held on the first and third Tuesday evenings of each month. The following officers have been elected for the first year: *President*, Dr. H. D. Didama; *Vice-Presidents*, Drs. John Van Duyn and Alfred Mercer; *Secretary*, Dr. T. H. Halsted; *Treasurer*, Dr. E. L. Mooney; *Members of Council*, Drs. N. P. Warner and Eli Van de Warker; *Trustees*, Drs. J. L. Heffron, H. L. Elsner, D. H. Murray, R. C. McLennan, and F. H. Stephenson.

Medico-Chirurgical College.—The Faculty of the Medico-Chirurgical College of Philadelphia has created three new clinical chairs, viz., Genito urinary Surgery, Orthopedic Surgery, and Otology. These, together with the vacancy in the chair of Clinical Medicine, will be filled permanently at the end of the present session.

Dr. William Hunt, Senior Surgeon to Pennsylvania Hospital, has resigned after a service of thirty years.

Dr. James Tyson has been appointed on the Visiting Staff of the Philadelphia Hospital.

The Cholera.—According to the latest intelligence, says *The Lancet* of January 13th, it appears that there is very little cholera in Constantinople at the present time. The epidemic at Teneriffe is entirely at an end, no cases having occurred since December 22d. We learn from India that one of those sudden and severe outbreaks of cholera on a limited scale, so frequently met with in India, has occurred at Nowapara, on the Eastern Bengal State Railway. The cholera epidemic continues in St. Petersburg, the number of patients under treatment for cholera in the Russian capital having risen in less than three weeks from 15 to 166. The increase has been very steady between the dates of December 12th and 27th, the statistics showing an increase of exactly 100 cases under treatment. From noon of December 12th to noon of December 13th there were 16 new cases, 5 deaths, and 66 under treatment. On the 28th there were 21 new cases, 14 deaths, and 166 cases under treatment. This sudden revival in the activity of the cholera epidemic has not yet been fully accounted for, but it has been considered possible that it is associated with the increased consumption of salt-fish taking place in connection with the Christmas fast (Rvjdestvenski), which commences at the end of November. A commission of physicians does not, however, endorse this view.

The Hospitals on Blackwell's Island.—We understand that the Medical Boards of the Workhouse and Almshouse Hospitals have asked that an investigation be made into their condition. They assert that the accommodations are insufficient and that no opportunities for efficient quarantine exist.

Chemistry and Reading Notices.—Our esteemed contemporary *The Lancet* has started a department of Analytical Records, which to Americans who are supposed not to have a very keen medico-ethical sense seems very strange. It has equipped a laboratory, and everything is grist to the scientific mill therein. We find *The Lancet* publishing analyses of champagne, lager-beer, bon-bons, cigarettes, malt, wine, tea, gin, etc. Curiously enough everything analyzed and reported upon is found to be good; so that the state of mind of *The Lancet's* chemist is very suggestive of that described in Genesis at the end of creative work.

The Local and Tonsillar Origin of Scarlet Fever.—We have called attention in another column to the views of an English physician who claims that all scarlatina originates primarily in the tonsils, which is the point of infection. Dr. Bergé, of Paris, has independently arrived at a somewhat similar view. He states that it is useless any longer to search for a new microbe as the cause of this disease, and that scarlatina is primarily a local disease, with secondary infections (the eruption, etc.) due to the formation and absorption of toxines; the pathogenic agent is the streptococcus pyogenes, the microbe of erysipelas, of puerperal septicæmia, etc. In common or tonsillar scarlatina the streptococcus finds a rich culture-field in the crypts of the tonsil and there secretes (in all probability) "an erythematogenous toxine," whose diffusion throughout the organism produces the cutaneous or mucous eruption. Bergé remarks that the tonsillar affection takes precedence in order of time, and that while the microscope invariably reveals the presence of the streptococcus in the tonsillar crypts, bacteriologists have never found microbes in the cutaneous exanthem, even by the recent methods of research formulated by Nicole.

The International Medical Congress at Rome.—The Committee has opened at Rome a special office to provide lodgings for Congress members at hotels and private houses. Members can apply also on the same purpose to Messrs. Thomas Cook & Son, Piazza Martiri, Rome, who have been requested by the Executive Committee to satisfy such applications when made in time. Excursions will be arranged in Rome under the guidance of Professor Forbes. Congress members intending to see Naples and Sicily can travel from Rome to Naples with fifty per cent. reduction on the usual railway fares, and can join

the excursions which will be arranged by the Naples Agency of Messrs. Thomas Cook & Son. This agency will arrange an undetermined number of excursions to Pompeii, Vesuvius, Capri, Sorrento, Castellamare, and Baiæ. and three to Sicily with the following itinerary: Naples, Messina, Catania, Faormina, Girgenti, Syracuse, and Palermo.

The Number of Medical Women in Great Britain is now 186, and of these 20 have become members of the British Medical Association.

The New York State Board of Health.—At a meeting of this Board, held last July, Dr. Donohue was empowered to make a thorough investigation of the office, which was to include every department and every official connected with it, down to the minutest detail of administration. Dr. Donohue's report was submitted on January 16th. It is an exhaustive document, and recommends many radical changes in the working of the department. Owing to the fact that the five new members of the board are not yet thoroughly conversant with their duties, it was deemed advisable to postpone decisive action until the next meeting, which will be held February 9th. By this time it is expected that the new members will have become acquainted with the workings of the office, and will be able to pass intelligently upon the reforms suggested in the report.

Tuberculin as a Test for Tuberculosis in Cattle.—Some veterinarians assert that tuberculin offers a sure test for the presence of tuberculosis in cattle. It is not considered to have such a positive effect upon man, and Dr. Klein's explanation of it is this: He believes that tuberculin does not act specifically on tuberculous tissues, but that it causes an increase in the power of exciting inflammation and suppuration possessed by streptococci and staphylococci. These micro-organisms are present in the majority of cases of tuberculous disease. The tuberculin increases their potency, so exciting local inflammation and producing a general reaction fever. Experience has shown that a certain number of cases of tuberculous disease do not give any reaction with tuberculin, and in Dr. Klein's opinion these are cases in which the tuberculous condition is uncomplicated by the presence of other micro-organisms.

Our French Brethren are word-mad. Hardly a month passes that some new creation of their onomatogenetic activity does not appear, and claim the attention of clinicians. Not long ago the offence of "astasia-abasia" was committed, and now Professor Debove describes a disease which he calls "basophobia," which means about the same thing, and of which there is just about as much need. There should be a society for asphyxiation of unnecessary terms.

Wharf Doctors and Runners.—The *Medical Standard* is informed that in New York the so called "wharf doctors" employ "runners" when a ship comes into port whose crew were shipped abroad; whoever hires them is responsible for their medical care when sick. The "wharf doctor," for a fixed price, guarantees medical charge of the crew while in port. If the sailors fall ill they treat them on board, while the vessel lies at her dock or is anchored in the bay. If the sailor requires attention which cannot be given on shipboard the "wharf doctor" sends him to a hospital and pays the charges. It is by these "wharf doctors" that the runners are employed. The moment a ship comes in they swarm out to her on tugs and rowboats, like so many sailor boarding-house touts, and endeavor to strike a bargain with the captain. [What next shall we learn from Chicago?]

Medical Legislation in Virginia.—The law regulating the Medical Examining Board of Virginia is eight years old. Much good has been accomplished for the protection of the public, but the organization of the Board is such that it has failed in some of its legal aspects. The *Maryland Medical Journal*, December 23, 1893, states that it is proposed to reduce the number of its membership to ten, taking one regular physician from each Congressional district, plus two irregulars or homœopaths, to be selected by the Governor of the State. It is also proposed to amend the laws governing the prosecution of itinerant quackery. The *Journal* instances a case wherein the present laws failed of the purpose during the past year: a notorious quack from one of the Northern cities set up his stand in Richmond and successfully defied prosecution, gaining his point by pleading the unconstitutionality of the license law. Under a legal technicality, and with the aid of a shrewd lawyer, the quack continued to practise at his own option and pleasure without a license from the Board of Examiners. When a lawyer goes to work to unravel the work of another lawyer, and succeeds in his endeavor, it behooves the Board to change its legal advisers, or take lessons from the counsellor who drove them out of court. Although the existing laws have been a decided benefit to the profession of Virginia, and *pari passu* have been a protection to the general public, those laws should be so strengthened that they can withstand the first serious opposition that shall be made to them. The effect, upon certain low graded medical colleges, of repeated rejections, by the Board, of their young graduates, has been to raise the standard of requirements in those colleges. One member of the faculty of a distant college is reported to have said that his college had been forced to raise the tests of graduation for the reason that his faculty was tired of seeing their graduates rejected by the Virginia Board of Examiners.

The Columbian Dispensary, of Brooklyn.—A new charitable undertaking has been begun at No. 140 Clermont Avenue, Brooklyn, in a dense population poorly provided as to medical attendance. Dr. George R. Kuhn is the leader in the attempt, but he has the support of the clergy in his vicinity. The following physicians will give their assistance to the dispensary: Dr. D. E. Callaghan, Dr. A. F. Carroll, Dr. P. J. Curran, and Dr. James F. Gallagher. It is designed to make the institution strictly unsectarian.

The British Medical Association has now a membership of 14,703.

Dr. William N. Hubbard has been elected a member of the Medical Board of the New England Society, in the City of New York.

Medical Society of the State of New York.—The railroads will charge a fare and one-third to delegates to and from Albany, where this Society meets on February 6th, 7th, and 8th. The New York City delegates will take a special train, leaving Grand Central Depot at 3.30 P.M., February 5th. Dr. Dallas, 65 West Thirty-sixth Street, Secretary of delegation.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON LARYNGOLOGY AND RHINOLOGY.

Stated Meeting, December 27, 1893.

CHARLES H. KNIGHT, M.D., CHAIRMAN.

Modified Illuminator.—DR. FELIX COHN presented a modification of Dr. Kuttneiss's electric head illuminator, the modification being an attachment for transillumination, enabling the instrument to be used either as an illuminator or transilluminator.

Modified Microphonograph.—DR. J. MOUNT BLEYER exhibited the head attachment of the microphonograph for increasing normal or abnormal sounds—musical or other kinds.

Electric Cabinet.—DR. BLEYER also exhibited an electric cabinet which contained an interrupter making 100,000 interruptions per minute for the use of electro-vibratory action upon the turbinated tissue.

Case of Sarcoma of the Nose and one of Epithelioma of the Larynx.—DR. HORACE CLARK, of Buffalo, sent the history of a case of melanotic sarcoma of the nose, for which he had operated, and also one of epithelioma of the larynx, with rapid metastasis to the œsophagus and pharynx, with death.

Laryngectomy for Epithelioma of the Larynx.—DR. HUBBARD showed an epitheliomatous tumor of the larynx for which laryngectomy had been performed the previous week. The man had since done well Preliminary low tracheotomy was performed. The enlarged submaxillary gland was excised, as well as the entire larynx, from the cricoid to the os hyoides.

Carcinoma of the Larynx.—DR. W. H. PARK presented a man with carcinoma of the larynx, who gave a history of three years' gradually increasing hoarseness and difficulty in breathing. There was no specific history. A tracheotomy tube had been inserted.

DR ROBERT C. MYLES also presented a patient with a tumor of the larynx, probable epithelioma, which had been growing gradually until the larynx was almost occluded. The question of choice of operation was raised.

DR. PARK then presented a second patient, a man of middle age, who four months before had first noticed a hard nodule in the middle of the hard palate. It had increased until it involved an area more than an inch in diameter. The diagnosis lay between specific tumor and epithelioma or carcinoma. There was no history of specific disease.

The Treatment of Follicular Pharyngitis.—DR. EMIL MAYER, in a paper upon this subject, gave a brief review of the treatment of follicular pharyngitis as practised by different specialists, some of whom had given preference to one kind or other of escharotics, some to cutting forceps, etc., and finally came down to the galvano-cautery which he had himself used and recommended, until the introduction of the Gottstein curette. It was a modification of this curette, to better adapt it to the pharyngeal surface, which had given him the greatest degree of satisfaction in the treatment of these cases. The author presented his modified Gottstein curette and gave a *résumé* of cases treated, numbering perhaps forty. In all where there was no complication recovery had been rapid. He completed the operation at one sitting, curetting the entire pharyngeal wall, or as much of it as was covered by the follicles, not touching the healthy mucous membrane. With the modified instrument there was no danger, he said, to healthy tissues. Cicatrization did not occur.

DR. MORRIS J. ASCH said he had seen many of the cases treated at the hospital by Dr. Mayer and could testify to the good results. The cure had been much more rapid than by other methods.

DR. W. C. PHILLIPS said the old Gottstein curette had answered the purpose very well, but he thought the modification shown would make it easier to handle.

The Bacteria Present in the Human Throat and their Relation to Acute Throat Inflammations.—DR. W. H. PARK read the paper. He would limit his remarks chiefly to streptococci, as they were most abundant, especially in acute inflammations. They were round bacteria, about one-eighth of the diameter of red blood-cells. They divided in one direction only, and as they divided they clung together, forming a chain. Different varieties of streptococci clung together with varying degrees of tenacity, and divisions had been made according to whether they were seen in long or short chains, and upon other grounds. Some were found to be much more virulent than others when injected into animals, some pathogenic, others not, and even those which were pathogenic at one time might not be at another.

Dr. Park, in the month of March of the current year, had made cultures from the throats of forty students and twelve other adults, none of whom were suffering, as far as known, from acute or subacute inflammation; and in the summer months cultures were made from twenty other students. In all the cases streptococci were found, in some the number and variety being much greater than in others. Similar observations were made in the country, and there also the cultures showed streptococci, so that their presence was not due to city surroundings. In the case of the country family no staphylococci were found, but these were present in most of the city cases. The throats of children in an asylum were then examined, and streptococci were found at all ages, except before the second day. In children with pneumonia and phthisis the streptococci, and also the staphylococci, were more abundant, but they seemed similar to those found in healthy throats. In scarlet fever the streptococci in the throat were also much more abundant than in health; so also in pseudo-diphtheria.

Persuaded by his observations that in healthy throats streptococci were probably harmless, he tried experiments upon himself and found that cultures transplanted to his own throat produced at most slight irritation. This was true when the cultures were from healthy throats, and also from throats the seat of acute inflammation.

The bacteria which were harmless under ordinary conditions, became more active under certain states of the weather, and were present in greater numbers during the damp winter months.

Effect of Mild Antiseptics.—Dr. Park had further observed that during the use of mild antiseptics in the nose and pharynx the streptococci became less numerous, and indeed the spray had rendered the throat almost free from pathogenic germs. This observation showed the desirability of observing local antisepsis when one was brought in contact with contagious diseases.

It was difficult to say what proportion of cases of angina, etc., developed from infection obtained from others, and what proportion from increased activity of the germs present in one's own throat brought about by changes in the weather and other causes. The author's opinion was that only a small number of cases arose from infection from others, and in those cases there was also probably some other form of exposure. The bacteria mentioned, when found in healthy localities, were less active than when they came from surgical wounds, yet they were capable of producing abscesses when injected into animals.

DR. VANDERPOEL inquired whether non-diphtheritic sore throat was not contagious, or how would the author explain its frequent occurrence in several members of a family.

DR. PARK said it was not contagious like diphtheria: it did not spread in a neighborhood from a given centre. In the same family there might be different cases, but probably due to the same general condition, say that of the weather, causing throat irritation and favoring increased activity of the germs present.

DR. CHAPPELL said that at the hospital at Forty-second Street they had concluded that follicular tonsillitis was

contagious. Formerly when a case developed the disease was apt to pass through the entire hospital, affecting all the children. The last two years they had made it a custom to at once isolate every case, and as a result the disease had not spread to the other inmates.

After some further discussion, during which opinions were expressed as to the infectiousness of follicular tonsillitis, the Section proceeded to the transaction of business.

Officers Elected: Dr. D. Bryson Delavan was elected Chairman for the ensuing year, and Dr. James E. Newcomb Secretary.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, November 22, 1893.

H. P. Loomis, M.D., President, in the Chair.

Ciliated Infusoria from the Urethra.—Dr. F. Tilden Brown exhibited some ciliated infusoria which he had found in the urine of a man suffering from pyelitis. When the patient first came to him he had hæmaturia, and a cystitis, which rapidly subsided. At the commencement of the treatment slides were prepared and examined for gonococci and tubercle bacilli, and these showed the infusoria; hence they were present at the time the patient came under treatment. It is probable that the free secretion of pus and the alkalinity of the urine rendered the urethra a suitable habitat for the infusoria, for they speedily die in normal urine; in fact, they seemed to thrive chiefly in physiological salt solution and in ordinary Croton water. He had, however, found them alive in this patient's urine as long as ten days after the urine was voided. At first he suspected that the infusoria came from the urinal, or from the bottle containing the urine, but he had had the patient pass some urine directly into sterilized flasks, and even then an examination made within one hour showed the presence of these infusoria. As they were not found in the urine drawn from the bladder by catheter, it would seem that they existed only in the urethra. There was no discharge from the meatus, but there was considerable muco-pus in the canal, and many shreds were found in the specimens of the urine containing the infusoria.

Eggs of the Distoma Hæmatobium.—Dr. Brown then exhibited, under the microscope, the eggs of the distoma hæmatobium found in sections from a bladder tumor. The case occurred recently in the service of Dr. B. Farquhar Curtis, at St. Luke's Hospital.

A Calculus Containing Tubercle Bacilli.—Dr. Brown also presented a small calculus which he thought was probably of renal origin. The patient was known to have tubercular disease of the urinary tract. Specimens of urine were examined from time to time for tubercle bacilli, but none found. Finally, about two or three hundred minute, soft calculi were voided, and on crushing one of these and mounting it in blood-serum, the tubercle bacilli were found in large numbers. He had not before seen any mention of this. The composition of the calculus had not yet been determined, but it appeared to be phosphatic.

Retention Cysts of the Kidney Due to Occlusion of the Ureter by a Calculus.—Dr. George C. Freeborn presented a cystic kidney which had been found at a post-mortem examination. So far as could be learned there had been no symptoms during life referable to this condition. The kidney was enormously enlarged, and was converted into a mass of thin-walled cysts, the walls of which were composed of fibrous tissue. Examination of various portions showed an entire absence of kidney tissue. The cysts contained a clear yellowish fluid which was drawn off by a series of small punctures. The cysts were then filled with chromic acid solution, and after hardening were preserved in alcohol. This original method of preparation had been described to the Society on a previous occasion.

A Cyst of the Broad Ligament.—Dr. Freeborn said that this specimen was removed by laparotomy from a married woman, twenty-three years of age, who was in the third month of pregnancy. The cyst contained 250 c.c. of perfectly limpid fluid. The operation was performed on November 15th, and the patient had done exceedingly well, and had not aborted.

Dr. Byron said that this method of preparing cysts was far superior to any other with which he was familiar. He would look upon the cystic kidney as more probably of congenital origin, for when not congenital there are usually only one or two cysts.

Dr. Freeborn said that he had considered the specimen one of congenital malformation of the kidney until he found the large calculus which had occluded the ureter.

Dr. Brown asked if the method of preparing the cysts just described and recommended was applicable to specimens in which the contained fluid was quite thick.

Dr. Freeborn replied that he had been able to almost completely evacuate the colloid material of ovarian cystomata by using a large glass or metal cannula. The chromic acid solution was then injected through the same cannula.

Preserving the Natural Blood-color in Specimens.—Dr. Freeborn called attention to the fact that in the last specimen of cyst the color of the blood had been retained in the vessels. Many methods had been devised and had proved unsatisfactory. It had been found, however, that the blood-coloring could be retained by first drying the specimen in the air for an hour or an hour and a half, and then immersing directly in strong alcohol. If put in fifty to sixty per cent. alcohol, the color will be destroyed. The same method can be used with solid organs, but as they cannot be so thoroughly dried as cysts the results are inferior.

Cysts of the Brain.—Dr. E. D. Fisher presented a brain, removed from a patient forty years of age, who died of exhaustion after a series of about sixty epileptic seizures occurring within twenty-four hours. There was a history of imbecility associated with epileptic seizures and marked hemiplegia, with contractures on the hemiplegic side. Two large, well-defined cysts were found in the motor area of the left hemisphere of the brain, extending back into the occipital lobe, and the more posterior cyst was in communication with the lateral ventricle. The difference in the size of the two hemispheres was very apparent, but the opposite hemisphere of the cerebellum was not atrophied. It was not possible, of course, to decide, so long after the occurrence of the lesion, whether the condition found in the specimen was the result of occlusion of a vessel occurring in utero or shortly after birth, or whether it was due to hemorrhage. The specimen showed very clearly the futility of operating on such cases. He had ventured to operate on a similar case, where the man had a history of having had cerebral hemiplegia develop at the age of five years, and where it seemed possible that there might be a meningeal hemorrhage. Instead of this he found a cyst very similar to the one shown in this specimen. The cyst was drained, but the operation seemed to neither benefit nor hurt the patient.

The Lesions of Yellow Fever.—Dr. J. M. Byron presented specimens from a man dying of yellow fever. While coming from Havana about three weeks ago he was taken ill on the steamer, and on reaching this harbor was put on one of the quarantine islands. When seen by the speaker he presented most of the symptoms of yellow fever—moderate yellow color, nausea, pain in the epigastrium, subsultus, and continued high temperature. The patient was twenty-four years of age, and his previous health had been apparently good.

The liver presented at autopsy the appearance more commonly seen in the early stage of the disease, when the degeneration of the liver cells is going on in the outer portion of the acini. The bladder, stomach, and intestines showed extensive hemorrhages. The kidneys were of special interest, because it had been recently claimed

that cholera could be recognized by the lesions found here. The specimen presented a very similar appearance to that found in cholera, and the microscopical appearances were identical in the two diseases, even the collecting tubes being involved in the necrosis.

Specimens from cases of cholera and yellow fever were exhibited under the microscope.

Dr. Armstrong asked what was the condition of the heart.

Dr. Byron replied that it presented, along with the other organs, a condition of fatty degeneration.

Dr. Armstrong said he would lay more stress on this than on the appearance of the liver or kidneys, for they present no characteristic features; it is the association of the pathological condition in several organs, rather than the appearance of any single organ, which justifies a diagnosis of yellow fever.

Dr. George Biggs asked if yellow fever could be positively differentiated at autopsy from a purpuric condition. He had recently made an autopsy on a case presenting quite similar lesions, yet the patient had been for a long time in the New York Hospital, and had presented the symptoms of acute purpura hæmorrhagica without skin eruption. There was a distinct jaundiced condition and parenchymatous changes in the organs, with a few hemorrhages in the kidneys.

The President thought the parenchymatous changes would furnish the basis for a differential diagnosis.

Dr. Byron said that in yellow fever the clinical symptoms must be taken into consideration along with the results of the autopsy. In yellow fever there are very extensive hemorrhages of all the mucous membranes, while minute hemorrhages are very rare; in yellow fever there is fatty degeneration of almost all the parenchymatous organs, while in purpura hæmorrhagica these changes were not nearly so extensive.

Culture Medium for the Gonococcus.—Dr. Byron presented a culture-tube containing pure cultures of the gonococcus. Five years ago he had successfully cultivated the gonococcus in this way on a medium composed of bouillon-agar containing two per cent. of cane sugar. One year after this Bumm cultivated this germ on blood-serum, and notwithstanding the assertion that it can only be cultivated on this serum, he had obtained much better results from the culture medium already described.

Primary Epithelioma of the Breast.—Dr. E. Hodenpyl presented a specimen of primary epithelioma of the breast, a condition so extremely rare that he had been unable to find a similar case on record. The patient was a widow, fifty-five years of age, who had been perfectly well up to four months ago, when, after a traumatism, a lump appeared in the breast. At this time it was about one inch in diameter, painless, and of slow growth; but about six weeks before her admission to the hospital it began to grow very rapidly, the skin became somewhat reddened, and there was a serous, and sometimes a bloody, discharge from the nipple. On admission the tumor measured six inches in diameter and seven inches in depth; it was quite painful, the skin was reddened over it, and there was a slight serous discharge from the retracted nipple. The breast was removed by Dr. McBurney, who found at the operation that this tumor was really a cyst containing over one pint of fluid. The growth presented a cauliflower appearance, and on microscopical examination showed the typical structure of a squamous epithelioma, such as is found in the skin, and the same arrangement of the cells which is found in stratified epithelioma elsewhere. When stained, the specimen showed the "spine cells" very well. There was no evidence that the tumor sprang from the skin, and the only possible explanation seemed to be Cohnheim's theory of aberrant cells. Gross, in his text book on "Tumors of the Breast," speaks of epithelioma, but his description would seem to apply to adenoma rather than to true epithelioma.

Acute Sepsis Following Catheterization. — Dr. George P. Biggs said that the specimen presented was from a man, seventy-one years of age, whose previous personal history was absolutely negative. Last June he began to have some difficulty in micturition, and the urine was occasionally tinged with blood. About three weeks before admission to the hospital, after a hard day's work, he had retention of urine. A physician relieved him temporarily by catheterization, but after this there was distention of the bladder and painful micturition. Three days before coming to the hospital these symptoms were increased, and he was again catheterized. The following day he had headache and vomiting; the urine contained considerable blood, and the patient appeared stupid. On admission the prostate was found enlarged. A catheter was passed without much difficulty, and bloody and purulent urine drawn off. After evacuating the bladder there was still an area of dulness about six inches in breadth, extending up nearly to the umbilicus, and this led to the diagnosis of a probable tumor. There was moderate fever, the stupor increased, and he died in three days.

At the autopsy the fundus of the bladder was found to reach nearly to the umbilicus, and the entire anterior wall was firmly adherent to the parietal peritoneum; the omentum was adherent to the fundus of the bladder, and the neighboring coils of intestine were covered with a little lymph; but there was no general peritonitis. The bladder contained a large quantity of offensive ammoniacal urine; the mucous membrane was necrotic over a large area; there were numerous hemorrhages, and marked trabecular hypertrophy. The prostate was hypertrophied and nodular. The bladder walls were infiltrated throughout, and on stripping away the anterior wall from the peritoneum several pockets of pus were found. The ureters were moderately dilated and much congested; the pelves of the kidneys were in a similar condition, and were filled with bloody and purulent urine. There was also a double pulmonary thrombosis which did not completely occlude the vessel. It probably formed just before death, as it gave rise to no symptoms. The pus was stained, but only large numbers of staphylococci were found. There was evidently a very acute infection following the catheterization.

Dr. Armstrong asked if there were any arthritic symptoms in the case.

Dr. Biggs replied that there was no history of any.

Dr. Armstrong said that about six years ago he had under his care at the Marine Hospital a sailor who was supposed to be suffering from acute articular rheumatism. He developed endocarditis and died. The autopsy showed not only arthritis and endocarditis, but nephritis and cystitis, and subsequent inquiry elicited the fact that he had had some trouble with the bladder, which had necessitated the introduction of an instrument. This had evidently caused infection. The lesions were very similar to those found in the case just reported.

Dr. Byron recalled a case of cystitis similar to the one presented. The lesions resembled those produced by the virulent form of the bacillus coli commune, which seems to have a special necrotic action.

Dr. Hodenpyl remarked that in an article by Schmidt, just published, is a report of fourteen cases of cystitis due to this micro-organism.

Careinoma of the Stomach; Ulceration of the Bowel.—Dr. George P. Biggs then presented specimens taken from a woman, forty-one years of age, who, when admitted to the New York Hospital on October 19th, presented the symptoms of chronic gastritis. She was of intemperate habits, and since an attack of la grippe last February had had a constant cough with mucous expectoration. Since April there had been morning nausea and vomiting, and moderate emaciation. The physical examination of the chest was negative; the abdomen was distended; the epigastrium was slightly tender; the urine was normal. While in the hospital she had a very profuse diarrhœa. No hydrochloric acid was found in the vomited matter. A diagnosis had been made of carcinoma of the stomach, but this was afterward thought

to be erroneous. An acute peritonitis developed shortly before death, which occurred on November 20th. At the autopsy no gas was found in the peritoneal cavity, and there was a small amount of lymph, and an unusually watery, almost milky, fluid. About four and a half inches from the pylorus the wall of the stomach began to thicken, and at the pylorus it was 1 ctm. thick. At this point the submucous coat was three-fourths of an inch thick, and rather soft. The mucous membrane showed papillary projections—the largest 1½ ctm. in diameter—projecting about three fourths of an inch above the surface. There were small nodular thickenings along nearly the entire greater curvature, and in some other places. The pylorus was narrowed to about 1½ ctm. in diameter, and the mucous membrane appeared to be superficially ulcerated. The duodenum presented nodular thickenings, and, apparently, superficial ulcerations. There was no new-growth in the pancreas, nor were there enlarged glands in the neighborhood of the stomach. The liver was rather large, and on section of the right lobe an ovoid mass about two inches in diameter was found deeply embedded in it. It was firm and distinctly outlined, and presented the appearance of carcinomatous deposit. There were no other deposits in the liver. An examination of frozen sections from the stomach and liver showed these to be the seat of carcinoma, but it was rather strange that the mucous membrane was so slightly involved.

Extensive and peculiar lesions were found in the ileum. In the lower two feet of the ileum the mucous membrane was destroyed, owing to the formation of numerous small round ulcers. The edges of these ulcers were undermined, and they appeared to have existed for some time. There were many similar ulcers in the large intestine, particularly in the descending colon. In the transverse colon were a number of pigmented points, which appeared to represent the healed ulcers of this type. None of these ulcers had perforated, but the peritonitis was probably the result of a direct extension of the inflammation from the deep ulcers. The spleen was of normal size; the mesenteric glands were slightly enlarged. Both lungs were the seat of extensive fibroid changes, apparently the result of the bronchitis originating in the attack of la grippe. Scrapings from the lungs and sections were examined microscopically, but no evidence of tuberculosis discovered.

The President said he had seen at an autopsy a similar thickening of the walls of the stomach. Sections were made of the thickened portions which did not appear to be carcinomatous, yet on examination they showed nevertheless the existence of carcinomatous deposits.

Dr. J. S. Ely referred to a recent specimen in which there was regular and uniform thickening of the walls of the stomach, involving all except an area about two inches in diameter. This infiltration was about ½ ctm. in thickness, was carcinomatous, and began at the pylorus.

Giant-cell Epithelioma of the Inferior Maxilla.—Dr. Biggs also presented a section of a tumor removed from a man, sixty-two years of age. Five years before he sustained a compound fracture of the inferior maxilla, and six months later, a small tumor developed in the floor of the mouth. This was removed at St. Luke's Hospital by Dr. Bull, nineteen months ago. It was said to have been a carcinoma. Subsequently a small nodule developed in the cicatrix and was removed by some other surgeon. Four months before admission to the New York Hospital a small tumor was observed in the submaxillary fossa on the side where the fracture occurred. When removed by Dr. Bull it was found to be a distinctly encapsulated ovoid body, measuring 3 × 2 ctm. in diameter. It contained numerous areas of degeneration, and showed on microscopical examination the structure of epithelioma. The "pearls" were very numerous and characteristic. Some lymphatic gland-tissue was also found. A peculiar feature was the enormous number of giant-cells, which resembled those found in giant-cell sarcoma.

The specimen was referred to the Microscopical Committee.

A Glio-sarcoma of the Brain.—Dr. Frederick Peterson presented a specimen of tumor of the brain, taken from a man fifty years of age. Up to five months ago he had had no symptoms except occasional dizziness. One morning last June he fell to the floor in a fainting attack. There was no paralysis and no symptoms of serious nervous disorder. He returned to business, but after two or three weeks began to feel weaker and to suffer from headaches. He gradually developed hemiparesis of the left side of the face, and of the left arm and leg, and the headaches and dizziness increased. When seen by the speaker, three weeks ago, he had in addition left hemianopsia and double optic neuritis. A diagnosis was made of tumor of the internal capsule. The question of operation was broached by the attending physician, but it was not thought advisable owing to the absence of symptoms of irritation of the cortex. The specimen showed that the tumor did not affect the left side or any of the cranial nerves.

Cerebral Thrombosis; A Kidney with two Pelves.—Dr. J. S. Ely presented specimens taken from a woman, sixty-four years of age, who for the past ten years had had dyspnœa on slight exertion, accompanied by cardiac palpitation. Six years ago the left breast was amputated for carcinoma. Five years ago she suddenly became unconscious for about four hours, but there was no aphasia or paralysis. One year ago she again became unconscious, this time only for a few minutes. On November 16th she suddenly fell to the floor, and when found, fifteen minutes later, the tongue deviated to the right, her voice was thick, there was partial paralysis of the left side of the face and of the left arm and leg. When admitted to Bellevue Hospital, the following evening, the pupils were equal and responsive, the pulse full, regular, and slow, the cheeks flapping with expiration, and there was partial paralysis of the left side, but no loss of sensation. She was semi conscious. On November 19th the pupils were contracted and unequal, and she was unconscious. She died early the next morning. The autopsy showed nothing abnormal about the dura mater or pia, but the right side of the brain was softer than the left, and the cerebro-spinal fluid was increased in quantity. There was extensive atheroma of the arteries at the base of the brain. In the right middle cerebral artery was a plug which completely occluded it. The softening was limited to the area supplied by this artery. There was no evidence of hemorrhage. The lungs were œdematous; the heart was enlarged and the aorta atheromatous.

The left kidney had two pelves, each one having its own ureter. The two ureters united about one inch from the bladder. The other kidney showed no such malformation. Both kidneys were the seat of advanced chronic diffuse nephritis.

Pseudo-hermaphrodism.—Dr. Ely also exhibited a male child whose external genitals resembled those of a female. This appearance was due to a complete hypospadias, and a fusion of the scrotum, and to the fact that the testicles had not descended. This is the commonest form of so-called hermaphrodism.

The Society then went into executive session.

A New Test for Albumin.—M. Spiegler has devised a test for albumin which is said to be endowed with extreme delicacy, its sensibility being 1 in 350,000. It is prepared as follows: Perchloride of mercury, 2 parts; tartaric acid, 1 part; distilled water, 50 parts; glycerine, 5 parts. The urine to be examined is first rendered strongly acid with acetic acid and filtered. With a pipette some of the filtered urine is dropped on to the surface of 2 c.c. of the testing fluid. The presence of albumin is revealed by the development of a white ring at the point of contact of the two liquids. The presence of peptones does not interfere with the success of the analysis.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

BENIGN OR MALIGNANT TUMOR—PATHOLOGICAL SOCIETY—FIBROMYOMA BECOMING SARCOMATOUS—CANCER AND ORGANISMS — TAR CANCER — RUPTURED SACCULUS OF BLADDER FOLLOWING STRICTURE—DISEASE OF KNEE-JOINT — CHOLESTERIN IN RENAL CYST — THE YEAR'S INCREASE OF MEDICAL MEN—DEATHS OF PROFESSOR M. MARSHALL, MR. ARTHUR GAMGEE, AND DOWAGER LADY GULL.

LONDON, January 5, 1894.

DOES a benign tumor undergo a histological transformation and put on malignancy? On Tuesday last (2d inst.), a case was related at the meeting of the Pathological Society by Dr. Lee Dickenson, which he considered one instance of fibromyoma of the uterus becoming sarcomatous. The patient was forty eight years of age. A uterine tumor had been noticed about a year; then it began to grow very rapidly, with exhausting discharge and indications of compression of the pelvic viscera. She was so exhausted that operation was not advised. At the autopsy the tumor was reported to be about the size of a melon—rather an indefinite statement that—and it presented the characters of a fibromyoma. A portion had sprouted into the pelvic cavity, and this had the structure of a spindle-celled sarcoma. Some of the growth had calcified. There were no metastatic growths. The author thought that the sarcomatous tissue originated in muscle-fibre cells. M. A. Doran thought that a myoma might become malignant as such, the metastatic growths having a myomatous structure. He observed that many rapidly growing fibroids were not malignant, and small ones, which at first seemed to have taken on malignancy, might turn out eventually to be benign. Further, he said fibroids might become œdematous or they might become the seats of carcinoma. The occurrence of gland-tissue in many of the uterine tumors of this kind may account for this fact.

Mr. Jackson Clarke then drew attention to a paper by A. Korotneff, in the *Centralblatt f. Bakteriologie* of March 23d, not long after his own communications to the Society on the relation of sporozoa to cancer, and of which I gave you an account at the time. The Russian biologist has since published his views in book-form, and Mr. Clarke considers they confirm his own prior investigations. Mr. D'Arcy Power demonstrated the histology of a squamous-celled carcinoma removed from the scrotum of a man who worked in clothes which were often saturated with gas tar in the peripheral cells of which were appearances which he admitted were faintly suggestive of cancer bodies. Hereupon Mr. Shattock proposed that the preparations of Mr. Clarke and Mr. Power should be referred to the Morbid Growths Committee to criticise and report upon, but not with a view of any dogmatic statement as to their meaning, for he thought just now it was of great importance to be clear as to the facts. Dr. Kanthack said he had often seen epithelial-cell fusions in carcinoma. The body described by Mr. Clarke as a spore-bearing cyst he regarded as a capillary containing leucocytes. The "cancer bodies" are evidently destined to afford food for further discussion and investigation.

Mr. F. C. Wallis then related a case of stricture after amputation of the penis in which a sacculus of the bladder formed and ruptured. After death the extravasation was found to be extra-peritoneal and the rupture had taken place in the upper part of the bladder and to the left of the urachus.

Mr. Davies Colley showed a dried specimen—the bones of a knee-joint which he had excised thirteen years ago, for what was then considered osteo-arthritis. The man had syphilis twenty years before, and Mr. Colley thought the appearances corresponded with what are now considered syphilitic, and perhaps the case might be thought to be one of Virchow's syphilitic chondro arthritis. Mr. Spencer remarked that there was no evidence of syphilis going on at the time of the operation, nor were any traces found in other organs at the autopsy. It was rare to find joint disease in association with tertiaries of the bones. He thought the clinical aspects resembled septic arthritis, and the scooped out cavities were suggestive of tuberculous disease.

Mr. Bowlby did not consider syphilitic joint disease rare, though he admitted that extensive destruction was uncommon. The painlessness of the affection often caused it to be overlooked. This case he regarded as syphilitic. Neither eburnation nor the deep, dug-out pits occurred in septic arthritis. The aricular osteophytes did not resemble those of osteo arthritis, but rather such as occurred in inflammation. Moreover, there was an absence of the lipping of osteo arthritis.

Mr. H. Fenwick showed a specimen of sacculated kidney with partial obstruction of the ureter by an impacted concretion. Nephrotomy had been performed when clear urine was evacuated glistening with crystals of cholesterin. Death occurred ten days later, and at the autopsy it was found that the calyx was enormously dilated from the presence of stone in the ureter, and in the calyx there was cholesterin.

There are only two cases of cholesterin renal cysts recorded in the Transactions. It has sometimes been denied that cholesterin crystals may be passed in the urine. Dr. Murchison's case, however, is proof that this may occur, and I have met with one in consultation, the details of which I cannot record, but it quickened my interest in Mr. Fenwick's exhibit.

We are often lamenting the overcrowding of the profession, and with the New Year comes a sharp reminder that the pressure increases.

Here is the new medical directory, and one of the earliest bits of information it contains is that 1,013 is the increase in the number of names over the number last year. Actually 1,013 additional competitors, although 639 have been considerate enough to leave this struggling world. In London, alone, there are now 5,590 qualified practitioners, which is equal to about 1 to 750 of the total population, and then there is the ever-increasing army of quacks and pretenders to medical wisdom of various kinds—to say nothing of the abuse of the out patient departments of the hospitals and increase of cheap dispensaries.

Truly, the lookout of the profession is not a very lively one, and the maintenance of its dignity is becoming impossible.

Professor Milnes Marshall has met his death from a mountaineering accident at the early age of forty-one years. Professor Gamgee has lost his only son, a brilliant youth of seventeen, who committed suicide in a state of temporary insanity while at college. The Dowager Lady Gull, widow of Sir W. Gull, died on the 2d inst., aged seventy-four.

DO THE SICK EVER SNEEZE?

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the MEDICAL RECORD of December 23, 1893, you ask the question "Do the Sick ever Sneeze?" At the risk of being held responsible for "the consequences of an awful certainty" I am constrained to give truthful answer to your query, believing that so important a matter ought not to go longer unsettled. That the sick do sneeze I have proved by painful, personal experience. It was during an attack of acute pleuritis that I did my memorable sneezing — memorable because distressing. On several occasions, when from dread of the pleuritic pain I had for a length of time repressed an inclination to cough, I was suddenly seized by a violent fit of sneezing. And *such* sneezing! Ye gods and little fishes! How I wished that I had coughed instead, for I was able to control in a measure the violence of the cough, but the sneeze had its own sweet will with me, quite regardless of nose-pinching and various other common devices for checking sternutation. How it did stir up that ten-

der spot and put adhesions violently on the stretch? Yes—and I speak feelingly—the sick do sneeze.

Another case in point is the following: Not long since, a patient of mine, suffering from some acute illness the nature of which I do not now recall, suddenly, during my visit, sat up in bed and sneezed so long and violently that I was alarmed for her. When she had recovered her voice she assured me that she *enjoyed* that sort of thing—adding that "all our family sneeze so." It was a family trait and they were all proud of it. I thought nothing further of the matter at the time; now, however, I know that I was favored above most mortals, and witnessed a strange and unusual sight. For my own case, I had never been a "sneezer," and kicked—figuratively, at least—at being compelled to take up the habit at so inopportune a time. Now my regrets have fled, for I believe that I "snoze" when it hurt, so that I might remember and thus be able to help clear up this great mystery. The sick (some of them at any rate) do sneeze.

Very truly yours,

E. McALLISTER, M.D.

REDLANDS, CAL., January 9, 1894.

HUMANE TREATMENT OF MORPHINISM.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Having read in your issue for December 23, 1893, a paper by Dr. J. B. Mattison, entitled "The Modern and Humane Treatment of the Morphine Disease," I desire to add a word in support of the superior excellence of the method there laid down.

I do not hesitate to assert that it represents the most decided advance in the therapeutics of morphinism yet made. Between all other methods hitherto presented there has been little to choose, all equally entailing a degree of suffering which exceeds the limit of voluntary endurance, the plan of abrupt suspension being the most barbarous of all. In my own mind it may be a serious question whether the shock to the nervous system resulting from this atrocious method may not even hinder subsequent convalescence.

In this connection permit me to refer to an anonymous paper published by the writer in *The New York Medical Journal* for January 7, 1893, entitled "The Cure of the Morphine Habit by Sulphate of Codeine." The conditions obtaining at the time of this publication have since changed so that I am at liberty to refer to it as a matter of convenience. The paper details a case in which the morphine habit after a continuance of nearly two years was voluntarily abandoned by a plan practically the same as the Mattison method.

The great central feature of this latter-day therapeutics of morphinism lies in the gradual disinthralment of the victim through the substitution of the milder allied alkaloid of opium. I am fully convinced that time and experience will establish the Mattison method as the standard treatment of morphinism—a boon to humanity and a credit to American medicine.

F. O. MARSH, M.D.

CINCINNATI, O.

ONE WAY TO OVERCOME CRIMINALITY.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The article in the MEDICAL RECORD of January 13th on "Criminal Anthropology" closes with an eloquent paragraph upon the injustice of the criminal's treatment by society. The argument is the old one of his irresponsibility. Impulse to crime is an inherited taint. The criminal is an atavistic creature no more to be blamed for his acts than is the child of syphilitic parentage to be called to account for his unlovely skin, or bones, or teeth.

Now all this must be freely admitted. Yet no one seems willing to face the plain inference. It is surprising how much sociology knows, and how little it dares do. Articles on penology usually close, as does the one which prompts these lines, by "What will you do with the Criminal?"

The reply seems fairly to jump at one from the argument. Manifestly, prevent his doing for others what his depraved parents did for him. Why go on eternally imprisoning and executing this aberrant race? Why not once for all prevent their reproducing themselves? If society may do the one, it may do the other. If you may kill a murderer by process of law, you may do him a less violence. And yet habitual criminals, known as such, recognized at a glance by the experienced, bearing all the characteristic marks which Dr. Weir so interestingly illustrates, are discharged constantly from our penal institutions, to go forth and bring into existence other vitiated moral types equally irresponsible, who will in turn do evil all their days, and leave children to propagate the heritage. Irrationally, it seems to me, society permits this to continue, and prefers to punish from generation to generation unjustly, rather than prevent.

Now, supposing that every habitual criminal, every man or woman convicted twice of deadly assault, or highway robbery, every man convicted twice (many would say once) of rape or other abominable crime, should be legally and aseptically castrated? Who can doubt that such legislation would be twice blest in its results? In the first place, the criminal breed would come in a few generations to an end, and the criminal type be stamped out root and branch; and, in the second place, the deterrent effect of such a statute would be (I believe I speak within bounds) greater than that of the death penalty itself.

This is not a savage doctrine. It is merciful. It is merciful to unborn generations of wild beasts in human form, whom society must, for its own protection, treat cruelly and unjustly, as judged from the ideal standpoint; and it is merciful to that innocent army of martyrs, who, as they were in the beginning, are now, and apparently ever shall be, their victims.

With great respect,

Yours, etc.,

WILLIAM S. CHEESMAN, M.D.

AUBURN, N. Y., January 14, 1894.

THE HAPPY THERAPIST.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Under the title "Locomotor Ataxia Treated by Phosphatic Injections," there has recently appeared in *The Lancet*, from the pen of Dr. Forbes Winslow, a brief clinical memorandum setting forth the curative properties of phosphate of soda administered hypodermatically. There is something decidedly refreshing in being told that a disease universally regarded as incurable, yields in the hands of one individual such earnestly looked-for results. Were it not for the dignity of the journal, however, in which this last contribution to happy therapy appears, it would scarcely deserve a passing notice even to condemn it. In the first place, there are absolutely no etiological factors or pertinent symptoms of moment given to establish the diagnosis which the writer states with so much positiveness. He is apparently satisfied that his readers will be content with his diagnosis, fortified and corroborated, as he tells us in a later issue of the journal, by the written statement of two eminent physicians, neither of whom, it may be mentioned by the way, ever laid claim to special diagnostic skill in diseases of the nervous system. The fragment of history that accompanies the report is as follows: A young man suffering from marked symptoms of locomotor ataxia which had developed during the previous two years, and apparently caused by a fall from a horse. For significant symptoms it is stated that there was complete loss of co-ordination in his movements. He was quite unable to walk without the assistance of two sticks, and when seated in a chair he could not raise himself without assistance. The clinical history is tersely summed up as follows: "The case was a very characteristic one"—a summary which we would gladly consider, if the symptoms and pathognomonic signs of

the disease had been given. As it is, however, we cannot escape the conviction that the case was suspiciously like one of traumatic neurosis of a pseudo tabic type.

The report of this case prompts us to say a word regarding the utility of such communications. It matters not how famous the writer may be, if he wishes to introduce therapeutic innovations and claim for them curative results, he owes it to the intelligence of the profession of which he is a member, to communicate his investigation in all its details. And especially are his readers deserving of all the details of cases which lead to the forming of an absolute diagnosis.

In the case in question, not a single symptom or sign that points with any accuracy to the diagnosis has been vouchsafed. The written certificates of two consultants, even if they were sworn to, would not carry the conviction that such consultants were infallible in the diagnosis of locomotor ataxia. As regards the advisability of reporting one case of locomotor ataxia apparently going on to recovery, we will content ourself with saying that if such became the custom, there is scarcely a neurologist of ten years' standing in the country who could not easily duplicate such a report from his practice.

Dr. Winslow concludes his article with the following remark, which for unsuspecting credulity and *naïveté* is positively refreshing. "Since I first became cognizant of the treatment I have tried it in other cases, and in all the disease appears to be yielding to its use." Neurologists appreciate with what anxiety the unfortunate ataxic who has searched from one Mecca to another, hails the advent of a new remedy which is held out to him with promise, and what sacrifices he will make to avail himself of that treatment. It is, therefore, unfortunate that at the present day any physician cognizant of the present status of the pathology of disease, should lend himself to the propagation or continuance of a treatment that has absolutely no *raison d'être*, theoretically, practically, or experimentally. Something more than a year ago, Crocq, of Brussels, made a communication to the Paris Academy of Medicine, on the therapeutic properties of phosphate of soda used subcutaneously in a 1 to 50 solution of cherry-laurel water. He pointed out particularly, that upon nervous patients it produced the effect of a powerful tonic, and that in functional cerebro-spinal trouble it was a useful remedy. He also spoke of its use in locomotor ataxia, but did not urge it as a panacea in this latter disorder. It is on this communication, probably, that Mr. Winslow instituted treatment in his case. He does not, however, take us into his confidence in this matter, but says, in a very mysterious way, that "phosphate de soude," in combination, was injected into the neighborhood of the spinal cord. No mention is made of the quantity used, the dose, frequency, etc Therefore, we very naturally are confronted with the question, what does it profit the medical profession to know that a certain physician has cured a case of locomotor ataxia with a drug used in combination, when the combination is not given? Frankness compels us to say that this manner of reporting cases reminds us forcibly of a popular treatment for an another neurosis instituted by a physician in a small town in Illinois. He, however, is open in the matter and says, not implies, that it is the combination more than the gold which is efficacious.

We may be permitted to say that about a year ago, after Crocq's article came under our observation, that with a view of putting his claims to the test of experience, six cases, three of genuine tabes and three of different forms of neurasthenia, were subjected to treatment according to his directions for upward of three months, without the slightest manifestations of bettering on the part of the tabic patients, and none of permanency worthy of comment in the others. At divers times after this it was tried on individual cases, with the same results. The matter was not considered of sufficient importance to relate, and with the exception of an editorial comment in the MEDICAL RECORD, wherein these facts were referred to, the matter aroused no notice on this side of the water. We hoped that it had dropped into deserved disesteem with promptness equal to that of its birth, and we record with regret this latest evidence of its attempted resuscitation.

JOSEPH COLLINS, M.D.

LIFE TENURE ON HOSPITAL BOARDS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In regard to the conduct of the Managing Board of the New York Infant Asylum, concerning which so many vituperative articles have lately appeared in your columns, it seems to us to be a step in the right direction and worthy of imitation by hospital management in general. We fail to see wherein the Board has cause for complaint in this case. Of course it is natural, for men who have obtained positions on hospital staffs, to desire to retain life memberships. These favored few of all the great medical body have a monopoly, so to speak, of the material provided by the wealth of the charitable rich, and the misfortunes of the suffering poor, for becoming and remaining leaders in medical thought and action, while many of the brightest intellects in the profession, like mute, inglorious Miltons, must content themselves with witnessing the operating theatre performance, and listening in many instances to the self-glorification of men who hold high positions on hospital staffs through no special adaptation on their part.

We have the highest respect and admiration for our great surgeons and great physicians, and would not detract one iota from their well-earned distinction, "but render to Cæsar that which is due to Cæsar;" but we do believe that the American system of hospital régime is more conducive to the development of professional autocracy than to that of the best scientific skill and medical genius.

This may be a sordid manner of looking at this matter, but the lever of self-interest will be found in the fulcrum of all benevolence, though the length of the power-arm may vary greatly. Yours respectfully,

JOSEPH S. LOCKHART, M.D.

4 TEMPLE STREET, BOSTON, MASS.,
December 28, 1893.

THE NEW YORK INFANT ASYLUM AFFAIR.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the issue of the MEDICAL RECORD for June 24, 1893, the editorial entitled, "A Medical Board Resigns," contains the following sentence: "We shall watch with interest for the list of gentlemen who accept the positions thus vacated." In the MEDICAL RECORD of November 25, 1893, the editorial entitled, "Medical Boards and Hospital Managers," closes with this sentence: "Nevertheless, we venture to predict that there will be some very radical changes in the conduct of the New York Infant Asylum: and that it will be a long time before physicians of repute will connect themselves with an institution whose management has so thoroughly discredited itself." That a serious injustice was done to a most worthy charitable institution in the two articles alluded to, will be apparent to anyone who will read in your issue of December 2, 1893, that portion of the Report of the New York Academy of Medicine, on pages 726 and 727, referring to the "New York Infant Asylum Affair." As further evidence of the error into which you have been led I beg to hand you a list of the officers of the Asylum, and of the members of the new medical board elected at the annual meeting of the Board of Managers, which took place on the 16th inst. These were as follows:

President of the Board of Managers, J. Edward Simmons: *Vice-President*, Fred. de Peyster; *Treasurer*, L. B. Griffin; *Secretary*, Gherardi Davis. The Medical Board: *Consulting Physicians*, L. Emmett Holt and W. P. Northrup: *Consulting Obstetricians*, William T. Lusk, Edward L. Partridge; *Attending Physician* at Sixty-first Street, J. Lewis Smith; *Attending Obstetricians*, J. M.

Mabbott, H. McM. Painter, E. E. Tull; *Attending Physicians* at Mount Vernon, A. M. Campbell, W. F. Greene; *Consulting Sanitarian*, C. F. Chandler; *Attending Sanitarian*, C. Pellew.

The above information I furnish you with much pleasure, and leave it to your sense of propriety to publish as much or as little of it as you desire.

Yours very truly,
H. D. Nicoll, M.D.

January 17, 1894.

[We notice also that the conditionally radical change in the management has been made, and the result has very naturally followed. If it were otherwise no medical man who respected himself would accept an appointment.—Ed.]

THE SYSTEM OF MEDICAL SERVICE IN HOSPITALS.

To the Editor of the Medical Record.

Sir: Permit me to refer to Dr. J. West Roosevelt's candid letter, and the editorial comment appended thereto, in the last number of your valued periodical. Dr. Roosevelt's question: "Do you, Mr. Editor, or does anyone, think that the quality of medical talent at the service of the hospitals of this city would be improved, or that the patients in these institutions would receive better care, if a money compensation were offered?" touches the vital point of the inquiry. Though extremely interesting and of immense practical importance to the practitioner, the influence exerted by our city hospitals upon the temporal rewards derived from practice by medical men, cannot fairly be expected to sway the actions of managing boards, whose position in this respect was very fairly characterized by Dr. Roosevelt's communication. But it is the duty of hospital managers to take in consideration the question quoted above, and directed to you by Dr. Roosevelt.

It is not probable—taking matters very broadly—that the quality of medical talent at the service of the hospitals of this city would be improved, as it is a well-admitted fact that boards of managers, as a rule, are anxious to, and generally successful, in securing the best talent. But there is not the least doubt in my mind that "the patients in these institutions would receive better care if a money compensation were offered."

The reasons for this opinion are many and obvious, well known to everyone familiar with the management of hospitals both abroad and at home. Of these reasons one or two only may be hinted at in this letter. Where the visiting men of a hospital are paid for their services, it is customary to compel them to devote the principal part of their time and labor to their hospital service. Hence they must "make rounds," that is, visit every patient in their charge personally at least once per day, their hospital visit being usually held in the morning, when all operative work is also attended to. With a service of one hundred and fifty to one hundred and eighty beds, this morning visit involves on an average two and one-half to three hours work. Every patient's case is daily observed, and the treatment is continuously and directly influenced by the chief of the service. He is paid for his work, which is expected of him, and the patients derive immense benefit therefrom.

After his hospital duties are fulfilled, the medical man may devote the remnant of his time to study or to practice. Here, then, the hospital comes first, private practice is a secondary matter. Now let us compare this with the ways of our hospitals. Everyone of us must earn his bread first by practice, and whatever time is left over is given to the hospital; in some cases more, in others less, in almost all cases much less than would be desirable. Morning and evening rounds are held by inexperienced young men, the visits of the attending medical men are often irregular as to their time, hurried, and incomplete; and who can blame the busy practitioner for this? I do not mean to say by these remarks that gross neglect of patients is frequent in our hospitals. From personal experience, I can testify to frequent examples of unselfish devotion to their hospital work by men of my narrow acquaintance, some of whom have neglected and are neglecting their private remunerative practice for the sake of fulfilling conscientiously their obligation toward their hospital patients. That gross neglect, however, does not occur more frequently is explained by the short terms of service prevailing in most of our institutions, a makeshift of the meanest kind, the ill consequences of which are most damaging to the poor patient. Just imagine what sort of a bank or regiment it would be, where the president or colonel were changed regularly every three or four months! and this is just what happens in all our hospitals as a matter of routine; that is, the routine is the killing of every possibility of a well-organized hospital routine. If a poor, struggling institution must, as a matter of necessity, accept the crumbs falling from the table of our leading medical men, well and good, the patients should be content with what they can get under the circumstances; but why our wealthy, richly endowed corporations, or rather their managers, still should continue to humbug the public by pretending to give their patients the best and most efficient medical service, when they are only doling out as it were the pickings and leavings—precious as these be in themselves—of the work of some talented medical men of public spirit; why in fact they should usurp the name of first class medical institutions with a third and fourth class system of medical service done by first class men, when there are abundant means at their disposal to *pay for a real first class system of medical service;* why all this should continue so forever in enlightened, progressive, and liberal America, cannot be comprehended.

It stands to reason that this system would involve a permanent service of one paid man to each hospital department, which would at once result in genuine scientific progress and practical improvement of methods, due to the stimulus to personal ambition engendered by undivided responsibility.

I shall conclude by assuring you, Mr. Editor, that the relations of medical men thus situated to their boards of managers would become quite different from what they are at present; duties would be more exacting, more strictly circumscribed, and rights and authority in proportion augmented and solidified. Though the theme is interesting, important, and far from exhausted, out of consideration for your limited space it is time now to stop.

Arpad G. Gerster, M.D.

New York, January 17, 1894.

IS THE WYETH METHOD OF HIP AMPUTATION PROPERLY NAMED?

To the Editor of the Medical Record.

Sir: In the issue of the Medical Record of December 16, 1893, I set up the claim that Wyeth's method of amputation at the hip-joint is simply a modification of the method known to German surgeons as Volkmann's. In the issue of the same journal of January 13, 1894, Dr. Wyeth denies this statement, and also denies that Volkmann originated any method of hip amputation. In support of the latter claim he cites numerous German works, among them König and Heinicke, in which he is unable to find any description or mention of any such operation. This is indeed strange. König devotes exactly one hundred and fifty lines of space to the subject of disarticulation at the hip-joint. Of these one hundred and fifty lines, twenty-four are devoted to the description of the operation he attributes to Volkmann. On page 344, of Vol. III., published in 1889, he says: "Decidedly the best method, particularly with imperfect assistance, is the preliminary amputation of the thigh and subsequent extirpation of the bone, as has lately been advised by Volkmann; as it is possible to employ Esmarch's anæmia until the vessels have been secured.

After wrapping the leg up to the flank, the rubber tube is so applied that it runs in the direction of Poupart's ligament from the commisura femoro-scrotalis outwardly to the incisura semilunaris of the ileum, between the upper and lower iliac fossæ. The tube must be held here by the hands of an assistant, or by three pieces of bandage thrown around it and drawn upward, that the divided and retracting muscles may not permit the tube to slip off. As Veitch has advised, one then makes skin flaps for a covering according to the material, then divides the muscles three finger breadths below the flank, lays the bone bare to its middle, and saws it through at that point. Now careful control of the hemorrhage, first while the tube is still in position, then after its removal. After the bleeding has ceased the bone is extirpated—best subperiosteally. The capsule is not removed, the zona being incised by a probe pointed knife and the fibro-cartilaginous reinforcement of the limbus (cotyloid ligament) nicked. Then the head may be drawn forward, and finally the ligamentum teres divided. The operation is also successful by the circular method without the side slit, while by the flap method the great trochanter is usually more or less exposed. Still there is no objection to laying the trochanter free by a side incision over it reaching to the border of the flap, especially as the skin covering it is left very thin after its removal, and should be incised to permit the passage of a drainage-tube to the acetabulum."

On page 868 of his "Compendium der Chirurgischen Operations- und Verbandlehre," published in 1886, Heinicke says: "The constriction of the upper part of the thigh with a strong rubber tube is only applicable if one departs from the usual methods of exarticulation. After constricting, a circular incision should be made below the tube and at a suitable distance from the joint, through all the soft parts to the bone. The skin must be retained to a somewhat greater extent than the deeper structures. When the bone has been exposed it should be sawed through and all visible vessels tied. Then the tube should be removed, any bleeding vessels secured, and finally the bone and joint made accessible for disarticulation by the addition of an incision upon the outer side reaching to the point of the great trochanter. The circular will thereby be transformed into an oval incision. The disarticulation itself has to be accomplished by the division of all soft parts close to the bone."

It will be observed that Heinicke describes an operation remarkably like Wyeth's, but fails to give the name of its originator.

I am sorry the other works Dr. Wyeth mentions are not at my command. I might again be more successful than he in finding in them a description of this operation, as I also find it in works Dr. Wyeth has not mentioned.

On page 553 of Leser's "Specielle Chirurgie," 1890, I find the following: "Or you may choose the method advised by Volkmann. You make a high thigh amputation in the usual manner with anterior and posterior flaps, and afterward exarticulate the stump at the joint. It is here possible to employ the advantages of Esmarch's anæmia. After the leg has been rendered blood-empty in the usual manner, you lay a tube around the thigh close to Poupart's ligament and have it held by an assistant to prevent possible slipping. Then one makes the flaps or circular incision for a thigh amputation, ligates the vessels and saws off the bone; now one dissects the stump out of the soft parts, protecting the vessels, and disarticulates the head out of the joint."

On page 529 of Vol. II. of his "Manual of Operative Surgery," Treves gives directions for the application of the elastic constrictor, and on page 535, quoting from Barker's "Manual of Surgical Operations," 1887, describes Esmarch's operation, which he says "is identical with that described by Veitch, Lacauchie, Volkmann, and others." His description is so similar to those given above that its repetition is unnecessary.

The first I knew of this method was learned from Volkmann's own lips in 1886, while serving upon his staff. During the two and a half years of my connection with his clinic I heard the operation described repeatedly, and claimed for him both by himself and by Professors Oberst and Krause. Unfortunately we had no case in that time where the operation was indicated. In 1887, I heard Dr. Eugene Hahn, director of the Berlin City Hospital at Friedrichshain, describe the operation and attribute its origin to Volkmann.

From the above it will be seen that, in the opinion of some authorities well known to the surgical world, Volkmann did originate a method of hip amputation, and one to which Wyeth's bears a striking resemblance.

Dr. Wyeth, in speaking of the modifications of his operation, says:[1]

"Dr. Deaver was equally successful in holding the tubing well up by two strips of roller bandage, one before and one behind, held by an assistant, and thus dispensing with the needles." Does the operation thus performed differ from the one above described and attributed by competent authorities to Volkmann? No. It then becomes the good, old, original Volkmann operation.

I am perfectly willing to give to Dr. Wyeth the credit of introducing the pins and thus needlessly mutilating the thigh, and of permitting the constrictor to lie until the disarticulation has been completed, although he says if any difficulty in disarticulation should be experienced the tube should be removed, and to Drs. Murdoch or Lanphear that of not dividing the bone. But wherein does this modify the principle of the operation? In no particular. The method is and must remain one known before Wyeth either conceived or executed his. Concerning the operation done by Dr. Walter Brashear in 1806, I know nothing. He probably performed the operation as stated, but his method became so completely lost that, when resurrected more than fifty years afterward, the name of almost anyone but Brashear was attached to it.

Is Wyeth's method properly named? Should it not be called Volkmann's, or if we desire to go still farther back, Brashear's. It certainly is not Wyeth's method. Dr. Wyeth himself admits it to be a modification of Brashear's.

W. H. Buechner, M.D.

Youngstown, O.,
January 17, 1894.

Nuclein the Germicidal Principle of Blood-serum.—Professor Victor C. Vaughan states (*Medical News*) that he has discovered the presence of nuclein in the serum of the blood, and isolated it; also, that this nuclein has germicidal properties. He believes that the fact that the germicidal constituent of blood-serum can be isolated has an important practical bearing. Blood-serum therapy has proved impracticable on account of the large amount of the fluid which must be injected. "Nuclein-therapy now promises to enable us to avoid this difficulty, and possibly the near future may find us using this agent in the treatment of disease. The nuclein may be obtained from an animal rendered immune to diphtheria, and a sufficient quantity of this injected into the blood or under the skin of a child suffering with this disease may effect a cure, but we will not prophecy. The future will tell us what it has in store when the future shall have become the present.

Disinfecting the Intestinal Tract.—Quite recently, Dr. Ernst Freund has succeeded in completely sterilizing the contents of the intestine by the administration of peppermint-oil, which is preferably exhibited in the form of the following capsules: menthol, gr. 1½; oil of sweet almonds, ♏ 4–8; from 6 to 8 capsules in the twenty-four hours. The dose of menthol administered never exceeded fifteen minims in the cases in which this method of treatment was tried by Dr. Singer, and the author has never observed any unpleasant symptoms to follow the use of this remedy. The administration of purgatives with the same end in view did not prove so satisfactory.

[1] Medical Record Vol. xlv., page 33.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 20, 1894.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	7	6
Scarlet fever	114	5
Cerebro-spinal meningitis	1	8
Measles	605	24
Diphtheria	204	68
Small-pox	22	6
Cholera	0	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0

The Association of American Medical Colleges. *Notice of Proposed Amendment to Sec. V., Art. 3, of the Constitution.*—At a meeting of the faculty of Rush Medical College, held December 7, 1893, the faculty by unanimous vote passed the following resolution, to wit: *Resolved*, That Sec. V., Art. 3, of the Constitution of the Association of American Medical Colleges be amended to read as follows: "From students who intend to graduate in 1899, or in subsequent classes, four years of medical study and an attendance upon four annual courses of lectures of not less than six months' duration each will be required. Provided, that graduates of literary colleges who have taken a course of four years, including study in the natural sciences, and graduates from universities and colleges that furnish a suitable course of scientific studies, graduates of schools of pharmacy that require three years of study and adequate preliminary education, and graduates of dental colleges requiring two years of study and adequate preliminary education, may be admitted to the second year's work or course of lectures in the college without examination." The present wording of Section V., Article III., is as follows: "Candidates for the degree of Doctor of Medicine shall have attended three courses of graded instruction of not less than six months each, in three separate years." It will be observed that the adoption of the proposed amendment will require of all matriculates of the session of 1895, attendance upon four full courses of instruction before receiving the Degree of M.D. Recognizing that the proposed amendment, if adopted, would necessitate the formulation of a general curriculum of study for the various branches of the courses, and perchance, other necessary changes or additions to the by-laws, the President, Dr. N. S. Davis, has appointed the following named persons to act as a special committee to prepare a new schedule of minimum of requirements, and to submit the same at the fifth annual meeting, to be held in San Francisco, at 3 P.M., Wednesday, June 6, 1894:

Committee. — E. L. Holmes, *Chairman*, President Rush Medical College, Chicago, Ill.; Rignald H. Fitz, Harvard Medical College, Boston, Mass.; Victor C. Vaughn, Dean Department of Medicine, University of Michigan, Ann Arbor, Mich.; William Osler, Johns Hopkins Medical College, Baltimore, Md.; William E. Quine, President College of Physicians and Surgeons, and President Illinois State Board of Health, Chicago, Ill.; P. S. Connor, Ohio Medical College, Cincinnati, O.; Dudley S. Reynolds, Hospital College of Medicine, Louisville, Ky.; Perry H. Millard, Dean College of Medicine and Surgery, University of Minnesota, Secretary Association of American Medical Colleges, St. Paul, Minn.

The committee will hold a meeting in Chicago, at the Grand Pacific Hotel, at 3 P.M., Wednesday, February 7, 1894. Colleges, members of the Association, are requested to aid the committee in their work by advice or representation. It is particularly desirable that colleges, members of the Association, be represented by a formally appointed delegate at the forthcoming session. The proposed amendment, if adopted, marks a most important era in the history of medical education in this country. Colleges unable to be represented by a regularly appointed delegate, will confer a favor by informing the Secretary of their attitude on this amendment, that the same may be submitted or made known to the convention before the final action is determined. Colleges electing delegates are requested to indicate in their credentials if they have full power to act, and to furnish the Secretary the names of the delegates elected as soon as practicable. Colleges are entitled to one delegate each. A proxy cannot be delegated to a person not directly connected with the college desiring representation. In the consideration of this question it is proper that I refer you to the recent action of the American Medical Association and of the Iowa State Board of Health, regarding the enforcement of the four years' course by the colleges wishing their Alumni to receive recognition subsequent to 1895. There are at present seventy-one colleges members of this Association. Article VI. of the Constitution reads as follows: "This Constitution shall not be altered or amended except by a written notice to all the members at least thirty days previous to a stated meeting, and by a vote of two-thirds of all the delegates present at such meeting.—PERRY H. MILLARD, Secretary Association American Medical Colleges, St. Paul, Minn.

Sanitary and Medical Service on Board Emigrant Ships.—Report of the Committee of the American Public Health Association on "Sanitary and Medical Service on Board Emigrant Ships," presented by Medical Director Albert L. Gihon, United States Navy, Chairman, at the session of the twenty-first annual meeting of the Association, held at the Art Institute, Chicago, Ill., Wednesday, October 11, 1893.

Your Committee beg to report the following concise statement of their views as to the organization of such a sanitary and medical service, on board vessels engaged in bringing immigrant passengers to the United States, as the experience and intelligence of this age make a necessity among civilized and enlightened nations. They are of opinion, and advise:

First: As to the location and dimensions of the quarters for emigrant passengers, the number of berths in each, and the provisions for their ventilation and cleansing:

That the preferable location for such quarters is abaft the midship section of the vessel; that single males' quarters shall be distinct from those occupied by women and children, and that if any are forward the midship section, it shall be those for single men;

That there shall never be more than two decks (properly there should be only one), occupied by emigrant passengers' berths, with sixteen feet of superficial space for each adult on the upper berth-deck, and twenty feet of such space on the lower berth-deck, with not more than two tiers of berths on each deck, the bottom of the lower tier being not less than eighteen inches above the deck, with not less than thirty inches between the two tiers, and between the upper tier and the ceiling of the compartment, to allow the occupants of the berths to sit upright;

That no solid partitions or bulkheads shall be placed in any steerage compartment to obstruct light and air; that the frame-work of the berths shall be of iron easily removable, that the compartment may be completely emptied and thoroughly cleansed after each passage; that a steam ventilating apparatus by aspiration shall be introduced into all emigrant vessels; and that all compartments occupied by passengers and crew shall be lighted by the incandescent electric light by night and day.

Second: As to the location and dimensions of hospi-

tals on board such vessels and the number of sick-berths for which provision should be made;

That the hospitals, or "sick-bays" on board emigrant passenger vessels shall be at the extreme after-part of the upper deck, thoroughly lighted and ventilated, with eighteen feet of superficial space for every fifty passengers, and not less than four sick-berths or hospital-cots for every hundred passengers.

Third: As to the number of medical officers proper for the maximum of emigrant passengers any vessel should be permitted to carry, being the maximum number able to be berthed with regard to health, cleanliness, and comfort:

That there should be one duly qualified medical officer for every two hundred and fifty passengers.

Fourth: As to the professional records which the senior medical officer of every such vessel should be required to keep, and his responsibility to the health authorities of the port of arrival for the truthful and professionally accurate statements of such records;

That the senior medical officer of every such vessel shall be required to keep (1) a List of Sick, recording in a bound book, in the order of their admission, and on a single line, the name, sex, age, birth-place, date of admission to treatment, date of death or discharge from treatment, disease, and such remarks as may be necessary to enable the inspecting medical officer at the port of arrival to have a clear and complete understanding of the case; and (2) a Medical Journal, in which each medical officer, when there are more than one, shall record the medical history, including symptoms and treatment, of every case, to be approved and signed by the senior medical officer at the close of the day's record; and such List of Sick and Medical Journal shall be submitted to the health authorities of the port of arrival, and the accuracy of the statements in such records shall be established by oath, and penalties for perjury shall be provided.

Fifth: As to the location and capacity of latrines for emigrant passengers:

That the latrines, shallow troughs with a continuous flow of salt-water, shall be on the upper deck under shelter, with two water-closet seats for every fifty passengers, with a proportionate number for women and children, in a separate locality near their own quarters, and inaccessible to men.

Sixth: As to the number of attendants provided for such passengers, and their duties as to policing and cleansing emigrants' quarters:

That there shall be not less than one berth deck attendant for every fifty passengers, female attendants in the same proportion being exclusively assigned to the quarters for women and children;

That the berth-decks shall be thoroughly cleansed every morning by the attendants, never wetted in rainy or damp weather, when they shall be scraped, swept, and freshly sanded, and in pleasant weather washed with hot water and quickly dried, the passengers being sent on deck during the operation;

That the berth-deck attendants shall be on duty night and day in rotation, by regular sea-watches, and the attendants on watch be required to remove the dejecta of sea-sick passengers without delay; and that benches and mess-tables shall be provided and the passengers' food be distributed by the berth-deck attendants, who shall take away all unused food, and carry the dishes to the pantry.

Seventh: As to additional provisions for the personal health, cleanliness, and comfort of emigrant passengers:

That wash-rooms under cover, with basins supplied with running water, shall be provided on the upper deck, those for men to be separate from those intended for women and children;

That fresh water for drinking purposes shall be provided in each compartment; and,

That inexpensive mattresses, pillows, these to be serviceable as life-preservers, and blankets shall be provided for emigrant passengers, the mattresses to be destroyed after each passage, and the pillows and blankets to be steamed and washed before being again used.

While other suggestions as to sanitary provisions might appropriately be made, your Committee feel that those indicated are of such urgent necessity that they should be insisted upon and put into effect without delay.

All which is respectfully submitted.

Signed. ALBERT L. GIHON,
Medical Director, U. S. Navy, Chairman.
FREDERICK MONTIZAMBERT,
M.D., F.R.C.S., D.C.L.,
Supt. Quarantine Station, Grosse Isle, Que.
WALTER WYMAN,
Supervising Surgeon-General, U.S.M.H.S.
S. R. OLLIPHANT, M.D.,
President State Board of Health of Louisiana.
WILLIAM T. JENKINS, M.D.,
Health Officer of the Port of New York.

To Regulate the Practice of Medicine in Ohio.—The delegates of the Ohio societies in convention, December 21st, agreed to a bill with the following provisions: Section 4403. Within thirty (30) days after the passage of this Act, the Governor, by and with the advice and consent of the Senate, shall appoint a State Board of Medical Registration and Examination, consisting of seven (7) members, who shall be physicians in good standing in their profession. Representation shall be given to the different schools of practice in the State as nearly as possible in proportion to their numerical strength in the State; provided, however, that no one school of practice shall have a majority of the whole Board. The members of this Board shall be appointed for a term of seven years: for the terms of one, two, three, four, five, six, and seven years, respectively. Said Board shall organize by electing a President and Treasurer from among their number. They shall also elect a Secretary, who shall be a physician in good standing in his profession. The salary of the Secretary shall not exceed fifteen hundred dollars ($1,500) per annum, to be fixed by the Board, and necessary expenses in performing the duties of his office. The Treasurer shall be required to give a bond in the sum of ten thousand dollars ($10,000) approved by the Board. Members of the Board shall receive the sum of ten dollars ($10.00) per day for the time actually employed in the discharge of their duties and their necessary expenses pertaining thereto. The President and Secretary shall have the power to administer oaths. Said Board shall hold meetings at the Capital of this State on the first Tuesday of January, April, July, and October of each year, and such other meetings as said Board may from time to time appoint. Five (5) members shall constitute a quorum. Said Board shall keep a record of all the proceedings thereof, and also a record or register of all applicants for certificates as provided herein, together with the age of the applicant, time spent in the study of medicine, and the name and location of the institution granting said applicant the degree of Doctor of Medicine or Surgery. Said register shall also show whether such applicant was rejected or a certificate granted under this Act. Such books and register shall be prima facie evidence of all matters therein recorded. On and after the passage of this Act, no person shall practise Medicine, Surgery, or Midwifery, in any of its branches, in this State, unless such person has first complied with the requirements of this Act. If a graduate in Medicine or Surgery, he shall present his diploma to the Board for verification, registration, and certification as to its genuineness. Applicants presenting diplomas for verification under this Act shall accompany the same with the affidavit of the holder and applicant that he is the lawful possessor of the same, and that he is the person therein named, and giving his or her age and the time spent in the study of Medicine. Such affidavit may be taken before any person authorized to administer oaths under the laws of this State, and the same shall be attested under the hand and official seal of such officer; and any per-

son swearing falsely shall be deemed guilty of perjury and punished accordingly. Applicants may present their diplomas and affidavits as provided in this Act by letter or by proxy, and the Board shall issue its certificate the same as if the owner of the diploma was present. Any person not a graduate of a School of Medicine in good standing, as determined by this Board, who is a legal practitioner of medicine under the laws of the State in force at the time of the passage of this Act, shall be entitled to register and receive a certificate from said Board. Such applicant shall be required to furnish said Board an affidavit as hereinbefore provided, setting forth the length of time and the place or places during and at which he or she has engaged in the practice of Medicine or Surgery. Any person engaged in the practice of medicine in the State at the time of the passage of this Act, who is not a legal practitioner under the laws of the State in force at the time of the passage of this Act, or shall possess a diploma from a medical college not in good standing, shall present himself before the said Board of Registration and Examination, and submit to such examination as the Board may require. The fee paid to the State Board for the certificate shall be five dollars ($5.00). For the examination of applicants desiring to practise as provided herein, the fee shall be twenty-five dollars ($25.00). The person receiving a certificate to practise medicine or surgery from the State Board of Registration and Examination as herein provided, shall file the same, or a certified copy thereof, with the Probate Judge of the County in which he or she resides, and said Probate Judge shall file said certificate or copy thereof. Said Probate Judge shall each year furnish to the Secretary of the State Board of Registration and Examination a list of all certificates on file in his office. In case the holder of a certificate shall move into another County of the State, he or she shall procure from the Probate Judge of the County, a certified copy of said certificate, and file the same with the Probate Judge of the County to which he or she shall so remove. The Probate Judge of the County shall receive for the recording of such certificate, the sum of fifty (50) cents each to be paid by the holder thereof. Said Board of Registration and Examination may refuse to grant a certificate to any person who has been convicted of a felony, and may, by an affirmative vote of not less than five members of the Board, revoke a certificate already issued, for the same cause. Every person practising Midwifery in the State, on the passage of this Act, shall, within ninety (90) days thereafter, register with the Probate Judge of the County in which she resides, and shall pay a fee of five dollars and fifty cents ($5.50). Said Probate Judge shall issue a certificate to the one so registering, which shall entitle the holder to practice Midwifery in the County in which said certificate is issued. The Probate Judge shall annually, on the first Monday in January, make returns to the Secretary of the State Board of Registration and Examination of all such certificates on record in his office. All persons beginning hereafter the practice of Midwifery in this State, shall submit to an examination in Midwifery, and if such examination is satisfactory, the State Board of Registration shall, upon the receipt of ten dollars ($10.00) issue a certificate, which certificate shall be registered with the Probate Judge. The certificate granted to practice Midwifery shall not give the holder the right to perform version, or treat breach or face presentation, or do any obstetric operation requiring instruments, or to treat any other abnormal condition except in emergencies. Any person practising Medicine or Surgery in this State, without having first complied with the provisions of this Act as herein provided, shall be deemed guilty of a misdemeanor, and upon conviction shall be fined not less than two hundred dollars ($200.00) nor more than five hundred dollars ($500.00), or be imprisoned in the County Jail not less than thirty (30) days nor more than one year, or both fined and imprisoned. Any person practising Midwifery within the State without first complying with the requirements of this Act, shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be fined not less than twenty-five dollars ($25.00) nor more than one hundred dollars ($100.00). Such fines, when collected, shall be paid one third to the person, corporation, or medical society making complaint or furnishing information, and one-third to the Poor Fund of the County, and one-third to the State Board of Registration and Examination. It shall be the duty of the Prosecuting Attorneys of the respective Counties to prosecute violations of this Act.

BOOKS RECEIVED.

A Text-book of Physiology. By M. Foster, M.D. Sixth edition. Part I. 8vo, 387 pages, illustrated. Macmillan & Co., New York. Price, $2.60.

Manual of Bacteriology. By Dr. S. L. Shenk. Translated by W. R. Dawson, M.D. 8vo, 310 pages, illustrated. Longmans, Green & Co., New York. Price, $3.00.

The Essentials of Chemical Physiology. By W. D. Halliburton, M.D. 8vo, 166 pages, illustrated. Longmans, Green & Co., New York. Price, $1.50.

Text-book of Normal Histology. By George A. Piersal, M.D. 8vo, 439 pages, illustrated. J. B. Lippincott Co., Philadelphia, Pa.

A Practical Treatise on Materia Medica and Therapeutics. By Roberts Bartholow, M.D. Eighth edition. 8vo, 820 pages. D. Appleton & Co., New York.

The Principles and Practice of Surgery. By John Ashhurst, Jr., M.D. Sixth edition. 8vo, 1166 pages, illustrated. Lea Brothers & Co., Philadelphia, Pa.

Outlines of Obstetrics. By Charles Jewett, M.D. 12mo, 264 pages. W. B. Saunders, Philadelphia, Pa. Price, $2.00.

Healthy Hospitals. By Sir Douglas Galton. 8vo, 287 pages. H. K. Lewis, London.

An Outline of the Embryology of the Eye. By Ward A. Holden, M.D. 12mo, 69 pages, illustrated. G. P. Putnam's Sons, New York.

The Narrative of a Busy Life. An Autobiography. By Arthur Hill Hassall, M.D. 12mo, 82 pages. Longmans, Green & Co., London.

Information for Nurses in Home and Hospital. By Martin W. Curran. 12mo. 333 pages, illustrated. J. H. Vail & Co., New York.

A Theory of Development and Heredity. By Henry B. Orr. 12mo, 255 pages. Macmillan & Co., New York. Price, $1.50.

A System of Genito urinary Diseases, Syphilology and Dermatology. By various authors. Edited by Prince A. Morrow, M.D. In 3 vols. Vol. II., Syphilology. 8vo. 917 pages, illustrated. D. Appleton & Co., New York.

Lectures on the Surgical Disorders of the Urinary Organs. By Reginald Harrison. Fourth edition. 8vo, 588 pages, illustrated. J. & A. Churchill, London.

Student's Dictionary of Medicine and the Allied Sciences. By Alexander Duane, M.D. 8vo, 650 pages. Lea Bros. & Co., Philadelphia, Pa.

Outlines of Insanity. By Francis H. Walmsley, M.D. 8vo, 154 pages. The Scientific Press, Limited, London. 3s. 6d.

Uniform System of Accounts, Audit, and Tenders, for Hospitals and Institutions. By Henry C. Burdett. 8vo, 76 pages. The Scientific Press, Limited, London. Price, 6s.

Mental Nursing. A text-book for asylum attendants and nurses. By William Harding. 8vo, 131 pages, illustrated. Scientific Press, Limited, London. Price, 2s.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 45, No. 5.
Whole No. 1213.

NEW YORK, FEBRUARY 3, 1894.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

THE TREATMENT OF SYPHILIS WITH SULPHATE OF COPPER.

BY A. F. PRICE, M.D.,

SURGEON, U. S. N.

IN March, 1891, I was detailed a surgeon of the United States Training Ship Monongahela, and while serving on the ship I have had some experience in treating syphilis with sulphate of copper. The results are interesting, and I think worthy of consideration.

Some years ago I read a notice in the MEDICAL RECORD of the successful use of this salt in syphilis by some French physicians, and the following case caused me to commence its use.

C. G——, aged twenty-four, was exposed to contagion about the middle of July, 1891, and suffered successively with gonorrhœa, epididymitis, and syphilis. He was placed on the sick list on October 28th, in the secondary stage of syphilis, and was given the protiodide of mercury, gr. $\frac{1}{6}$, thrice daily. He had then psoriasis over the body and rheumatic pains. The usual lymphatic enlargements were also present. On November 1st the treatment was reinforced by a daily inunction of ʒ ss. of mercurial ointment. This was, however, speedily reduced, and on November 8th stopped entirely, as was also the mercurial pill, on account of a rather severe attack of salivation. By November 21st this had passed away and mercury was again given (blue mass, gr. j.; dried sulphate of iron, gr. ij., thrice daily). This resulted promptly in ptyalism, and was stopped on November 26th.

On December 5th mercury was again given in reduced dose (blue mass, gr. ss., with sulphate of iron). By December 15th signs of ptyalism again appeared. He had spongy and ulcerated gums and fetor. Iodide of potash, 30 grs. daily, was then given, but the mouth continued unhealthy and the general health was very poor.

On January 13, 1892, the local and general condition was not improved, and he was given sulphate of copper, gr. $\frac{1}{8}$ in solution with ten minims of tincture of chloride of iron. Improvement began at once, and in about a month (February 10th) the patient's condition was decidedly better. The mouth and throat were healthy, the eruption had nearly disappeared, and the induration and enlargement of the lymphatic glands was decreased. The dose of copper was increased and that of iron reduced until, on February 23d, he was taking $\frac{1}{4}$ gr. of copper and five minims of iron thrice daily. The health had so much improved that he appeared like a perfectly well and strong man.

The further history of the case is devoid of incident. The copper was further increased so that in March he was taking $\frac{1}{2}$ gr., and on April 6th $\frac{1}{1}$ gr. with about four minims tincture of iron. In June he took $\frac{1}{6}$ gr. of the copper with iron, three times a day, every alternate week.

He was transferred to a navy yard shortly after this in a condition of apparent perfect health. He was under treatment altogether for about nine months. The mucous patches, which were abundant and troublesome before, disappeared after the copper treatment was begun, and did not again appear while under my observation.

The following case was treated with copper and iron only. The treatment lasted nearly nine months:

C. D——, twenty-six years of age, contracted the primary sore on October 31, 1892, and on December 30th he came under treatment for the secondary eruption. He had the usual enlargements of the inguinal, epitrochlear, and sub-occipital glands. He was given copper, gr. $\frac{1}{6}$, with sulphate of iron, gr. ij., thrice daily in solution.

On January 9, 1893, the glandular enlargements had increased and become much harder. By February 8th a change had taken place in them, in that they were softer. The eruption was also fading.

On March 8th the glands were only slightly enlarged, and a light discoloration of the skin alone remained of the eruption.

On April 20th the same condition of the glands was noted. The copper was now increased to $\frac{1}{3}$ gr., with iron as before, thrice daily. This dose was continued afterward during the whole of the treatment. The general health was and continued to be excellent; there were no mucous patches, nor had there been any at any time. The hair came out a little early in the disease.

On September 15th the patient declined further treatment, believing it unnecessary. This was contrary to advice, as the inguinal and other glands were perceptibly enlarged and hardened. There was no other sign of disease. The medicine was omitted one day in each week through the treatment.

The following three cases cannot be considered satisfactory examples of the copper treatment. They are given as showing some of the difficulties and dangers connected with the treatment:

CASE I.—T. M——, aged twenty-seven, was exposed to the disease about January 1, 1893. The primary sore appeared in the latter part of February, and on April 5th the secondary eruption presented itself. There was a decided induration at the site of the primary sore, and the usual glandular condition was present. Copper was begun at this time in the dose of $\frac{1}{3}$ gr. thrice daily, with sulphate of iron. The medicine was omitted one day in the week.

On April 20th the glands were less distinct and the eruption fading. There were no mouth symptoms.

On May 1st the patient complained of numbness and some loss of power of upper lip and eyelids. The eruption was nearly gone. The medicine was continued in the same dose, but given only every other day. The curious symptoms of paralysis disappeared promptly with the less active treatment adopted. He was transferred from the ship and from my care on June 8th.

CASE II.—M. C——, aged twenty-seven, was of very slender build and in rather poor health. He was exposed to the disease about January 20, 1892. Secondary symptoms appeared April 8th. There were very marked glandular enlargements, and the primary sore, which was also much indurated, was very difficult to heal.

The copper treatment was begun late in March, before the secondary symptoms had appeared. The usual dose of gr. $\frac{1}{3}$ was given, but it proved to be too much for him, for on April 23d he was incapacitated for duty by general debility and rheumatic pains. He suffered with giddiness, prostration, and a weak and rapid pulse. The copper was reduced to gr. $\frac{1}{12}$ thrice daily, and the iodide of potash, 30 grs. daily, given with it for the rheumatic pain.

On May 6th he had regained his usual condition of health, and the copper was increased to gr. $\frac{1}{6}$, with iron. He did well with this dose, and by May 23d the erup-

tion had nearly faded away, and the specific enlargement of the lymphatic glands was decreased in size. On this date the copper was injudiciously increased to gr. $\frac{1}{2\frac{1}{6}}$ thrice daily. This produced the old symptoms of prostration, and on June 2d he was transferred to a naval hospital.

In the following case a serious complication caused the treatment to be abandoned.

Case III.—D. R——, aged thirty three, was exposed to contagion on February 18, 1893. The primary lesion appeared six weeks later. On May 3d the secondary symptoms appeared. The usual glandular symptoms were present, and there was slight sore throat. Copper was given in gr. $\frac{1}{3\frac{1}{0}}$ dose, with sulphate of iron, omitting the medicine one day in a week.

On May 9th my assistant, during his week on duty, changed the treatment to mercurials, giving first a calomel purge, and following it with mercurial inunctions daily, and gr. $\frac{1}{6}$ of the protiodide of mercury thrice daily. At the beginning of the next week (May 16th) the copper was again given in the smaller dose of gr. $\frac{1}{6\frac{1}{0}}$.

On June 4th the enlarged glands were smaller in size and the eruption pretty well faded away. There were no mouth symptoms. The hair had not fallen. A small node appeared on the back of the right hand, near the wrist. He had rather severe rheumatic pains also, for which pot. iodide was given and the copper treatment stopped.

On June 12th the copper was again begun in the usual dose of gr. $\frac{1}{3\frac{1}{0}}$. This was continued until July 4th, when specific iritis appeared in both eyes. The treatment was changed to a full mercurial course, and in a week or two the eyes had recovered. His subsequent treatment was blue mass and iron.

I have also tentatively employed this drug in several other cases of syphilis, in various stages of the disease. I consider that the following conclusions may be formulated as being probably true; although I do not consider that either the number of the cases or the circumstances attending some of them allow of positive deductions.

1. Copper exercises a specific action in syphilis, which is especially directed toward the lymphatic system. It is for this reason more radically curative than mercury.

2. It is slow in removing the skin symptoms of the secondary stage.

3. It prevents the development of mucous patches and throat symptoms.

4. It is a very active drug, and it is wise to omit its use one day in a week, and sometimes more frequently. The signs of its excessive and injurious action are first a voracious appetite, and this is rapidly followed, if the dose is not reduced or the drug temporarily discontinued, by prostration, giddiness, pallor, and a rapid and weak pulse.

5. The average dose of sulphate of copper is $\frac{1}{3\frac{1}{0}}$ of a grain thrice daily. It is better to give it with the sulphate of iron. It can be given either in pill or solution.

6. This dose is absolutely dangerous in cases of syphilitic cachexia. It produces at once excessive and alarming prostration. If a sufficiently small dose of the drug is given at first, a tolerance of it is gradually established, so that the average dose may in time be obtained.

I am inclined to think that in some cachectic cases as small a dose as the $\frac{1}{1\,0\,0\,0\,0}$ of a grain may be necessary, given once daily. The use of iron, arsenic, and iodide is also usually necessary in old syphilis.

Facial Erysipelas.—Azotate of crystallized aconitine, in doses of one-fiftieth of a milligramme, will often lessen the duration and relieve the pain of this distressing malady.

Sub-Gallate of Bismuth.—This remedy (dermatol) has been found to be, in ten-grain doses after meals, almost a specific in cases of purely functional dyspepsia and flatulence.—Flint.

CAISSON DISEASE.

By ANDREW H. SMITH, M.D.,

NEW YORK,

PHYSICIAN TO THE PRESBYTERIAN HOSPITAL; PROFESSOR OF CLINICAL MEDICINE POST-GRADUATE MEDICAL SCHOOL.

For some months a work has been going on by the aid of compressed air that has resulted in the presence of a number of victims of the caisson disease in the wards of the Presbyterian Hospital. I refer to the construction of a tunnel under the East River at the foot of Seventy second Street. This tunnel is designed for the passage of gas mains from gas works that are to be erected on the Long Island shore. The tunnel is at such a depth below the surface of the river that the pressure required to keep out the water is about forty-two pounds to the square inch. This pressure is sufficient to produce typical cases of the disease. Up to the present time, of twenty-one cases admitted to the hospital there have been two deaths, and one case of complete paraplegia from which there is little prospect of entire recovery.

These cases possess a peculiar interest for me from the fact that, twenty-two years ago, I had the opportunity of studying this singular disease on a somewhat extensive scale, while physician to the Brooklyn Bridge Company during the sinking of the New York caisson. Viewed from the present stand-point, however, the observations of that period were defective, in that some phenomena, in relation to the nervous system especially, with which we are now familiar were then but imperfectly understood.

Those who have not given attention to this subject will obtain a good idea of the disease in its full development from the following case-history, taken from the records of the Presbyterian Hospital.

Patrick K——, aged twenty-nine, single; Irishman; miner. Family history: Negative. Previous personal history: Rheumatism, eight years ago; chills and fever, one year ago; acute gonorrhœa, three weeks ago; hard drinker for last ten years. Present attack: For the last eight years he has been working in tunnels under compressed air, but has never experienced any trouble from his work before. Day before yesterday, July 4th, he got "full." Yesterday he went to work again, and went into the caisson, did his work, and came out with the other men. Almost directly upon coming out he began to feel "nervous," had some difficulty in speaking, and some pain in the abdomen. He took several drinks of whiskey, but in about ten minutes he noticed that his legs were growing numb and unable to support him. He could feel his legs when they were touched, and he had no pain in them. In about twenty minutes more his legs were completely paralyzed. In this condition he was brought to the Presbyterian Hospital July 6, 1893.

His physical examination showed some râles over the lower lobe of the right lung behind. Other viscera normal. He has complete loss of power in both lower extremities, with diminished power in the lower trunk muscles. Muscular sense preserved. Sensation to pain or touch is lost. Patella reflexes absent. On account of his general condition he was ordered strychnine sulphate, gr. $\frac{1}{3\frac{1}{0}}$ t.i.d., and he was also given extr. ergot, fl. 3 j., every four hours, and put on fluid diet. He developed almost immediately retention of urine with overflow, the daily quantity of urine secreted by the kidneys being from eight to ten ounces, specific gravity 1.017, alkaline, loaded with phosphates and pus from his gonorrhœa. He was therefore catheterized at short intervals and his paralyzed bladder irrigated daily with one-fourth of one per cent. creolin solution. As the disease seemed likely to be a long one and the chance of bed-sores great, he was placed on a water-bed. On July 7th it was found that blisters were developing on various portions of his body. His abdominal pain was partly relieved by morphine. It was found that he had more or less paralysis of the intestines, his bowels moving only under the stimulus of large doses of calomel and salts, the tympanites being relieved somewhat by the introduction of the rectal tube.

On the 11th his temperature went up to 103.4° F., declining to normal in a few days; due apparently to some dry pleurisy on the right side, plainly heard.

On the morning of the 14th it was noticed that he could move slightly the first and second toe of the right foot, but nothing else in his lower extremities.

On the 30th he can bend the right knee somewhat and the trunk muscles are stronger, as he moves his body more easily.

To keep up the nutrition of the muscles, faradism is used daily. The bladder is beginning to show signs of returning power. The sphincter ani is still completely paralyzed.

On August 18th he is moving his two toes, his knees, and ankles.

By September 8th the bladder had regained somewhat its tone, the amount of urine secreted was nearly normal and negative in quality. He is off his water-bed in a wheel-chair for a few minutes each day.

On September 3d he is able to move a few more toes. The extensor paralysis is still complete.

On September 14th the area of anæsthesia is as follows: cremasteric reflex present. During all this time no contractures have taken place in the muscles moving the foot. Sensation to heat and cold about normal; partial anæsthesia from lower portion of thorax to umbilical line; complete anæsthesia below that level.

During October his improvement was steady, though slow. The bladder continued improving. The bowels, however, did not keep pace with the rest, obstinate constipation being a prominent symptom. Sensation is gradually returning to the anæsthetic area above. As soon as his strength was equal to it, an attempt was made to have him make some use of his legs by means of the walking-machine. When making use of this machine his toes drag clumsily on the floor, inco-ordination of the muscles of the leg being almost complete, various motions following one another before the legs could be brought to the front. By means of the machine, however, gradual improvement was noticed, the tonicity of the leg and calf-muscles improving also.

At the present time, December 6th, there is practically no anæsthesia of the body. His urine is passed in a "duck" which he has with him attached around his waist or held between his legs when sitting. There are times when the urine accumulates in the bladder, but never for more than an hour at a time. But when the desire to urinate comes on he is still unable to control the flow. The bowels are controlled only to the extent that when the desire to defecate comes on he can reach the closet just in time. His appetite is good, general nutrition fair.

This case illustrates most of the features of the disease. Pain is the most common of these, and is rarely absent, although in exceptional cases paralysis may occur without it. The pain is most common in the lower extremities, and especially in the knees and hips. It is often felt in the lumbar and sacral regions, and is aggravated by the erect position. The resulting stooping posture gives rise to the common designation of the disease as "The Bend," or "The Grecian Bend," alluding to the fashionable stoop in walking common among women at the time when the Brooklyn Bridge was being built. Pain in the epigastrium is very common, and is apt to be associated with nausea and vomiting. The pain is often of the most intolerable severity, completely subduing men indifferent to minor suffering. It is felt not only in the joints, but also in the shafts of the long bones. It is sometimes accompanied by considerable tenderness on pressure, at other times pressure seems to give a measure of relief. The pain is rarely continuous in the same degree of severity, there are lulls followed by exacerbations. The onset is sometimes gradual, at other times it is almost as sudden as the fulgurating pains of tabes.

The reflexes are generally either exaggerated or abolished. There is no uniformity in this respect. Sometimes they are exaggerated at first, and afterward diminished or lost, and *vice versa*. During paralysis the knee-jerk is commonly increased. Paralysis more or less extensive and persistent occurs in a considerable proportion of the cases. It more generally affects the lower extremities, though the arms are not exempt. Sometimes an arm and a leg are affected. The paralysis may be absolute, or there may be simply a slight and transient paresis. When the lower extremities are attacked the bladder is usually involved, and sometimes the sphincter ani.

The paralysis is of sensation as well as motion, but it does not bring relief to previously existing pain. It is common to see a patient suffering agony in his legs, and yet insensible to the prick of a pin or the contact of a hot test-tube. The paralysis, even in severe cases, is rarely as persistent as in the case of Kelly which I have just read. Usually it passes off in a few days, or in a few weeks at the longest. In rare instances it is permanent.

Symptoms of a transient character connected with disturbance of the cerebral circulation are often observed. Such are headache, giddiness, double vision, syncope, slight confusion of intellect, etc. But these cerebral disturbances may take a very serious form, and coma is usually observed in cases that prove fatal.

In some cases there is an extensive mottling of the skin. The wine-colored stains may be rubbed away in some places, and do not return, in other places they represent a true ecchymosis, and cannot be effaced.

The duration of the case is not necessarily in proportion to its apparent severity. Cases marked by extreme pain may recover entirely in the course of a few days, or even a few hours, and a marked degree of paralysis may be of equally short duration.

The average time in hospital, excluding the case marked by persistent hemiplegia which I have already cited, was, for the twenty-one cases received into the Presbyterian Hospital, three days. Among these cases there were two deaths.

In every case in which an autopsy has been made there has been found evidences of cerebral or spinal congestion, and the mode of death is generally such as to point to a lesion of the brain or cord. In one case at the Brooklyn Bridge sudden death by asphyxia occurred after the patient had walked a few rods from the pier. It seemed probable that an extravasation had taken place into the medulla. The body was taken to the morgue, but unfortunately the autopsy did not include an examination of the spinal canal. The lungs were intensely congested.

In another case the brain was in a healthy condition, but the cord was congested, and opposite the two lower dorsal vertebræ there was an extensive effusion of blood compressing the cord.

Congestion may be found in other localities, especially in the liver and spleen. Spots of extravasated blood have been found in the kidneys. The gastric, intestinal, and vesical mucous membranes are sometimes congested and even marked with ecchymotic spots.

The pathology of this affection is intimately connected with the congestions already described, and especially with the congestion of the brain and spinal cord, and the cavities of the long bones. Much discussion has arisen as to the mechanism of these congestions. Francois suggested that they might be due to the liberation of bubbles of air from the blood when the pressure was reduced, the bubbles acting as emboli and obstructing the vessels. But this would not explain the peculiar distribution of the congestions. Furthermore, Paul Bert, who reasserts the theory of Francois, with the difference that he claims that the bubbles are of nitrogen instead of air, states, as the results of his experiments upon animals, that, with a pressure of five atmospheres three minutes allowed for the return to the normal pressure will be found to insure the escape of the gas through the lungs as rapidly as it is disengaged from the blood, and thus prevent the formation of gas emboli. But numerous cases of the caisson disease have occurred when the pressure did not exceed two at-

mospheres, and when six to eight minutes were occupied in equalizing the pressure. According to Bert's experiments, no possible danger of the formation of gas bubbles could occur under these conditions.

Bert's theory is opposed to the fact that a large degree of immunity from danger is acquired by exposure to the compressed air when the pressure is light, and continuing as the pressure increases.[1] The presence of bubbles of gas in the vessels is a condition which the system could never learn to tolerate by frequency of repetition.

Dr. Jaminet, who had charge of the men in the caissons at the St. Louis Bridge, attributes all the phenomena of the disease to exhaustion from excessive tissue-change brought about by the abnormal absorption of oxygen under the increased pressure. But this is obviously insufficent to account for the anatomical conditions found after death, and affords no explanation of the disastrous effects of too rapid reduction of the pressure in returning to the open air from the caisson.

A careful study of the subject led me to the conviction that the essential phenomena of the caisson disease depend upon the displacement of blood from the vessels which are exposed to the direct action of the pressure to those which, from their situation, are protected from such direct action. For example, the vessels of the skin feel the pressure most directly, and are emptied into those of the interior, as is shown by the pallor of the surface, which is very marked while in the caisson. The fingers, being exposed to the pressure on all sides, are emptied of blood and become white and shrivelled, as if the skin were too large for them. In like manner, wherever the tissues are soft and compressible, the blood is forced out of them and into localities where the tissues are protected from pressure by the density of the surrounding structure. In this way the liver and kidneys get more than their normal supply of blood. But this protection from direct pressure is most complete in the bony cavities, such as the cranium, the spinal canal, and the shafts of the large bones. In these cavities equilibrium of pressure can be established only by afflux of blood, and it is inevitable that they receive more than the usual amount, more, in fact, than any other part of the body, as no other part is so perfectly excluded from the general effect of the increased pressure.

It becomes apparent, therefore, that after a brief sojourn in the compressed air, the system is no longer supplied with blood in accordance with the physiological requirements of the several organs, but in accordance with unnatural physical conditions imposed upon it from without, and having no reference to the normal calibre of the vessels. In a word, the vaso-motor function is entirely superseded, and the muscular coat of the vessels thrown completely out of use. The vessels are as passive as the water-pipes in a house. It is plain that the longer this state of things continues the more complete will be the suspension of the normal vascular action, and the more difficult the resumption of the natural blood distribution when the abnormal pressure is removed. The vessels of the brain and cord having been the most perfectly protected from the direct pressure, will be the most distended, and the most helpless to relieve themselves. Blood having been forced into the cranium and spinal canal, with a pressure of thirty or forty pounds, has continued to circulate, it is true, but only because the whole vascular system was subjected to the same pressure. But now there is a sudden removal of the pressure from the soft parts, resulting in a great increase in the vascular area and a relatively low tension. The vessels in the bony cavities do not readily participate in this changed condition, for they have been overdistended instead of compressed, and their muscular structure is in a state of paresis, if not of paralysis. The blood-currents, therefore will find these localities already passively filled, and will pass them by until such time as the returning contractility brings their vessels in normal relations with the general vascular system. But meanwhile the slowing of the current, or perhaps actual stasis, has brought about more or less serious and permanent results. Thrombi may have formed, affording material perhaps for emboli at more distant points.

In short, conditions are produced in the first moments of lower pressure which not only may remain, but which may result in progressive hindrances to the circulation, showing their effects after the lapse of several hours. Hence we see many cases presenting successive phenomena, such as pain in one place followed by paralysis in another, or paralysis affecting first a leg and then an arm, and succeeded by pain in the abdomen or back.

In this connection the influence of trophic cells in the brain or cord upon peripheral nutrition is not to be lost sight of.

I have already referred to the comparative immunity which comes with daily exposure to gradually increasing pressure. This is readily explainable by assuming a gradually acquired adaptation on the part of the vessels to changes in the amount of their contents. This would be only an extension of the physiological principle by which the supply of blood to organs with an intermittent function is increased during the periods of activity and lessened when the function is in abeyance.

The ideal treatment of the disease, when first manifested, is the re-exposure of the patient to compressed air. From the first this has been recognized as giving complete relief. But the difficulty of returning the patient into the caisson led me to suggest that a small air-tight chamber should be provided, in an accessible situation, into which compressed air from the caisson could be conducted, and in which the patient could remain until relieved. The pressure was then to be reduced by very slow degrees, several hours being occupied, if need be, in the process.

This suggestion was acted upon by the North River Tunnel Company, and the superintendent informed me that the success was complete.

Of course this treatment would be of no avail after secondary changes had taken place.

Aside from this expedient the treatment will depend upon the severity of the case. Pain, if severe, had better be met at once by an efficient dose of morphine, given by hypodermic injection. As the duration of these severe pains is usually short, it is entirely practicable in most cases to carry the patient through with morphine, keeping him perfectly comfortable until the circulation has had time to become re-established in its normal course.

Vomiting without pain is alleviated by sinapisms and by swallowing bits of ice. When associated with epigastric pain a hypodermic injection of morphine will relieve both.

Acting upon my view as to the pathology of the disease I have employed ergot freely with the expectation of rousing the vaso-motor system into greater activity, and by increasing the vascular tension, and with it the velocity and force of the circulation, lessening the tendency to stasis. The result seems to have justified my expectation. In numerous instances ergot administered at the beginning has apparently cut short the attack. The foreman at the Brooklyn Bridge was supplied with both morphine and ergot for immediate use in the absence of the physician, and his conviction, from his experience, was that ergot acted more satisfactorily than morphine. Of course, in either case the administration was by the mouth. In all the cases in my service at the Presbyterian Hospital ergot has been used, and generally with apparent benefit.

Local applications, employed with due regard to the tenderness of the muscles, which is often extreme, seem in many instances to be comforting to the patient.

[1] Of the men who began with the work at the Brooklyn Bridge, comparatively few suffered when the pressure became greater, while of those who began later a large proportion were attacked. In the East River tunnel, the work proceeding horizontally at a uniform depth, the pressure has been at the maximum from the beginning, and the men, not having the advantage of becoming accustomed to a gradually increasing pressure, are suffering much more generally and more severely than was the case at the bridge. It is true, however, that the pressure is greater in the tunnel.

When paralysis occurs it is to be treated on general principles. Cases which have lasted for months are not necessarily hopeless, though improvement may be extremely slow. I have never seen a patient recover after the supervention of complete coma.[1]

But more important than treatment is prophylaxis. I have found that persons with a tendency to obesity are much more liable to the affection than those of a more slender build. This is probably due to the greater bulk of fluids in the body liable to displacement by the compression of the soft parts. Corpulent persons should therefore be excluded from the caisson.

Intemperate habits also predispose to the disease. Probably this is due to the vascular changes resulting from chronic alcoholism, on the one hand, and to the acute congestions, on the other hand, incident to a recent debauch. Men seasoned to the work, and who have all along resisted the effects of the pressure, have succumbed on the first return to the caisson after a drunken orgie. Men with a pronounced alcoholic habit should therefore be refused employment when the pressure is considerable. Newness to the work, as already stated, increases greatly the danger of attack. For this reason men beginning work after the pressure has reached twenty-five or thirty pounds, should not be permitted at first to remain below more than two hours at a time, the hours being gradually increased as the person becomes seasoned to the work.

But most important of all preventive measures is limiting the duration of the shifts in proportion to the increase of pressure, and giving abundant time for "locking out." With a pressure of forty pounds the men should not remain below more than two hours at a time, and four hours should constitute a day's work. The "locking out" should occupy at least five minutes for each atmosphere of additional pressure. The escape-valve in the lock should be gauged so as to insure this result.

It is also important that the effort of climbing to the surface should not be made while the system is adapting itself to the reduced pressure. In other words, the lock should be at the top of the man-shaft instead of at the bottom. The ascent is then made in the compressed air instead of in the relatively attenuated atmosphere without. When this position of the lock is impracticable, a lift should be provided to take the men from the lock to the surface.

A Unique Sanitary Building.—In Yokohama a unique building has recently been constructed by Dr. W. Van der Heyden. The walls are of boxes of glass arranged in brick fashion and filled with a solution of alum, which allows light to pass but intercepts certain heat-rays. These boxes, which have now resisted during one year and a half the influence of cold and heat, shocks and earthquakes, are resting on cast-iron supports. The necessary gaps between two rows are filled with felt and then covered with boards. A series of the boxes above each other and next to one another, with as little space between as possible, and this space filled with felt, form the outside walls of the house; the roof, which is flat and is supported by the cast-iron pillars which carry the boxes, can be made in exactly the same mould. In the house, glass panes pressed against each other, but with strips of rubber between them, form the horizontal ceiling; above this a thick layer of ashes rests, whereupon is a light frame-work of wood covered over with cement. This, of course, makes the roof not translucent, but it defends the roof well against radiant heat, and being made of bad conducting material, the heat of the interior is not lost; the four walls being totally translucent, there is more light than in any other description of dwelling. Special arrangements provide for ventilation and drainage.

[1] Since the above was written a man was brought to the Presbyterian Hospital in a comatose condition, from which he rallied and made a good recovery.

NOTES ON THE CAISSON DISEASE.[1]

By W. GILMAN THOMPSON, M.D.,

NEW YORK.

The caisson disease is of peculiar interest as a malady incident to modern civilization, in which definite symptoms are directly produced by purely physical, *i.e.*, mechanical, causes, acting primarily through the circulation and through this means upon the central nervous system. The respiratory mechanism is also affected, but not in a manner to occasion the symptoms of the disease, except in so far as any variation in normal respiration reacts upon the circulation. In an atmosphere of compressed air the oxygen tension is increased, and the rate of respiration is somewhat slowed, but while it may be easy for the blood to obtain abundant oxygen, it is also more difficult for the carbon dioxide to be eliminated from the lungs against increased atmospheric pressure. As a result, with very high pressure animals die with convulsions, asphyxiated by retention of their own carbon dioxide. In the caisson disease, on the contrary, we have present a series of symptoms the most prominent and constant of which are referable to the inferior portion of the spinal cord; these are—pain along the peripheral nerves and the joints, especially of the lower extremities, various sensory disturbances, altered reflexes, interferences with the normal processes of micturition and defecation, and paralyses of the extremities. In a series of experiments made at the Loomis Laboratory, which I reported four years ago,[2] performed with the object of determining the effect on animals of inhaling atmospheres of pure oxygen under very high pressures, the symptoms of the caisson disease were not present. In these experiments a monkey withstood the pressure of four and one-half atmospheres of pure oxygen for three-quarters of an hour, the only effect being a very slight convulsion from too suddenly lowering the pressure. Monkeys, cats, dogs, and pigeons were all kept under four atmospheres of pure oxygen, as well as of simple compressed air, for an hour and a half, without any paralytic or sensory symptoms, although slight convulsions sometimes occurred when the pressure was altered too suddenly. A dog weighing 22½ pounds withstood for some time a pressure of eight atmospheres of common air before evincing any discomfort at all. He then had a slight convulsion, but on coming out of the compression tank he appeared normal and lively. Another animal withstood a pressure of nearly five atmospheres of air over half an hour without showing any symptoms of discomfort whatever, and subsequently remained three and three-fourths hours in two atmospheres of pure oxygen without symptoms. It does not appear from these experiments that single exposures to pressures much greater than those to which workmen in compressed air are subjected (*i.e.*, two and one-half to three and one-half or four atmospheres) are capable of producing in animals any of the symptoms of the disease in question. It should be borne in mind, moreover, that the severe labor which they undertake in the shaft, in digging, crushing stones, etc., is itself somewhat exhausting to the circulation. They become fatigued and eager to get out at the end of their "shift," and come out far too quickly—often in five or ten minutes. It is the suddenness of the change back to normal atmospheric pressure which is the disturbing element, rather than the continuance in the compressed air of the caisson. The effect is somewhat analogous to that produced on the circulation by a too rapid ascent in a balloon into rarefied air, and by sudden extreme hemorrhage. I have seen five cases of caisson disease, one or two of which are here reported in full, and to these I may add one more which occurred in the service of Dr. A. Brayton Ball, at the New York Hospital, and to which he has kindly allowed me to refer. One of these five cases has just been reported in the collection presented

[1] Read at the meeting of the Practitioners' Society, January 5, 1894.

[2] A paper read at the New York Academy of Medicine, MEDICAL RECORD, July 6, 1889, vol. xxxvi., No. 1, p. 1

by Dr. Smith. Another case, P. C——, was that of a laborer in the Hudson River caisson who entered the New York Hospital in September, 1890. He was a robust man, of good habits and constitution, thirty-eight years of age, and a very moderate drinker. He had worked for many years previously in caissons. He often had severe pains in the extremities after leaving the caisson, but had never before suffered from paralysis. Six days before admission to the hospital, and after leaving his work, he suddenly lost all muscular power and sensation in both legs. This condition lasted a day or two and slowly improved, when he found himself unable to micturate, and for this difficulty sought relief in the hospital. On admission there were no constitutional symptoms; pulse, respiration, and temperature were normal, and the various viscera appeared normal. The urine contained five per cent. of albumin and considerable pus. The patient was unable to walk from loss of power in the muscles of both legs, but he could move the feet and toes. Sensation was considerably diminished in both legs, especially in the left, but was normal elsewhere. The patellar reflexes were slightly exaggerated. There was no ankle clonus. No local tenderness over the spine or peripheral nerves. There was no pain at any time such as had been present before the paralysis. The hands and arms were not affected. Catheterization was necessary, as there was complete retention of urine. The patient was given strychnine and ergot, the bladder was irrigated with boric acid solution, and galvanism was applied to the legs. After three days of this treatment, with rest in bed, there was considerable improvement, and increase in power in both legs. At the end of a week the patient could pass his urine voluntarily, although still with some difficulty. He was allowed to rise and was able with assistance to walk a few steps. After sixteen days he walked easily; only a little weakness and uncertainty in gait remained, and he was permitted to go home. Sensation and micturition were normal. In this case, after three weeks, cure resulted of complete paralysis of the legs and bladder.

Case of J. H——, laborer, aged thirty-three years; is a moderate drinker. Admitted to the Presbyterian Hospital August 8, 1893. For the past fourteen years, on and off, the patient has worked under compressed air, but never suffered from it in any way until five or six years ago, when he had several slight attacks of anæsthesia and paresis in the extremities, coming on immediately after leaving the caisson and lasting several hours at a time. He said that similar attacks with vertigo, chilliness, and deafness, are of such common occurrence among his fellow-workmen that they pay little heed to them, so long as they are not actually incapacitated from work. The night before his admission to the hospital, and about fifteen minutes after leaving the caisson in the East River where he had been at work under four atmospheres of pressure, and after coming out of the single lock very suddenly (in about five minutes), pains of a tingling and lancinating character began in the right leg, and he found himself unable to walk. An hour later the same symptoms appeared in the left leg, and continued. Micturition and defecation were unaffected. On admission, the pulse, respiration, and temperature were normal. Urine normal. The man was of exceedingly good physique. He retained some voluntary power and co-ordination in the legs, but was wholly unable to stand. The patellar reflexes were exaggerated, and there was some tenderness along the course of the nerves in both legs. The hands and arms were normal. The patient was given strychnine and ergot and a cathartic, and the faradic current was applied to the legs. He asked for the latter, as he said it had relieved him very promptly before. Very rapid improvement followed, and on the fourth day the paralysis had entirely disappeared.

In two more cases, which came under my observation several years ago, the symptoms were almost identical with those of the preceding case and recovery was complete.

The following notes are abstracted from the history of a patient who entered the New York Hospital, in the service of Dr. Ball, in July, 1890. The patient was a laborer, twenty-five years old, a moderate drinker. Six months previous to admission to the hospital he began digging in a caisson, working most of the time under a pressure of four atmospheres. After two months of this labor he had frequent attacks of sharp pains in the limbs, and especially in the knees and elbows, which continued for three weeks, but he kept on with his work. After three months he was suddenly seized with paralysis of both legs and the left arm, and the pains in these limbs became very severe. He also had total deafness and dull pains in the head and abdomen, accompanied by a severe attack of vomiting, with marked weakness and prostration.

The deafness and paralysis lasted about three days, and then gradually wore off. Three weeks later he had completely recovered. He returned to work, and after that time he had frequent headache and pains in the limbs, but the paralysis did not return. For the week previous to admission he had complained of difficult micturition, constipation, and pricking and itching sensations in the arms and shoulders. No girdle pains were noticed. He entered the hospital to be relieved of his inability to urinate. He was given cathartics, strychnine, boric acid, and hot baths. Three days later he appeared much better, and was allowed to get up, when a slight relapse occurred. After further treatment and rest in bed, he was discharged cured on the twelfth day.

Since in all instances of caisson disease the main danger lies in the too rapid change of pressure, especially its diminution, one cannot condemn too strongly the practice of allowing the workmen to leave the caisson very rapidly. For reasons of economy but one "lock" is sometimes afforded between the atmosphere and the caisson, and the men are allowed to hurry in and out at a rate which implies criminal negligence. Where four atmospheres of pressure are employed, there should be at least three "locks" with graded air-pressure, and fully three-quarters of an hour should be consumed in entering or leaving the caisson, instead of five or ten minutes. The progressive character of the symptoms should be a warning to those who have had a first attack that they cannot with safety continue to work under the same conditions.

CONCERNING THE CUSTOM OF ABUSING "THE ABUSE OF MEDICAL CHARITY"—A PROTEST.[1]

By J. WEST ROOSEVELT, M.D.,

LECTURER ON CLINICAL MEDICINE IN THE COLLEGE OF PHYSICIANS AND SURGEONS; VISITING PHYSICIAN TO BELLEVUE HOSPITAL; ATTENDING PHYSICIAN TO THE ROOSEVELT HOSPITAL, NEW YORK.

I FIND the following sentence in a paper written by Miss Octavia Hill, of London: "Impatience seems to me to be the curse of time; even our benevolence is in such frantic haste; we hurry even to seem to mend matters, and we make them tenfold worse, and some of us hardly care." Miss Hill is well known as a philanthropist whose life is devoted to practical charity. The words quoted are taken from a paper directed against indiscriminate and unwise schemes for benefiting the poor; the impatience she mentions is that shown in providing too easily obtained and injudiciously distributed aid. Is it not equally true of many attempts to reform existing abuses of charitable methods? It seems to me that almost all of the recently published criticisms upon, and tirades against, the administration of hospitals and dispensaries, in regard to the class of persons treated in these institutions, shows the same "frantic haste" of which the distinguished authoress complains. None can appreciate more clearly than I the serious evils which our system has brought about—none would more gladly second all well-conceived plans making for the diminution of the evils. Therefore I feel the great importance of conducting the campaign against

[1] Read before the Practitioners' Society, January 5, 1894.

them in a rational and efficient way; they should be attacked systematically and persistently with the best weapons obtainable. They should also be attacked upon the right grounds. The weapons to be used are arguments based upon facts, not fancy, and the broad general principle of public good is the only position from which a successful assault can be made. This paper is a protest against the present line of attack, which is frequently based upon unfounded assertions, and still more frequently is characterized by the narrowness of view of the critics and evident unfamiliarity with the conditions of the problem and the various plans which have from time to time been tried to lessen the evils complained of. As for the suggestions of most of the recent critics for bettering things—well, they are not likely to be adopted by any considerable number of institutions.

The trouble with most of those who discuss the subject is that there are several different stand-points from which it may be considered. None of these by itself is broad enough to base a fair judgment thereon: yet it is rare for the critics to regard more than one. Hence arises much confusion.

What I have called "the custom of abusing 'the abuse of medical charity'" is becoming very common. It is apparently impossible for the majority of people to study calmly, and write or speak without excitement about any matter which, although in noway affecting their reputation or characters as individuals, concerns seriously some of their pet theories, or touches their personal interests. The proper distribution and administration of medical charities concerns closely the pet theories of the laity and the personal interests of the profession. Probably these are the reasons for the extreme warmth of the discussions about the question, and for the marked tendency toward the introduction of personalities. Am I not justified in asserting that the tone of the professional criticisms has, especially of late, been more abusive than judicial; more violent than philosophical? It is neither dignified nor useful to indulge in tirades about some alleged wrong, without presenting at the same time the facts in the case complained of. Generalities are powerless against specific evils. Actual facts must be given. Moreover, any statements which are incorrect serve the more firmly to intrench the evils. Let an assertion be made which is perfectly true in all particular specifications save one—the whole force is weakened or even destroyed by the one error. Loose talking has done much to perpetuate the evils in our hospital and dispensary methods.

We should not cry out against the injury wrought by the dispensaries to struggling practitioners; neither should we talk about the benefits of these institutions to the cause of medical education. We should speak neither from the position of those who are injured nor those who benefit in our profession; we ought to look at the matter in a broader and more patriotic way. The benefit or harm to the whole community are the real things of importance. Individual wrongs are petty when compared to the good of the whole.

These charities unquestionably do much harm—how much is unknown. This fact should be constantly kept before the public. The problem of lessening the harm done is one of the most complex which humanitarians can face. Its solution requires careful study and long-continued experiment; it is not to be settled offhand. I know of no plan which has yet been tried which has done much to improve matters. There have been many suggested. Let us try now to treat the matter in a philosophical way, remembering the existence of the laws of political economy, and the limitations imposed by human nature upon every suggested method of relief. If we really wish to accomplish anything, there is no use of setting about it in a wrong way, and in more or less complete ignorance of what we are fighting with and what we are fighting for. It is by doctors that the problem must be solved, if it is to be solved. Let us set aside all bias and personal feeling, and proceed in a dignified manner to study the subject, and to express our views.

A SUCCESSFUL CASE OF PYLOROPLASTY.

By FRANCIS J. SHEPHERD, M.D., C.M.,

SURGEON TO THE MONTREAL GENERAL HOSPITAL.

The operation of pyloroplasty is of sufficiently recent origin, and the number of cases reported so comparatively few, that any fresh evidence as to its value will, no doubt, prove useful.

The operation, which was almost simultaneously conceived by Heincke, of Erlangen, and Mickulitz, is performed by cutting the anterior wall of the strictured pylorus and extending the incision about an inch toward the stomach, and the same distance in the direction of the duodenum. The straight incision in the long axis of the pylorus divides the stricture, and by retracting the margins of the wound on each side of the centre with tracula, and suturing the wound in a transverse direction, the contracted pylorus thus becomes the posterior wall of a new pylorus. The anterior wall of the new pylorus is made up of tissue taken partly from the anterior wall of the stomach and partly from the anterior wall of the duodenum.

The new portion of the pylorus is thus formed of perfectly healthy tissue, and relapses are therefore less likely to occur than after Loreta's operation of divulsion. This operation is in every way superior to Loreta's, it is much more scientific, and is applicable to all cases of non-malignant tumors. In Loreta's operation one is working in the dark, and the force necessarily used to produce enlargement of a greatly contracted pylorus, surrounded by a dense mass of cicatricial tissue, often produces serious results; death from shock and hemorrhage being not infrequent.

The operation of pyloroplasty is one of no great difficulty; in my case the retracting of the margins of the incision so as to make the wound a transverse one was somewhat difficult; there was so much cicatricial tissue and this tissue was so inelastic, that the duodenal and gastric incisions had to be prolonged before approximation could be accomplished, and even then the angles of the wound (which consisted of cicatricial tissue), had to have V-shaped pieces taken out to make the apposition perfect.

The patient was fed by the rectum for three days, and afterward carefully fed by the mouth; the recovery was uninterrupted.

Patient left hospital in four weeks, and when last seen, five months after operation, he had gained sixty pounds and said he had never felt better, his digestion troubling him not at all.

The following is the history of the case condensed from the hospital records:

R. B——, aged twenty-nine, farmer; native of Canada. Was admitted into the medical wards of the Montreal General Hospital, under Dr. G. Wilkins, July 10, 1893, suffering from vomiting and pain in the left side of the abdomen.

History.—Born and has always lived in the Province of Quebec. Has always been a teetotaller and does not use tobacco in any form. For the past fifteen years has suffered more or less from his stomach, having had frequent attacks of gastritis which have lasted from two weeks to two months. In the intervals never felt comfortable after eating, always experienced some pain and heaviness with eructation of gases. The last severe attack was three years ago, when he vomited a considerable quantity of blood and suffered very acute pain. The present attack commenced three months ago, since which time he has been unable to work: like the others it was preceded by pain and eructation of gas, then there was pyrosis, and afterward severe vomiting. At the beginning of the attack the patient was able to eat and retain a small amount of solid food, but later on everything taken was vomited. The vomited matter consisted of greenish material and some mucus, and frequently the vomit looked like coffee grounds. The pain usually came on two or three hours after eating.

During his present illness he has lost much flesh, weigh-

ing now only one hundred and twenty pounds, where formerly he weighed one hundred and seventy-five. Patient has been able to take only liquid food, and this, he says, appears to stay in his stomach, and relief does not come until vomiting is set up and the contents of the stomach evacuated.

Present Condition.—A young man, about thirty, tall, and much emaciated; muscles flabby, skin of a subicteroid hue, tongue coated with a white fur. On palpation of the abdomen no tumor can be made out, but the epigastric region is excessively tender, and the whole abdomen appears to be occupied by a distended and dilated stomach. Soon after entrance he vomited forty-three ounces of a brownish, sour-smelling fluid which on examination was found to contain free acid and sarcinæ. Urine, specific gravity, 1.013. No albumin or sugar.

Dr. Wilkins ordered the stomach to be washed out and this gave much relief.

Diagnosis.—Dilated stomach due to stenosis of pylorus, probably non-malignant. Dr. Wilkins thinking the case suitable for operation, and the patient consenting, transferred him to the surgical side under Dr. Shepherd. Three days before operation the patient's stomach was washed out daily with a warm solution of boracic acid, and the morning of the operation the washing was most thoroughly performed. Operation performed July 28, 1893.

After thorough cleansing of the parts, an incision four inches long was made above the umbilicus in the median line, and the stomach immediately brought into view, the pylorus was drawn out and found to be surrounded by a dense mass of hard tissue the size of a small egg, the anterior surface being marked by a stellate scar. An incision was made into the stomach near the pylorus and the condition of the opening examined; a large mass was seen below the pyloric opening, and this appeared excavated as if it had been the base of an old ulcer; it bled freely on touching it; the excavation would probably lodge a marble. The pyloric opening would not admit the tip of the operator's little finger, and admitted with difficulty a small grooved director.

The incision in the stomach was now extended through the stenosed pylorus and into the healthy duodenal tissue beyond, and thus the intestinal canal was laid open to the extent of two and a half inches. The edges of the incision were now seized about the centre with tenacula and retracted, this making the wound a transverse one. In this way healthy stomach tissue was approximated to healthy duodenum, the angles of the wound being the old cicatricial tissue in front of the pylorus, which was now replaced by the healthy tissue above referred to. To bring the angles of the wound together it was necessary to remove a V-shaped piece of the cicatricial tissue (which cut like grizzle) and to enlarge the original wound in the duodenum and stomach. The suturing was in two rows and commenced at each angle, the central part being sutured last. The suturing was a somewhat difficult proceeding, for the tissue at the angles being cicatricial, the fine interrupted silk sutures easily cut through; a superficial row of Lembert's sutures was more easily placed. The wound being now completely closed, the sponge and gauze were removed, the pylorus replaced, and the abdominal wound sutured with a deep-buried row of silk and a superficial row of silkworm-gut sutures.

The patient stood the operation well, and left the operating-room with a good pulse. Soon after removal to his ward a beef-tea enema was administered.

July 29th.—Temperature, 98⅗° F.; pulse, 100. No vomiting or pain. Peptonized milk enemata administered every four hours.

July 30th.—Temperature, 99⅖° F.; pulse, 100. Given a very little weak brandy and water by the mouth; enemata still continued.

August 1st.—Temperature, 99° F.; pulse, 80. Enemata discontinued; given barley-water by mouth every two hours.

After this he took beef-tea and milk by mouth, the administration being in small quantities and carefully supervised by the house surgeon, who gradually increased the amount of nourishment taken. On the tenth day he had a rise of temperature and severe pain, due, he admitted, to having eaten some rich fruit-cake given him by another patient. After this everything went on well. The patient rapidly gaining flesh and strength, got up at the end of the third week, and was discharged on August 31st. He was shown to the Montreal Medico-Chirurgical Society on November 17, 1893, when he looked in perfect health, weighing one hundred and eighty pounds, and saying he was as well as ever he was, nothing now disagreeing with him.

MONTREAL, December 18, 1893.

Clinical Department.

SARCOMA OF THE TONSIL—PATIENT EIGHTY-NINE YEARS OF AGE—OPERATION—CURE.

BY CLINTON WAGNER, M.D.,

SENIOR SURGEON METROPOLITAN THROAT HOSPITAL.

MRS. F——, aged eighty-nine, applied for treatment at the Metropolitan Throat Hospital. She stated that for several months before consulting me she had felt a swelling or lump in her throat, which seemed to her to be rapidly increasing in size.

An examination revealed a growth on the right tonsil which entirely filled the right side of the fauces, extending inward to the uvula which it pushed aside, pressed the soft palate upward and backward, and extended downward into the pharynx to the base of the tongue; it pressed also against the anterior column of the palate, forcing it forward and rendering it quite tense. In color it was a dark, dull, purplish red, resembling somewhat frozen flesh.

The patient complained of a sharp, lancinating pain shooting through the mass, and also of great difficulty in swallowing solid food. A friend who accompanied her to the hospital stated that the tumor was growing rapidly, and had doubled in size within a few weeks.

The rapidity of the growth of the tumor, and the certainty of its soon breaking down in ulceration, by which the pharynx and soft palate would become involved, and thus cause death from starvation through inability to swallow, and also there being no glandular involvement, decided me to operate, notwithstanding the advanced age of the patient.

The case being laid before the patient, an intelligent woman, she declared that she preferred the risk of an operation to the certainty of a tedious death, and the further continuance of the sharp and almost constant pain from which she was suffering.

In consequence of her feebleness and extreme age, the operation which promised the least loss of blood, the galvano-cautery, was selected. Under other circumstances, viz., a younger and stronger patient, my preference would have been for the knife.

The galvano-cautery loop was made to encircle the tumor, which was then seized with a double hook and drawn as far as possible from between the pillars of the palate, the loop then pushed outward between the pillars, tightened, and the mass was removed without difficulty. A broad stub was then substituted for the loop, and the entire surface between the pillars thoroughly cauterized; no blood was lost.

Daily applications of a spray of the peroxide of hydrogen were made, and a wash of carbolic acid used every two hours. In ten days healing had taken place and the patient was discharged, but still kept under observation. After ten weeks the parts have a healthy look, there is no pain whatever, and she appears stronger and better in every way than before the operation, and will probably live several years.

The following is the report of Dr. Charles Heitzman,

to whom the tumor was given for microscopical examination:

"The tonsil, after having been hardened in a dilute chromic acid solution, under the microscope exhibited the following features: The follicles and interfollicular cords are densely crowded with lymph-corpuscles of varying sizes, but everywhere non-nucleated. Between groups of such corpuscles a small amount of a myxomatous (stellate) reticulum is seen, arranged without any regularity. The capsules of the follicles, toward the periphery, show scanty fibres of connective tissue, in the meshes of which numerous granular, non-nucleated protoplasmic bodies are imbedded. The epithelial cover is much thinned.

Diagnosis: Lympho-sarcoma of a pronouncedly malignant type. "Yours truly,

Signed, C. HEITZMAN."

The above case is of more than ordinary interest, not only because of the advanced age of the patient, being the oldest of which I can find record, but also from the rapid healing of the parts after the operation and the non-recurrence of the growth.

65 WEST THIRTY-EIGHTH STREET.

THE LOCAL ACTION OF SALICYLIC ACID IN THE FORM OF A LINIMENT.

BY THOMAS H. MANLEY, M.D.,

NEW YORK.

IN a recent issue of *Le Journal de Suisse-Romande*, Dr. Bouget Lausanne presents a contribution, on the great value of salicylic acid, when applied externally, in the form of a liniment, in either acutely or chronically inflamed rheumatic joints.

He recommends that the salt be rubbed up in sweet-oil, and then applied. By observations and experiments which he had made, he was able to prove that it was promptly absorbed by the integuments, and appeared in the urine within two hours after its external application. He showed that the integument had great capacity for the rapid absorption of this drug, and he moreover demonstrated, that when so administered it might be utilized in the very young, or those suffering from cardiac complications, when its action in subduing internal inflammation was even more decisive than when taken by the mouth.

It struck me as one of the most valuable additions to the Pharmacopœia, if it were all that this author promised for it, and I decided to put its merits to the test in the near future.

It may be said now, that from the number of cases which I have had an opportunity to employ it on, that it has by far exceeded my expectations.

Its action is marvellous in muscular rheumatism; in painful joints, whether they are inflamed or not; in lumbago, sciatica, intercostal neuralgia, and muscular pain of any kind. It has served me in gonorrhœal rheumatism equally as well.

The formula of the Swiss surgeon answers in ordinary cases of rheumatism; but the excess of acid settles as a thick deposit in the vial; so that, unless it is made up fresh, as used, it cakes and requires considerable and prolonged agitation, before it is mixed well with the oil; besides, in those cases in which we suspect a neuralgic element, it occurred to me, that it would detract nothing from its virtues to add a little laudanum and chloroform. Therefore I have substituted the following formula, which is always ready, will keep indefinitely, and may be employed in most any of these hyperæsthetic diseases, the most pronounced symptom of which is pain:

℞.	Chloroformis puræ	ʒ v
	Tr. opii,	
	Acidi salicylici	āā ʒ iv.
	Spts. vini rect. cionc.	ʒ iv.
	Olei dulcis, q. s. ad.	ʒ xii.

M. S.: Liniment, use *ad lib.*

In young children the laudanum and chloroform should be omitted. It should be applied warm and be well rubbed in. In certain cases it may be well to moisten a cloth, a piece of flannel preferably, and leave it on over the painful parts.

There can be no question in my mind that the modern exacting studies of microscopical anatomy and bacteriology, combined with the abnormal frequency of surgical operations, have weaned the student off from that domain of the healing art, more useful than all the others put together, viz., therapeutics. There has been altogether too much cutting done during the past decade, and materia medica has been practically thrust out the back door.

During the month of November of this year (1893), three cases of supposed appendicitis have been sent into my service at the Harlem Hospital for laparotomy and appendisectomy. All went home on their own legs, within two weeks after entrance.

Three cases of arthritis have come under my care for arthrotomy and scraping of their joints, within the past year, which all recovered without any recourse to the knife. A lawyer sent for me to see him, in a private hospital apartment; on the next day the metacarpo-pharyngeal articulation of his great toe was to be opened and scraped. I ventured to inquire of the house physician whether or not the patient had been well dosed with colchicum; for if he had not, the operation might put him or his patient in a "scrape." For a day or two following he was freely purged, and in a week he walked out of the hospital with the joints all whole.

No doubt a return to our "old love" will make operating material scarce; but, when it is constantly borne in mind that all surgical operations are the opprobia of the healing art, and that nothing justifies them except the imminent danger of an organ, or life itself, and then only when all other palliative measures have failed they will be performed less frequently.

A SUCCESSFUL CASE OF CÆSAREAN SECTION.

BY PHILANDER A. HARRIS, M.D.,

PATERSON, N. J.,

VISITING PHYSICIAN TO THE PATERSON GENERAL HOSPITAL.

A. M——, primipara, aged eighteen, born in the United States, a rather diminutive person with slight suggestion of rachitis, but apparently healthy and fairly well nourished, four feet six and one-half inches in height, with the following pelvic measurements: distance between iliac crests, 22 ctm.; anterior superior spinous process, 21½ ctm.; external conjugate, 16½ ctm. From promontory of sacrum to symphysis pubis, 7 ctm.; while the other internal diameters were all greatly shortened. She was believed to have passed slightly beyond the ordinary period of utero-gestation. The uterus was thought to contain a large child.

On April 9, 1893, very slight labor-pains began at two o'clock in the morning and continued for eighteen hours, or until ether was administered, at which time the os was dilated to a degree admitting only the index-finger.

The patient having been prepared in the manner usual in cœliotomy cases, was anæsthetized and removed to the operating-room at a quarter to nine in the evening. Incision was made in the median line of the abdominal wall to a point about three inches above the umbilicus. The uterus was lifted out of the incision, enveloped in aseptic towels, and held by an assistant, while the upper portion of incision in the abdominal wall was closed with silkworm-gut sutures. An elastic ligature was next placed around the lower segment of the uterus and secured. The incision was then made in the anterior median line of the uterus. Scissors were employed to enlarge this incision, and it was interesting to observe the pouching and semi transparent membranes protruding from the opened uterus. When the incision was deemed sufficiently large, an as-

sistant introduced a finger in the upper angle of the incision to limit in a degree the contraction of the uterus.

The membranes were ruptured, after which a living male child (weighing eight and one half pounds) and the placenta and membrane were quickly removed. The cavity of the uterus was carefully irrigated with a one to forty solution of carbolic acid, the irrigating fluid escaping through the slightly dilated os and the vagina. The incision in the walls of the uterus was closely sutured with strong silk. The number of sutures employed was probably fifteen or sixteen.

When the uterus was released from the elastic ligature very slight hemorrhage appeared at one point of the uterine incision, which was readily controlled by the introduction of another suture. The uterus being now firmly contracted and the hemorrhage controlled, the peritoneum was brought together with running catgut suture.

The abdominal wall was closed with silkworm-gut, but it was so thin that a surprisingly large number of sutures were required to effect satisfactory coaptation.

Very little blood was lost during or following the operation. I should think very much less than we are accustomed to in an ordinary case of labor. Twenty-nine minutes elapsed from the beginning of operation to the delivery of child and placenta, while sixty-six minutes more were required for the completion of the operation. The patient rallied rapidly from the operation.

The further treatment of the case was not unlike that usual in cœliotomy cases. The temperature was taken every four hours for one week, the highest point observed was 101⅘° F., while the average temperature, reckoned from all observations, was 99⅖° F.

On the sixth day after operation a rather free flow of milk occurred. The child was put to the breast, and afterward regularly nursed and mainly nourished at the maternal fount.

The mother made an excellent recovery, the child grew rapidly, and both were discharged from the hospital, in a condition of health, June 12th following.

26 Church Street.

A CASE OF QUININE POISONING.

By ISHAM G. HARRIS, M.D.,

HUDSON RIVER STATE HOSPITAL, POUGHKEEPSIE, N. Y.

X. L——, aged twenty-six, widow, American; occupation, nurse; habits and previous health, good. No hereditary history of neuroses or idiosyncrasies, so far as can be learned.

January 15, 1892, patient complained of the following symptoms: slight headache, nausea, and a feeling of tiredness, with spots before the eyes, and inclined to constipation; bad taste in the mouth and the tongue slightly coated. Appetite and digestive functions fairly good. Patient had also experienced slight chilly sensations up and down the back. At 4 P.M., was given two grains quinine in pill form. In about twenty minutes after taking, patient began to feel a slight tingling or prickling sensation in the ends of the fingers and toes which gradually extended up the extremities. A few minutes later this feeling extended over the whole body, and there was sneezing, profuse lachrymation, coryza, roaring in the head, itching of the body, congestion of the conjunctivæ, face swollen and flushed, and also swelling of the tongue and lips. About three hours after taking the quinine there appeared over the body, from head to foot, a very intense red rash, scarlatinal in appearance, with an aggravation of all other symptoms—the itching being almost unbearable. The rash did not appear to be elevated at any place except on the back and shoulders, and at those places it exhibited a measley form, the elevations being as large as a pin-head. Temperature was not measured, but it was apparently elevated. The heart's action was at first stimulated and later depressed. Respiratory movements slightly increased and the patient was very restless. About 10 P.M. patient began to have a menstrual flow (nine days since catamenial period, and catamenia have been regular), but this stopped during the night. At 10.30 the acute symptoms began to abate. At 2 A.M. (the same night) patient was more comfortable, the rash disappearing, but there was severe headache, some hebetude, and an "indescribable, peculiar feeling" in the lungs with a good deal of restlessness. Given bromide potash, grains twenty, and chloral hydrate, grains ten. This did not give any rest, and the prescription was repeated. When the symptoms were most pronounced, free diuresis was produced and stimulants given.

January 16th.—At 8 A.M., all symptoms of quinine poisoning had disappeared except a slight roaring in the head. In the afternoon patient was up and feeling fairly well. Toward evening, however, began to menstruate again, and on the morning of the 17th she had lost so great an amount of blood that she fainted on two different occasions while attempting to raise herself. As soon as this condition was known patient was given fluid extract ergot, one drachm, with directions to give one-half drachm every four hours until all hemorrhage was fully controlled. Quiet and rest in bed were enforced. There was acute pain in abdomen with all this trouble. Patient remained in bed all of the 18th and 19th. On the 20th she was up, notwithstanding a slight menstrual flow. No further untoward symptoms developed.

Patient states that she has suffered from quinine poisoning on other occasions, once from two grains of the bisulphate and once from a five-grain dose of the sulphate. It appears that the two-grain dose of the bisulphate produced symptoms almost as severe as those above mentioned.

For a history of the attack caused by the five-grain dose I am indebted to Dr. W. L. Burrage, of Boston, and by his kind permission I subjoin the notes made in her case at that time.

"February 17, 1889.—Patient about her duties, but complained of being somewhat tired; with the exception of headache is in perfect health. No indiscretion of diet. At 8 P.M., took a five grain capsule of quinine for headache. On previous occasions had taken repeated small doses of this drug (four grains at a time) for malaria, and had suffered from singing in the ears, not marked, and from tingling sensations in the hands and feet. In half an hour after taking the five-grain capsule patient began to have swelling of the tongue, lips, and face, and tingling of the hands and arms. Symptoms increased in severity, and at 11 P.M. she was very restless and complained of a burning sensation all over the body. Was given a small dose of aromatic spirits of ammonia and antipyrine, and a little later five grains of chloral and thirty grains bromide of potash. Unable to sleep. I was called to see her at 1.30 A.M. She was then tossing about in bed, pupils widely dilated, tongue thick, lips swollen, eyelids and conjunctivæ swollen and injected. There was a diffuse, bright scarlet, punctate eruption, covering the entire surface of the body, face, neck, and limbs. She complained of burning, prickling, and itching. In a few minutes she was seized with a violent pain in the abdomen and vomited freely at about 1.45 A.M., with much relief. When seen a few moments later, the eruption had entirely disappeared. According to the account of the nurse in attendance the eruption reappeared in about fifteen minutes. Was given chloral, fifteen grains, and body and limbs rubbed with zinc oxide one-half ounce, acid carbolic, two drachms, liq. calcis one pint. Itching and scratching, before uncontrollable, now stopped. Began to have a menstrual flow (ceased menstruation a week ago, catamenia always regular). Soon fell asleep and slept until morning.

"To day, February 18th, feels well in every way, no vestige of eruption; a few excoriations on the shoulders and arms.

"February 19th.—On duty to-day. Has ceased menstruating, feels well, except that her joints are sore."

THE TREATMENT OF LOBAR PNEUMONIA WITHOUT OPIUM OR DIGITALIS.

By E. E. REICHARD, M.D.,

POUGHKEEPSIE, N. Y.

The common method of treating pneumonia by the employment of opium in some form in liberal doses, with the free use of antipyretics, has fallen somewhat in disrepute with many practitioners, although there is no doubt as to its superiority to depletion by phlebotomy and other means used by our fathers in the profession, statistics showing a much lower death-rate to-day than under that treatment; still the death-rate is high, and almost every physician can call to mind instances of seemingly simple cases of pneumonia that have resulted fatally from heart-failure or some other suddenly appearing complication. This has caused the profession to make research for some more satisfactory mode of treatment, and has led some to the opposite extreme to that of blood-letting, namely, the employment of heart-tonics and stimulants to the exclusion of all other remedial measures.

The latter method has proved a success according to the reports of some, and a decided failure with others. My experience with the digitalis treatment has been somewhat unsatisfactory, and I think we have a resource in a drug far superior to it, and one that has been used to some extent for many years, viz., ammonium carbonate. That, with the use of aconite in sthenic cases during the first stage, and antipyretics when absolutely needed, employing alcoholic stimulants in asthenic cases after the crisis, or before if demanded, has been with me a very satisfactory line of treatment in cases that looked almost hopeless. In the first stage of pneumonia we find one or more lobes of lung affected in a state of congestion, the capillaries filled, exudation of fibrous elements of the blood in the air-vesicles taking place, pulse rapid, and arterial tension high, temperature increasing, and a general nervous excitability following the initiatory chill.

Now while opium will quiet the patient and relieve the pain, if pain be present, it will also arrest all secretions except that of the skin, raise the arterial tension, and after a brief period of stimulation act as a respiratory depressant, and further mask many of the symptoms, so that the physician does not readily see the real condition of the patient, or the advancement of the disease.

Digitalis, if given at this stage, will increase the force of the heart's action (which at this stage is contra-indicated), raise the arterial tension, act as an excito-motor to the nervous system, and cause gastric disturbance; while it is true it will lower the temperature, if given in large doses, it does so by lessening the blood supply to the tissues, producing headache and an irregularity of the heart's action.

Ammonium carbonate given during the first stage will lower the arterial tension, increase the breathing capacity, thereby assisting to properly oxygenate the blood; prevent coagulation of the fibrous elements of the blood, thus antagonizing hepatization; act as a stimulating expectorant, relieving the air-vesicles of the exudated material, and when given in connection with small doses of aconite, counteract the depressing effect of that drug on the heart.

In treating a case of acute lobar pneumonia seen during the first stage, get a free action of the bowels by calomel or salines, the former being preferable except in sthenic patients; apply either the hot-pack, poultice of flax seed meal, or cotton-batting jacket covered with oiled silk to the chest, and give ammonium carbonate in five-grain doses every two hours, also tincture of aconite one-fourth milligramme every half hour, discontinuing the aconite when free diaphoresis occurs, and its effect is seen on the pulse. Should the temperature exceed 103° F., give acetanalid in doses sufficient to keep it below that, or

℞. Antikamnia,
Quinine sulphate..... .....āā ʒj.

M.: Divide in twenty capsules. Give one capsule every four hours.

This will reduce the temperature, relieve the pain, and quiet the nervous excitability. Many cases treated in this way from initiatory chill will not go on to hepatization.

After the crisis continue the ammonium carbonate, in connection with small doses of ipecac to promote expectoration, and give quinine sulphate in tonic doses, with alcoholic stimulants in asthenic patients, and whenever the condition of the patient demands.

This treatment, if faithfully carried out, with nutriment given in the form of milk every three hours, and the patient allowed to take plenty of pure water to promote free action of the kidneys, under favorable sanitary surroundings will, I am confident, result in as low a rate of mortality as any method of treatment known to the profession to-day.

THE TREATMENT OF INFLUENZA.

By WILLIAM HENRY THAYER, M.D.,

BERKSHIRE, MASS.

As I am out of town, out of practice, and no longer see the MEDICAL RECORD, I do not know whether the treatment of influenza which some of us in Brooklyn employed with marked success in the epidemics of 1891 and 1892 has been adopted at all generally. It was treated as we should treat diphtheria, with bichloride of mercury, adopted on the ground of its being a powerful germicide. I treated all my cases in that way, and with excellent results. In severe attacks it was given in doses of one-thirtieth of a grain every half-hour, at the outset, for several hours, and continued at longer intervals afterward. The effect was always good on the prime disease and the convalescence, usually so tedious, and in lessening the frequency of secondary affections.

If this treatment is not already used generally, I wish you would call attention to it in the MEDICAL RECORD.

A SPLINT FOR THE TREATMENT OF ORDINARY FRACTURE OF THE LEG OR ANKLE.

By WILLIAM MEACHER, M.D.,

PORTAGE, WIS.

I WISH to call attention to this splint, as being very simple and efficacious, and particularly adapted to the treatment of ordinary fracture of the leg and ankle. Of course, a fracture near the knee requires a splint which extends more or less on to the thigh.

A fracture of the leg or ankle is easily dressed with this splint, and when applied it has all the advantages of a plaster-of-Paris cast without its disadvantages. When applied, the patient is not compelled to lie on his back, but may lie on either side, and may get about on crutches quite as soon as with a plaster cast, the limb being quite as secure in this splint as in a cast. It is light, being made of perforated sheet zinc, the same material of which the Levis splints are made.

A very important part of this splint is the foot piece (made the same as the foot piece of the Levis double inclined plane). It holds the foot perfectly, so that the fracture is not disturbed by any crank-like motion of the foot and lower fragment. It also protects the toes from the contact and weight of the bed clothing. Another very important feature is, that the splint encircles, or comes around, the limb sufficiently to hold it perfectly secure when bandaged. With this splint it is very easy to examine the fracture at any time, simply by removing the bandage, the patient lying on his back for the time, and the limb lying in the splint. If you wish to examine the side of the limb, the side of the splint may easily be bent or sprung out and away from the limb sufficiently to examine it fully, without disturbing the fracture.

If it is desirable to make pressure on any part of the limb, make a compress of cotton or flannel, and if the pressure is required at the side, put the compress in be-

tween the limb and the splint; if on the anterior portion, lay the compress on where it is required. then by extra turns of bandage over the compress make as much or as little pressure as you choose. A flannel bandage should be used.

In applying it to a compound fracture, an opening for the escape of discharges may readily be made if necessary in any part of the splint with a pair of strong shears.

The advantages claimed for this splint, namely, the foot piece, the covering of so much of the limb, the flexibility, making it so easy to examine the fracture, its lightness and strength when bandaged to the limb, the facility with which it is applied, etc., will, I believe, be appreciated by anyone who uses the splint. I speak from my own experience, having used it for more than fifteen years.

It is made and sold by Charles Truax Green & Co., of Chicago; price, $2.50.

THE TREATMENT OF CHOLERA.

By H. ROSAHNSKY, M.D.,

NEW YORK.

THE following preparation has been used by me with great success in the beginning of cholera where there is profuse vomiting and diarrhœa. The same preparation has been highly recommended by Professor Botkin, of Russia, and it is very extensively used by the Russian physicians. This preparation goes under the name of Guttæ Botkina.

℞. Tr. chinæ comp.,
Anodyn. Hoffmani.....āā 15.0
Acid mur. dil..... 2.5
Ol. menthæ pip..... 0.3
Chinini muriatici..... 2.0

M. Sig.: Twenty drops three or four times a day during cholera.

In cholera infantum I use this preparation in divided doses and a larger proportion, according to the age, or in the following manner, which gives excellent results.

℞. Acid mur. dil..... 2.0
Liquor anod. Hoffmani..... 6.0
Bismuth salicyl..... 6.0
Acid carbol. (C. P.)..... 0.12
Glycerin..... 12.0
Aqu. menthæ pip.....ad 60.0

M. Sig.: A teaspoonful every hour, according to age.

For choleraic diarrhœa, the following preparation is also good:

℞. Tr. opii..... 4.0
Essentiæ menthæ,
Liquor anod. Hoffmani.....āā 8.0

M. Sig.: Twenty drops four or five times a day.

The Canarsie Board of Health.—Dr. William S. Tromer, health officer of Canarsie, writes us in terms of severe arraignment of the Board of Health of that place. He calls attention to the fact that outside of the cities of New York, Brooklyn, Buffalo, Albany, and Yonkers, all the towns in the State have health boards composed of the supervisor, town clerk, four justices of the peace, and a citizen member. He very rightly declares that while these gentlemen may be eminent in their respective callings, they have no special fitness as guardians of the public health. In fact, holding elective offices, they are willing to grant licenses for all sorts of public nuisances, lest their opposition to the latter might interfere with their political prospects. Dr. Tromer points out several flagrant abuses of this kind which have been allowed to continue in Canarsie. His remedy is legislation which shall transfer the power now entrusted to the local health boards of towns to the State Board, with health officers as State officials, whose expenses are to be paid out of the State treasury, and not from the town. He proposes that the whole State should be districted, and the officer of each section made responsible for its public hygiene.

Progress of Medical Science.

Non-parasitic Liver Cysts.—Dr. W. Müller has observed a liver cyst so large as to give clinical symptoms, and which was very probably in genetic relation with the gall duct system. The author has operated upon such a cyst, which filled almost the entire abdominal and pelvic cavities, and simulated an ovarian tumor. The patient, a cachectic woman, aged fifty-nine, had observed the tumor for some ten years. Only during the last year had she suffered serious annoyance from the growth, though for five years it had been a source of discomfort. She complained of frequent micturition, sometimes with retention, pain in the back, abdominal cramps, and attacks of weakness. Finally, she became very weak, from, what was later discovered, hemorrhage into the cyst. At the operation it was discovered for the first time that the tumor had its origin in the liver. A thick pedicle attached the tumor to the lower and front surface of the organ. Otherwise the surface of the liver presented a normal appearance. On account of the very weak condition of the patient, a radical operation was not undertaken. The cyst was widely incised and six litres of chocolate colored fluid, with much fluid and coagulated blood of various ages, was liberated. From two-thirds to three-fourths of this was evacuated. The remaining tumor was fixed with the pedicle into the abdominal wound. The bleeding was very profuse, and controlled by the cautery and iodoform gauze. The patient recovered. The wound was healed in four months. The part of the cyst lying outside of the wound was partially uncovered; the rest was cut away. One and one half year later the patient was well and without recurrence. Müller is of the opinion that this case, as has been repeatedly observed in animal and human pathology, is one of cystadenoma of the gall-ducts—a benign tumor.—*Annals of Surgery.*

Injudicious Nasal Operations.—In opening the discussion on this subject at the late Pan-American Congress, Dr. Hobbs, among other things, said: "If our friends, the gynecologists, have their nymphomaniacs, I think we too may have our rhinomaniacs. We have a class (and it is a rapidly increasing class) of patients who consult us with the avowed purpose, to use their own language, 'of having their noses burned out.' In some respects these two classes are analogous, in that the neurotic factor is often present also in our rhinomaniacs, as it is always present in nymphomaniacs. My point is that we may, without much exaggeration, lay the blame of the injudicious, or at least the unnecessary, operation, when we make it under such circumstances, upon the patient himself, unless we place it upon a higher plane, and refuse in all such cases even the pretence of an operation, as a placebo, or for its moral effect, when its necessity is not indicated. While judicious and properly executed rhinal operations have done, and are doing, an immense amount of good, for this very reason the temptation is increased in many instances to do operations that were better not to have been done, particularly by the younger men just making their *entrée* into this special line of work. They are loath to allow an opportunity to pass to saw a septum, to drill an exostosis, or to cauterize a turbinate. The mere suggestion of a septum spur, or a bony protuberance, or an enlarged turbinate, is too often deemed a sufficient reason for a surgical procedure, even though no subjective or objective symptoms may exist. When we are reminded of the large area of nasal mucous membrane, its functions should at once be suggested. The nasal space was intended to breathe through, and only secondarily to serve as an olfactory organ. As this great expansion of mucous surface, twice that of the so-called throat, is intended to perform the important functions of moistening and warming the inspired air, the necessity of its preservation should never be lost sight of. Hence any nasal operation made without reference to the

mucous membrane preservation is not only injudicious but harmful, provided the nature of the case does not necessitate its destruction. And again, where no operation can be made without resulting in a large cicatrix, the question may arise, would it not be better left undone? In cases where chromic acid or any other escharotic would seem to be more appropriate on account of the timidity of the patient, or for any other reason, the toxic sequence should always be considered, otherwise the operation may prove to have been an injudicious one. Septum deflections, spurs, and exostoses should always be carefully measured before any operative procedure is resorted to, else a perforation may result that would be worse than the primary condition. The drill is, in my opinion, almost always an injudicious device, for the reason that it necessarily destroys so much mucous membrane and leaves a rough cicatricial surface, although I find myself resorting to it in some cases of prominent exostoses."—*Atlanta Medical and Surgical Journal.*

Physiological and Pathological Proportions of Urea.—For some years Dr. Kache has been making observations as to the varying proportions of the total amount of urea excreted daily to the total amount of urine passed, hoping thereby to obtain relative curves which might prove to be of importance in the diagnosis and prognosis in certain diseases, especially in the specific fevers and those of malarial type. His conclusions may be summarized as follows (*The Lancet*): Apart from the well-known increase of urea in febrile conditions generally, it is impossible to formulate any particular proportion in which this increase occurs. The variations which occur do not seem to possess any practical value in the treatment of the affection. On the other hand, a comparison between the amount of urea found in the urine and the actual quantity of urine passed, presents many points of interest. If these quantities are expressed graphically in curves, in the physiological state, there is a close parallelism between the two curves, while in febrile conditions, of whatever type, the urine curve during the period of fever is always lower than that of the urea, while at the period of crisis and during convalescence the curves are very different. In patients suffering from fever of a non-infectious type the urine curve is inferior to the urea during the febrile period, mounts up as the temperature falls, and gradually assumes the physiological condition. In patients suffering from yellow fever the urine curve remains constantly below that of the urea, and even several days after all fever has subsided. In those forms of febrile attacks so frequently met with in the tropics, characterized by suddenness of onset, acute gastric symptoms, profuse sweats, and usually rapid recovery, the urine curve is lower than the urea while the temperature is high, rises above it for two or three days after defervescence has occurred, and then continues to rise for another four or five days, departing more and more from the normal course; thus exhibiting in all such cases a very considerable difference between the two curves, partly on account of the relatively large quantity of urine passed, and partly on account of the relatively small amount of urea secreted. From these facts it will be seen that there is a marked difference between this type of fever, which Dr. Kache terms "telluric," and yellow fever in regard to the relative proportions of urine and urea; which confirms the opinion generally held that yellow fever should not be regarded as of malarial origin.

The Fever of Phthisis in Relation to Prognosis.—Dr. Strümpell emphasizes the importance of recognizing the particular type of fever present in cases of pulmonary tuberculosis. He says that if one is to arrive at a correct appreciation of any particular case, special attention must be paid to the question of prognosis, a question in which the physical condition of the lungs plays but a subordinate part. On this point there are other far more important factors to be considered, such as hereditary taint, the general and constitutional necessities of the patient, among the latter of which Professor Strümpell considers chronic alcoholism to be the most unfavorable; the pace at which the disease has hitherto progressed; and finally the fever. As to the cause of the fever, Strümpell is of opinion that, except in miliary cases, it is not to be ascribed to the tuberculosis, but to secondary inflammatory processes, set up by the invasion of pus and other cocci. In a number of cases there is, as everyone knows, no fever at all. The patients feel well, their lung trouble being stationary or making but minimal advances. Should, however, fever set in, its type is of the greatest importance for establishing a prognosis. Strümpel classifies the various forms of fever in phthisis as follows: 1. *Status subfebrilis;* here the morning temperature is normal, the evening, 100.4° to 101.3° F. In such cases the disease makes but slow progress, and amelioration may be expected by improving the general condition of the patient. 2. *Febris hectica intermittens.* With this type of fever (morning nearly normal, evening, 101.3° to 104° F.) the disease is steadily advancing, though in such cases a feeling of good health may be maintained for a considerable time. 3. *Febris remittens* (morning, 100 4° to 101.3° F., evening, 103.1° F.). This type is far more unfavorable, as it points to the presence of lobular inflammation. 4. *Febris continua.* Except in miliary tuberculosis, this form of fever is found almost exclusively in cases of phthisis which start with acute symptoms, though it may be found interpolated for several days in cases in which the fever otherwise runs a remittent or irregular course. In either case the prognosis is unfavorable. The last remark is equally true of Strümpell's fifth fever type, that totally irregular form which is observed throughout the whole illness in many cases, though only in the last stage in others. That exceptions to the above rules will be found goes without saying, but it is none the less a significant fact, that in nearly all cases of phthisis in which pyrexia is present, the fever invariably assumes the form of one, and only one, of the types in question. Any change which may take place is brought about by the presence of complications, and it is frequently observed that the fever, set up by intercurrent diseases, lasts on after they have subsided, thereby showing that they have instilled renewed vigor into the phthisical process. Granted that the fever forms a most important indication in prognosis, it follows that it must also be the standard by which antiphthisica must be tested, for it is only by their effect on the fever that a just estimate of their value can be arrived at. On these grounds Strümpell rejected both tuberculin and creosote in the treatment of phthisis; the former he considers to be absolutely injurious, having frequently seen apyretic converted into febrile forms by injections of Koch's specific.—*Muenchener medizinische Wochenschrift.*

Anæmias of Tuberculosis and Carcinosis.—At the Berlin Medical Society Dr. Growitz recently brought forward this subject. He said that the anæmias of both diseases differed very considerably, not only as regarded the two diseases, but in different cases of the same disease. In examining the blood specially, he had taken from one and a half to two grains of blood by puncture with a hollow needle from a superficial vein in the forearm (*Medical Press*). Drawn in this way there was no admixture of lymph. The determination of the dry residue was made in vacuo over sulphuric acid. The medium average value found in patients whose blood condition was not far from the normal, was 21.5 per cent., for the serum 10.7 per cent. He had performed exact analysis in thirty-two cases of tuberculosis, which, as regarded degree of severity of the disease, might be divided into three groups. In the first might be included those cases that were in the first stage of the disease, had slight dulness in the apex, and slight expectoration, with paleness. These cases showed marked anæmia with diminution of red corpuscles, of dried residue, and of blood-serum. The second group comprised cases in which the lung disease had already made considerable progress. These

patients had cavities, were a good deal emaciated, had no particular fever, and were free from complications. This large group showed considerable differences from the last, the red blood corpuscles were normal in quantity, the specific gravity was also normal. The condition appeared paradoxical as the cases were advanced in cachexy. The third group comprised those cases which had been attacked with hectic fever in consequence of secondary infection from the cavities. Here there was a diminution of all the values of the blood, which steadily gets worse with the advance of the disease. The anæmia in cases of acute secondary processes in the lung was very remarkable. In laryngeal tuberculosis, however, associated with stenosis, there was thickening of the blood. As regarded the thickening of the blood in the second group of cases, it was certainly not due to sweating. He would, however, refer to the observations of Gärtner and Römer, of Vienna, who found that tuberculine had a lymph driving action, causing a surplus of blood in the vessels, and in consequence a thickening of the blood. He had sought to ascertain whether the tuberculous products of the lungs had a similar action. On experimenting with a rabbit he found that the specific gravity of the blood, which before the injection of the tuberculous products was 1.040, rose in thirty minutes to 1.049. The dry residue rose from 17.06 to 18.8 per cent. He thought his observations served to explain the paradox of the second group of cases. As regarded the condition in carcinoma they were much more simple. His observations, made on thirteen cases of cancer, agreed with those of other observers. In carcinomatous cases with cachexia all the values of the blood were diminished, and it was only under certain circumstances, in which this body was poor in water, that the blood was thickened. He thought the condition was explained by a separation of certain toxic substances from the cancerous growth which exerted a destructive influence on the protoplasma, and thereby causing an impoverishment of the blood of its solid constituents. He had prepared an extract from a fresh piece of carcinoma that, in the course of several experiments, always had the effect mentioned of impoverishing the protoplasm of the blood.

Simplicity in the Treatment of Nasal Obstructions.—Dr. Spitzer advocates simple measures in the treatment of nasal obstructions. In cases of hypertrophic rhinitis he prefers weak reagents, such as iodine and iodide of potassium, to the ordinary astringents. In severe cases associated with induration he recommends chromic and trichloracetic acid preceded by the application of cocaine. In this method only small tracts should be taken in hand at each sitting. The galvanic cautery is also applicable with the same precautions. After such treatment he closes the orifice with a cotton wool plug, which is retained for twenty-four hours, and otherwise enjoins rest of the nose. Among foreign bodies he mentions the occurrence of large quantities of fly larvæ which must be removed with a hook. Adenoids he separates from their attachments by means of Gottstein's circular knife, and he considers the removal with the finger insufficient. He condemns the modern anxiety to operate on the nose with saws, chisels, etc., which should be resorted to only when absolute necessity exists, owing to the frequently occurring sinus, thromboses, and meningitis. He also points out the inadvisability of general anæsthesia in such cases, and the insufficiency of the local effects of cocaine. All major operations are to be avoided when simpler means suffice.—*Centralblatt für Therapie.*

Rest in Chlorosis and Heart Disease.—Two papers on the utility of rest, one by Dr. Frederick Taylor on its use in chlorotic anæmia, the other by Dr. Lauder Brunton on its importance in cases of cardiac failure, have recently been published. Dr. Taylor draws attention to the rapidity with which improvement shows itself in cases taken into hospital, where almost as a matter of routine they are put to bed and kept there, compared with the tedious progress of cases among out patients, who endeavor all the time to carry on their work, or even among private patients who may have every advantage of food and fresh air, but who, by the very exercise they are encouraged to take, expend more than they gain, and thus fail to recover. Where income is not equal to expenditure, no doubt the pleasantest way of making them balance is by increasing the income; unfortunately it too often happens that the only possible way is by diminishing the expenditure, and in many cases of chlorotic anæmia, in which the varied forms of iron and aperients have failed to give relief, it will be found that the addition of complete rest in bed for a few weeks will make the difference, initiating an improved nutrition which can then be maintained by ordinary treatment, besides saving the heart from that risk of dilatation to which effort during anæmia always exposes it. In Dr. Brunton's remarks there is a great deal which is worthy of most careful consideration by those who have to arrange the daily life of cardiac cases. The first point is that rest is not required because of cardiac disease, but because of cardiac failure. A typical instance is given of a healthy-looking man, accustomed to hunting and fresh air, in whom a rasping *bruit* was discovered. "What," said the doctor, "would you do if I were to cut off your hunting?" "I should shut myself up in a billiard room and drink whiskey and water, and then I should get ill," was the response. In cutting off a man's exercise one always ought to consider what is the alternative, and to bear in mind how important is the muscular work for the maintenance of health. To deprive a man of exercise may, in fact, only initiate a series of degenerative changes which may make the work of the heart far heavier than before; whenever, then, it becomes necessary to order any serious limitation of muscular work a careful dietetic *régime* should be laid down at the same time to prevent the occurrence of such evil consequences, and, so far as they can be obtained, passive substitutes for exercise, such as massage, should be ordered. The second point to which attention is drawn is, that when in cases of cardiac failure it becomes necessary to order rest, care should be taken that it is obtained in such degree as not merely to take off the edge of the patient's discomfort, but to get well over the difficulty, and to restore the proper balance between power and work. When there is dropsy and orthopnœa, with rapid breathing, it is not always recognized that the very utmost rest the patient can obtain is still a state of labor; muscles are at work to maintain the body in its position, muscles are hard at work to keep up the head, and respiration is only performed with trouble and constant effort. These things are essential and must go on, but as regards all else the patient must lie absolutely torpid and allow everything to be done for him if he is to obtain the true benefit of rest; no journeyings to the water-closet, no efforts to pull pillows about, no attempts to feed himself must be allowed; absolute passiveness must be the rule; and Dr. Brunton points out that many patients who, under an imperfect kind of rest, have been steadily failing, may by rest absolute, by feeding with a diuretic substance such as milk, and by careful massage, be brought back to a state of comfort and comparative health from a condition in which death seemed only a few days off.—*The British Medical Journal.*

The Influence of Surgery on Modern Obstetrics.—Dr. Opie, of Baltimore, says that from the earliest times there has always been a close relation between midwifery and surgery. The department of midwifery was entirely in the hands of women, and it was only when the lying-in woman was in a desperate condition that male assistance, generally of a more or less directly surgical nature, was called in. The invention of the midwifery forceps in the seventeenth century marked an epoch in the history of obstetrics, and at the same time enormously increased the number of cases in which the use of instruments—that is to say, assistance of a surgical nature—was indicated. The field of obstetric surgery has similarly been widened

in our own time by the success of the modern Cæsarean section and of modern symphyseotomy, a success largely due to strict adherence to antiseptic principles. Dr. Opie recognizes three periods in tracing the relation between obstetrics and surgery. The first was the destructive epoch, when craniotomy was the chief operation for which instrumental assistance was employed; the second was the reactionary period, when the pendulum swung too far in the other direction and obstetric surgery was almost obsolete; and the third period was marked by the introduction of the forceps. We may, perhaps, be allowed to add a fourth period, which may be called "the antiseptic period," being characterized not only by the greatly increased success of the old operations when performed in accordance with antiseptic principles, but also by the increased safety with which a woman may pass through a normal labor if those principles are faithfully and intelligently adhered to (*The Lancet*). Just as the surgeon has to consider and provide for the absolute cleanliness of himself, his patient, his instruments, and his assistants, so in a case of labor, as Dr. Opie very rightly insists, it ought to be the first practical consideration to secure the absolute cleanliness of all those concerned in the case, as well as of all instruments and appliances. The need for asepsis concerns the monthly nurse nearly, if not quite, as much as the obstetrician. We observe one reason here given for the fact that so many nurses fail in their appreciation of the importance of antisepsis which is often lost sight of. It is that it often happens that a particular nurse works with many practitioners whose methods may vary widely. Some—we trust a vanishing minority—ignore the use of antiseptics altogether; some, again, use one antiseptic, others, another; some use antiseptic douches after delivery, while others do not. It is not to be wondered at that an imperfectly educated woman under these circumstances should at times be led to conclude that the whole business is only so much fuss and worry, and may be safely disregarded in the spirit, if not in the letter. Much of Dr. Opie's paper is taken up with the precautions to be taken and rules to be observed in the application of the forceps, and especially he gives a note of warning against the use of the forceps when the cervix is not fully or at least sufficiently dilated—a fertile source of serious danger both immediately, as well as during the lying in period and afterward. As Dr. Opie says, "It is a great gift in an obstetrician to be able to wait and do nothing. The obstetrician who is inappreciative of nature's power and ingenuity, and will not give her time in labor, has great need for the surgeon and the undertaker."

Psychical Sequela of Gastric Dilatation.—Dr. Devay has instituted a number of observations with regard to the influence of gastric dilatation on the nervous system. He believes that in those predisposed to mental alienation, dilatation may directly cause insanity, and that in the previously insane it is apt to modify the form of mental disease. Just as the septic uterus, after an accouchement, may poison the entire system, and superinduce puerperal insanity, so the dilated stomach may produce a toxic condition with a strong tendency to melancholia. Bayle and Maury have already pointed out the relation existing between gastro-enteric disease and some forms of melancholia, but they interpreted the latter as a sympathetic phenomenon. It rested with Dr. Devay to demonstrate the process to be one of genuine intoxication. He explains the manner in which dilatation of the stomach produces its psychical effects as follows: The activity of the gastric juice being markedly diminished in a dilated stomach, bacterial fermentation is set up, the toxic products of which profoundly affect the central nervous system, calling forth phenomena of either a depressive or convulsive nature. Drs. Bauveret and Devic have shown how changes of character were wrought by dyspeptic troubles, and how in the predisposed the latter may prove the stepping-stone to mental alienation. Individuals afflicted with gastric dilatation present a state of mental depression manifested by premature weakening of all intellectual faculties, as of memory, concentration, will-power, judgment, and of receptivity for moral impressions. The influence exerted by gastric dilatation in the insane is also well illustrated by the modification which the pre-existing form of insanity undergoes when by dilatation of the digestive function the mental disease readily lapses into its previous form. Dr. Devay recommends in all of these cases the institution of an active gastric and intestinal treatment. The asepsis of the alimentary tract should be insured with all means at our command. A free evacuation of the bowels is to be induced regularly. If feasible, the stomach is to be subjected to frequent lavage with a 0.50 per cent. naphthol solution, while internally preparations of naphthol combined with magnesia are to be administered.—*Journal de Médecine et de Chirurgie.*

The Pathological Aspect of Electric Lighting.—The Paris correspondent of the *Lancet* writes that at a recent meeting of the Academy of Medicine, M. Lancereaux exhibited the lungs of a polisher of carbon terminals for the electric arc-light, the said organ being transformed into veritable blocks of carbon, and large vomicæ being also discovered. The deceased was, up to the age of thirty-six years, a vigorous stone-mason. He was then transferred to a workshop eight metres long by seven broad, where, with eight other men, he was engaged in polishing on stone mills charcoal for electric lighting purposes. The shop was so badly ventilated that sometimes the men could not distinguish each other through the charcoal and stone dust filling the atmosphere. The man continued to work thus for six years, each day's work extending to ten or twelve hours. For a year before he ceased work altogether, he had coughed and expectorated black sputa. He was admitted into hospital in the winter of 1890–91 for bronchitis after influenza, and he was then expectorating black sputa in large quantities, in which particles of carbon could easily be distinguished under the microscope and by chemical tests (resistance to strong acids). In 1892, he was re-admitted in an emaciated condition, and bacilli could be detected in the black sputa secreted by the numerous cavities. M. Lancereaux very truly says that every new industry that springs up is worthy of the physician's notice, in that new dangers to health may thus be created. He claims for the modern class of toilers better ventilated workshops. Strange to say, he does not suggest the employment of respirators as well.

Nitrate of Aconitine in Facial Erysipelas.—Dr. Tison has used this remedy since 1888, in every case of facial erysipelas which has come under his treatment. The results have been highly satisfactory. Pain and other symptoms have been rapidly subdued, save in two instances, and in neither of these could the complications which arose be due to the treatment. Although nitrate of aconitine is highly poisonous, if used as suggested by the author, the danger of untoward symptoms is very slight. The alkaloid is dissolved in a mixture of glycerine, alcohol, and distilled water, the mixture having the same specific gravity as water, and containing one milligram in fifty minims. Only two to four milligrams are required in any one case. The method of procedure is as follows: According to the condition of the stomach, either an emetic or a purgative is administered, immediately after which nitrate of aconitine is given in a mixture containing one milligram for the twenty hours' dosage. The affected part is painted with a saturated ethereal solution of camphor, which acts as an excellent sedative. When all signs of inflammation have subsided, the part is washed with a solution of lysol.—*La Semaine Médicale.*

The Cinnamic Acid Treatment of Tuberculosis is said to be even more effective than that by creosote and guiacol.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street.

New York, February 3, 1894.

THE INCOME TAX AND MEDICAL MEN.

THERE are a great many physicians, we regret to say, to whom the question of a two per cent. tax on all incomes above $4,000, will not be of much interest. But there is a very considerable number whose yearly earnings reach or exceed this sum. We are safe in saying that in all cities of 10,000 inhabitants or more, there are physicians who earn more than the above minimum; and the proposed direct tax upon their savings, together with the publication of their financial standing, ought to awaken among them very decided emotions.

For there is no doubt that such a tax as is proposed will act with particular severity upon medical men. The reason is that the physician who earns much has always to spend much, and, as a rule, has as small a yearly balance when he earns $10.000, as when he earned $2,000. The country physician in a small town who earns two or three thousand dollars, is often able to save something, and at the end of twenty years is generally the possessor of house, land, and perhaps other property. But in small and large cities, the expense of living grows with practice, and the difficulty of saving does not lessen as years go by. Hence he can no more afford to pay a direct tax than his apparently less prosperous brother.

The income tax is, therefore, peculiarly unjust and oppressive to the medical profession. There is a large number of physicians, also, whose incomes range about four thousand dollars, or a little over. We trust that these gentlemen, in making out their statements for the benefit of the tax-collector, will pray for a pure heart and honest mathematics in estimating their income. When the stroke of a pen will save $80, it will require a truly Christian spirit not to make it. But even with the most honest purpose it is often difficult for the physician to say whether his income will be $3,500, or $4,500, owing to the uncertainty of payments. It would seem more just, if there must be an income tax, to let everyone pay his share. There is something a little unfair in taxing the $4,100 income and not that of $3,900.

Uræmic Coma.—Lavage of the stomach with pure water will often rouse the patient from the milder degrees of this serious condition.

Chloride of Calcium. in doses of four grains, is said to be very effective in the treatment of pneumonia.

THE NEW APPLICATION OF TUBERCULIN.

WE have already alluded to the extensive condemnation of fine herds of cattle, in this and other States, on the ground that they were tuberculous. The introduction of the tuberculin test has quite revolutionized the methods of veterinary inspectors, and led to some most surprising developments regarding the prevalence of tuberculosis. The inspector now attacks a herd with a bottle of tuberculin, and speedily finds that even the healthiest animals are apparently infected. If we may believe the reports, there is hardly a single large dairy herd in the State in which some diseased animal cannot be found. We understand that, as a rule, the tuberculin test is considered a very certain one, and that in England it has been proved correct in at least ninety per cent. of cases.

The only conclusion to be reached is that there is very little milk furnished for city consumption which does not come in some part from tuberculous cows. It must be assumed that butter and cheese are made from the same kind of fluid. Of course most of the cows who are infected have but small isolated foci of disease, and their milk is practically safe. Nevertheless, the entire elimination of tuberculosis from the cattle which supply us with dairy products, is an end most devoutly to be wished. And the public money cannot be better spent than in accomplishing this object.

TROUBLE IN A MEDICAL BOARD.

WE referred last week to the fact that the Medical Board of the Almshouse and Workhouse on Blackwell's Island had, after some futile attempts to secure reforms, applied to the Health Board for an investigation. The Health Board declined to act, and the Board of Charities and Corrections became very indignant at the alleged discourtesy of the Medical Board. The result has been the following letter from the Secretary of the Commission of Charities and Correction to Dr. Charles M. Bruce, President of the Medical Board: "SIR: I am directed by this Board to request that you will call a special meeting of your Medical Board for the purpose of expressing to us your opinion of the conduct of Dr. Le Boutillier in addressing a communication to the Board of Health requesting that Board to make certain investigations, and failing in his efforts, appealing to the press, a like action being heretofore unknown on the part of any physician connected with the department, and which is considered by this Board as an act of great discourtesy, and which shows on the part of Dr. Le Boutillier an animus rather than a desire to correct abuses.

"The action of Dr. Le Boutillier has placed him in such a position of antagonism to this Board, and his usefulness is so much impaired that his further connection with the department is not desired."

The Medical Board's side of the controversy is presented in the statement of a physician who is said by the *Evening Post* to be informed of the situation.

This physician says: "The report as drawn up for presentation to the Mayor comprises little if anything more than is contained in earlier reports to the Commission made by several committees. That of the Food Committee, of which Dr. Biggs is Chairman, was drawn on for facts, and the results of the inquiries of the Investigation

Committee furnish the rest. It is an old subject and well known to the Commissioners of Charities and Correction. It is familiar to physicians in other institutions, such as the hospitals, and this is only the first outbreak of several such Medical Boards helplessly conscious of such deficiencies.

"The whole trouble lies in this Tammany economy. If President Porter had asked for the funds he needed, he would now be in a position to let the complaint go to the Mayor. As it is, he was admonished to keep his demands down, and he did so by following the same principle that guided the Mayor in cutting down Porter's and everybody else's estimate. He sacrificed the more obscure needs of the more obscure institutions, and deviated from this rule only according to the influence with him of the heads of those institutions."

The Medical Board, at its meeting on January 29th, is reported to have sustained the general attitude taken by the Committee on Inspection.

The trouble will no doubt prove useful in securing the reforms desired, though it is unfortunate that such things cannot be done without friction and publicity.

MALPRACTICE, WITH REFERENCE TO THE LEGAL AND MEDICAL PROFESSIONS.

In a recent address before the Society of Medical Jurisprudence this subject was discussed in a convincing way by Judge McAdam of the Superior Court. He points out the common relation in many ways of the two professions to the community at large. As he says, they, in a certain sense, "live on the errors, indiscretions, frailties, and follies of the rest of the community," but there is the same implied obligation in both. Both doctors and lawyers claim possession of the ordinary qualifications of their respective professions, and are consequently bound to render at least ordinary service to their patrons.

Malpractice, Judge McAdam defines as bad or unskilful practice in a physician, or other professional person, whereby injury is caused, and is subdivided into wilful, negligent, and ignorant.

Wilful takes place when the physician purposely administers medicines or performs an operation which he knows and expects will result in damage or death to the individual under his care, as in the case of criminal abortion.

Negligent malpractice comprehends those cases where there is no criminal or dishonest object, and includes gross negligence of that attention which the situation of the patient requires.

Ignorant malpractice is the administration of treatment calculated to do injury, and which does harm, and that which a scientific medical man would know was not proper.

Malpractice can only be affirmed where the physician has set aside established principles, and neglected to employ means which are universally held to be necessary in the given case.

The various decisions which have been rendered have established certain precedents which have come to possess the authority almost of statute law. Thus, if a defendant has acted honestly, using his best skill, and has not thrust himself in the place of a competent person, it makes no difference whether he was at the time a regular physician or surgeon, or not. To constitute guilt, gross ignorance or negligence must be proved. Express malice or an intent to commit a personal or social wrong always makes the practitioner criminally responsible, etc.

It is hard to determine just what constitutes reasonable and ordinary medical skill. The conditions calling for the exercise thereof vary within the widest possible limits. Moreover, a patient's caprices may interfere with the best intentions of his attendant. Furthermore, "ordinary" skill is that exercised by the average members of the profession. The law discriminates also between rural and metropolitan practitioners. "One practising in a small town or sparsely settled country is not expected to exercise the skill and care of one residing in, and having the opportunities afforded by, a large city." This implied inferiority of the country practitioner is a legal estimate, and not that of the Medical Record, which believes that the average country practitioner is fully able to hold himself up along with his urban brother.

A mere failure to cure raises no presumption as to lack of skill. The law does not expect the physician to guarantee a cure. Errors of judgment, unless so gross as to be inconsistent with ordinary skill, impose no liability. It is different with errors of diagnosis, yet here the courts have decided that the rule of compensation "applies as well to the ascertainment of the patient's disease as to its treatment, and the fact that the physician erred as to the disease and treated the patient for one he did not have will not defeat the physician of compensation."

The decision is placed on the broad ground that every branch of medicine is not capable of assured and exact determination in practice, and that where the practitioner of customary skill cannot, with proper diligence, distinguish the nature of the disease, he is not at fault; that the physician is not a guarantor of diagnosis in cases where there is no absolute certainty in results."

We have alluded to only a few of the many interesting points which are touched upon in Judge McAdam's address. It is comprehensive and yet concise. The numerous references to legal decisions bearing upon the matters discussed render it a valuable reference paper for anyone who desires to pursue the subject further. The entire address may well be read with great profit by every practitioner.

THE MEDICAL TREATMENT OF THE PHYSICIAN BY THE PHYSICIAN.

The question has been recently discussed as to whether medical men should charge their professional brethren for services rendered. *Gaillard's Medical Journal* asserts peremptorily that "Such a course of conduct is wholly damnable. There is no member of the medical profession, however humble his position in life may seem to be, who may not some time have it in his power to make adequate return for medical services rendered to himself or to his family, either to him who has rendered them or to some one dear to him." In other words, don't charge because some day you will in some way receive your *quid pro quo*.

We should say that our esteemed contemporary's views are neither very elevated nor very sound. We know of a number of physicians who can hardly be considered "damnable," but who insist on paying for services rendered, and who accept fees in return. The old way has a

delightful sentiment in its support, but does it work well? Ask any doctor who has been seriously ill, and who has, by the grace of God, got well while under the care of half a-dozen of his good-natured *confrères*. The doctor, when sick, is often in a desperate strait, since many wish to help him, while few care to take the exclusive responsibility. We have heard of a well-known physician in this city who wanted a careful examination and a candid diagnosis of his somewhat obscure ailment. After getting a number of easy diagnoses, friendly opinions, and off-hand prescriptions, he went to another city, took his turn in the waiting-room, paid his fee, and got what he desired.

The question at issue is not one to be settled by a fixed rule or by sentiment alone. In most cases, undoubtedly, medical services should be rendered freely, and so they are; for doctors are generous and kindly men, but sometimes the ailing physician is able and anxious to pay, and sometimes the time and labor required by the medical service are so great that it is an imposition on the medical brother, and one that cannot be settled by the presentation of a picture-book or a paper-cutter on Christmas. For our part, we do not recommend or advise that doctors should charge their colleagues for treatment; but we do advise the doctor who is ill to pay if he can, whenever his illness calls for a serious amount of work and attention.

"DOC.," THE CORNER DRUGGIST.

WHETHER it is because of the financial stringency through which we are passing, or whether other influences are being felt, there appears just now to be a decided increase in the amount of medical knowledge demanded and furnished in the drug store. This does not apply alone to the smaller stores in crowded districts, nor to the druggist in the country, where often "Doc" has a well earned diploma to back up his possession of the title, and his right to prescribe as well as to dispense.

Considering the pleasant business and social relationship habitually maintained between doctor and druggist in this city, it is the more to be regretted that duty requires us to make a vigorous protest against what appears to be a growing tendency on the part of some apothecaries, even in the best portions of this city, to usurp the prerogatives of the properly qualified medical adviser. The physician can have no better friend and ally than the honest dispenser of his prescribed remedies, and by reason of the security and satisfaction he has in the belief that pure drugs, accurately weighed and skilfully combined, will be delivered on his written order, he feels that he is indebted to the extent of a certain amount of moral and financial support.

The appreciation, on the physician's part, of this conscientious co operation may be shown in many ways, and the prosperity of this or that pharmacy can often be clearly traced to practitioners who have given it their support and commendation. When dishonesty enters the druggist's door, enmity must replace the doctor's friendliness.

Acting the part of the physician is one form of dishonesty, and a bad one. The druggist without a medical diploma has no more right to heal the sick than any other irregular or quack. Perhaps it is because we have done so much to rid the city of the latter undesirable class that the druggist finds his field of would-be usefulness increasing.

The habit of calling upon "Doc" for advice in "slight ailments" gradually leads to weighty trans-counter consultations and examinations in the back-room, to say nothing of the minor surgery practised, and indeed urinary analysis made in some accommodating shops. When the financial loss to the physician from all this is taken into consideration, together with the injustice done him in having his successful prescriptions passed along for the benefit of "similarly affected," and the injurious results arising from the unauthorized refilling of prescriptions, one must needs wonder that no decided stand in self-defence has been taken. To be sure, the increasing use of tablets has dealt the druggist, as well as the homœopathist, a staggering blow, and in some instances the doctor's office has been stocked with remedies in convenient form from motives of self-protection. Whatever falling off there may have been in the prescription department from this growing custom, which is much a matter of individual taste and expediency, it in nowise excuses the apothecary for turning doctor unless he does it in the good old way, in which event we will welcome him with encircling arms. Just as in the dispensary question, it is against the abuse, and not against the institution, that weapons must be taken up. The pharmacy is a necessity, the honest pharmacist a blessing. Let us hope that moral suasion will be the only weapon needed to bring "Doc. the prescriber" back where he belongs, in the ranks of a most honorable army.

THE INDICATIONS FOR BLEEDING.

SIR BENJAMIN WARD RICHARDSON is rather fond of bleeding, and in his *Æsclepiad* he has published several articles describing his experiences and his successes. In the last issue of this journal he tries to indicate the moment for bleeding; and the conclusions to which he arrives are these: One may bleed—

a. In acute spasmodic seizures, as in spasm of croup, in colic, and in angina with symptoms of oppression from distention of the right side of the heart with blood.

b. In acute pain, membranous or spasmodic, as in sudden pleuritic or peritoneal pain, or in pain from passage of a calculus, hepatic or renal.

c. In acute congestions of vascular organs, as of the lungs or brain, apoplexies.

d. In cases of sudden shock or strain, as after a fall or a blow, sunstroke or lightning shock.

e. In some exceptional cases of hemorrhage of an acute kind unattended by pyrexia.

This, it seems to us, makes rather a poor showing for venesection. It means practically that bleeding is only needed in uræmic convulsions and sanguineous apoplexy, for in most of the other conditions morphine or some heart stimulant would answer as well, if not better.

The fact is, bleeding has gone forever from ordinary therapeutics. This is not because it is useless but because modern science has devised better things as substitutes. Bleeding was legitimate and effective in its day, and would be useful now if our materia medica had not been so enlarged. We have given it up, not because of a change of fashion, but because we have outgrown it.

News of the Week.

To be Examined After Seven Years of Service.—Dr. Adler Blumer, who was appointed Superintendent of the State Lunatic Asylum in Utica, on December 29, 1886, in place of Dr. Gray, deceased, has been notified to appear before the Civil Service Commission for a non-competitive examination to show his fitness for the place. Governor Flower, who has approved of this action is reported to have said :

"In 1886 Dr. Blumer was appointed Superintendent at the Utica State Hospital. The State Civil Service Commission was notified of the appointment at the time and asked to take the necessary action in the matter. Nothing was, however, done on the part of the Commission. In 1886 the office of Superintendent was in the non-competitive schedule. In 1888 it was placed on the competitive schedule; therefore Dr. Blumer should be allowed to take a non-competitive examination, the same as he would have taken in 1886, had the State Civil Service Commission carried out the law."

If the position taken by the Governor is the correct one, every medical or other officer holding a State appointment under the old law is liable to receive the same treatment. Dr. Blumer has held his present position acceptably and without previous protest since 1886. Thus he has been acknowledged as entitled, officially and otherwise, to the position for seven years before the Civil Service Commission calls him to account. These are curious facts which every State officer should thoughtfully consider, especially if he be a medical superintendent of a State asylum, and opposed to the Lunacy Commission's doings.

There is no doubt that Dr. Blumer can pass any fair examination, but the principle of the thing, viewed particularly at this time and under present circumstances, is not beyond suggestive comment and honest criticism.

A Hospital While You Wait.—The Metropolitan Asylums Board of London recently had a hospital built in nine weeks, with wards all complete, beds for 400 patients, every hygienic and sanitary appliance, corridors, kitchens, and consulting-rooms. This hot haste was to enable the authorities to cope with the ever-increasing number of fever cases that were crowding in upon them. Accommodation, apart from that for the 400 patients aforesaid, is provided for 40 "charge" nurses, 50 assistant nurses, and 76 female servants.

Hysteria and Marriage.—The belief is as old as Hippocrates that hysteria is cured by marriage. But Dr. Wythe Cook (*American Journal of Obstetrics*, December, 1893) finds from his experience that in most cases of dysmenorrhœa and hysteria among single women marriage aggravates the disease. Hysteria is by no means cured by marriage, dysmenorrhœa often returns after pregnancy.

Abuse of Hospitals in Paris.—In view of certain gross cases of abuse of the benefits of hospitals by well to do persons which have recently come to light, the Paris Municipal Council has appointed a committee of fifteen of its members to inquire into the organization of the Assistance Publique. The committee is instructed to devise some means of preventing the abuse of medical charities by persons able to pay for advice.

The Tenth Annual Meeting of the Fifth District Branch of the New York State Medical Association will be held in Brooklyn on Tuesday, May 22, 1894.

The Harvard Medical Society of New York City.—At the meeting, held on January 27th, the following officers were elected for 1894: *President*, Reynold W. Wilcox, M.D.; *Vice President*, Royal Whitman, M.D.; *Secretary* and *Treasurer*, Dillon Brown, M.D.; *Executive Committee*, J. Winters Brannan, M.D., Frank H. Daniels, M.D., and Howard Lilienthal, M.D.

Death of Dr. Eugene Tiesler.—At a meeting of the State Board of Medical Examiners, held at Trenton, N. J., Monday, January 22, 1894, the following was offered and unanimously adopted: "The members of the State Board of Medical Examiners of New Jersey desire to express their profound sorrow for the death of their associate, Dr. Eugene Tiesler, which occurred at Frankfort, Germany, January 19, 1894. They will ever cherish a kindly remembrance of his uniform courtesy and high sense of honor, his usefulness and conscientious fidelity to duty. They tender to his family their sympathy, and inscribe on the minutes of the Board this tribute of respect to his memory."

Death of Dr. Frank D. Beane.—Dr. Frank D. Beane, of this city, died on January 6, 1894, of remittent fever, after two weeks' illness, at Lake Worth, Fla., in his forty-third year. Dr. Beane was fitted by studious habits, a fondness for scientific work, and special predilection for the profession he had adopted. His health, never robust, was undermined by the arduous duties of general practice, and of late years he had paid special attention to diseases of the eye and ear, in which he had attained a reputation that permitted his passing the winter season in the South, and promised a future of greater leisure and assured longevity. He had many sterling traits of character which endeared him to those with whom he was associated, and by whom his early demise is greatly deplored. An exemplary life was closed with no fear of death in the confident hope of immortality.

The State Board of Medical Examiners.—It is announced that Governor Pattison has selected from the membership list of the State Medical Society the following gentlemen as members of the Pennsylvania State Board of Medical Examiners, representing the regular medical profession: H. G. McCormick, of Williamsport, for three years; Henry Beates, Jr., of Philadelphia, for three years: W. J. R. Kline, of Greensburg, for three years: A. R. Hulsizer, of Philadelphia, for two years; N. S. Foster, of Pittsburg, for two years: J. E. Silliman, of Erie, for one year; and Samuel W. Latta, of Philadelphia, for one year. The President of this Board, together with the Presidents of a Board of Homœopathists and a Board of Eclectics, the Lieutenant Governor, the Attorney-General, the Secretary of Internal Affairs, and the President of the State Board of Health, constitute a Medical Council, to which will be submitted the questions proposed to be asked applicants for license to practise medicine in the State of Pennsylvania: and from these the Council will select the questions to be asked, except in the departments of materia medica, therapeutics, and practice of medicine. The Council will meet twice a year and supervise the examinations of the State Boards, and issue to the successful applicants licenses to

practise medicine and surgery. The first meeting of the Examining Boards will be held on the first Tuesday of April.

A National Bureau of Health.—If present indications lead aright, the long-deferred organization of a National Bureau of Health will soon be a reality. The people seem to have awakened to the necessities of the case, and prompt action may be expected. The proposed measure has received the indorsement of nearly every medical society in the country, and has encountered no real antagonism, and large numbers of petitions have been presented in its favor. The only fear is that the legislation may be pushed aside by other less important matters. It is to be hoped, however, that the agitation will be kept up until the bill that is now before both houses of Congress has been finally passed. It is believed that the President, the Secretary of the Treasury, and administration officials generally, are favorably disposed toward the bill. The President, in his annual message to Congress, strongly recommended additional safeguards for the public health such as are proposed by this measure.—*Medical News.*

A Four Year Course at the National Medical College.—At a meeting of the Faculty of the Medical Department of Columbian University, of Washington, D. C., held on April 11, 1893, it was unanimously agreed to make a four year course of study necessary before graduation. This measure went into operation at the beginning of the present session of 1893–94. Each of the four courses covers seven months of lectures.

The Husband's Liability for the Wife's Medical Expenses.—The Supreme Court of California recently ruled that where the husband is liable for his wife's support, the wife's estate cannot be charged for medical services, medicines, and nursing which he secured for her in her last sickness, but that he alone is liable for them.

The Brooklyn Health Commissioner's Office.—It is announced that the new commissioner, Dr. Z. Taylor Emery, has appointed Dr. Richard M. Wyckoff deputy commissioner, Dr. George E. West secretary, and Mr. Alexander H. Van Cott counsel.

The Greatest Consultation in History.—The veracious daily press states that the mother-in-law of the Mikado of Japan has recently been ill. She was attended by 423 physicians, but in spite of that has pulled through. The 423 medical men hadn't much to say as to the cause of the lady's illness, but a Buddhist priest of ingenious mind declared that it was owing to the introduction of railroads. His logic was simple. Before there were railroads, she was well. After there were railroads, she was ill. What could be more clear than the conclusion he drew?

Literary Notes.—The late Dr. Samuel Guttmann is succeeded in the editorship of the *Deutsche medicinische Wochenschrift* by Professor A. Eulenburg and Dr. Julius Schwalbe. Professor Landouzy is the Editor in Chief of the *Presse Médicale*, the most recent addition to the already formidable list of medical journals published in Paris. Among his collaborators are MM. Brun, H. Roger, Letulle, Lermoyez, and de Lavarennes. A monthly journal devoted to hydrotherapy, electropathy, and mechanical treatment, will shortly be published by Seitz and Schauer, of Munich. The editor is Dr. A. Krüche, who will have the advantage of the active collaboration of Professor Eulenburg, of Berlin, Professor Rosenbach, of Breslau, Dr. Barwinski, of Elgersburg, and a number of well-known hydrotherapeutists. The *Psychological Review* is the title of a new quarterly published in this city by Macmillan & Co., and edited by Professor J. Mark Baldwin (Princeton) and J. McKeen Cattell (Columbia).

A Statue to Charcot.—A committee has been formed for erecting a statue to M. Charcot. MM. Brouardel, Pasteur, and Gréard are presidents. M. Masson, 120 Boulevard St. Germain, is treasurer. The General Council of the Seine has given $100.

The Cincinnati Obstetrical Society, at its regular annual meeting, held at the residence of Dr. R. B. Hall, elected the following officers for the ensuing year: *President,* Dr. T. P. White; *Vice-President,* Dr. R. B. Hall; *Secretary,* Dr. E. S. McKee; *Corresponding Secretary,* Dr. W. D. Porter; *Treasurer,* Dr. G. E. Jones. The Society resolved to meet the first and fourth Thursdays in each month instead of monthly as formerly. Steps were also taken to secure a permanent place of meeting instead of meeting at the residences of members as formerly. The past year has been a very valuable one to the Society.

Lunacy Administration in America.—We had occasion some months ago to indicate, with a force of language which subsequent events have justified, the iniquitous and cruel policy of the Lunacy Commission of the State of New York. It is a question of men and motives, and the average citizen needs no expert evidence to guide him in getting to the bottom of the matter. The facts are plain business facts, that may be called jury facts, and if the average intelligence of the State of New York is not competent to come to a sound jury decision on the matter we are much mistaken. It seems incredible that in this *fin-de-siècle* age the State of New York, of all places on earth, should be completely at the mercy of three men in respect of its lunacy administration. One can scarcely conceive it possible that these three Commissioners have legally vested authority to control the commissariat of the eight State hospitals for the insane directly from head-quarters; that the managing boards of these hospitals may submit schedules of requirements to the Central Board, but cannot contract for or order supplies for their own asylums. These institutions have been hampered and harassed in their work by the pettifogging practices of the Lunacy Commission. In one asylum the patients were deprived of oatmeal for a month because of failure to specify the particular brand desired, though quality and price were mentioned. Striking requests for nails, timber, lime, and bricks had stopped necessary repairs. In another case the complaint is, "We have gone weeks without tea, and then got permission to buy two pounds," etc. A conference of Asylum Managers and Superintendents at New York revealed these and other delinquencies of the Lunacy Commission. Numerous instances were given of the positive hardships suffered by the insane in the New York State Asylums, and to cut off the supply of tobacco is but one of many illustrations of the scandalous excisions perpetrated by the red-tape machinery of the head-quarters at Albany.—*Medical Press and Circular.*

Society Reports.

BIOLOGICAL SOCIETY OF PARIS.

Experimental Production of Gastric Ulcer.—Drs. Hallion and Enriquez presented at the last meeting the results of their researches on the experimental production of gastric ulcer. They found that when pure cultures or the toxine of the diphtheritic microbe was injected subcutaneously, that death followed in from three to fifteen days, and in post-mortem examination the gastric mucous membrane was found covered with ecchymoses. The submucous coat of the stomach presented considerable congestion beneath where the ecchymoses appear in the mucous membrane itself.

Toxicity of Blood-serum.—Drs. Leclainche and Remond presented a note on the toxicity of the blood-serum, mentioning particularly that the toxicity varies for different animals according to their species; for instance, the serum of the dog is very toxic to the rabbit, the serum of the horse is very slightly so. The serum of anæmic dogs is less toxic than when the blood is rich.

Structure of Sympathetic Ganglia.—Ramon y Cajal presented the following conclusions on the structure of the sympathetic ganglia: 1. The visceral ganglia are constituted by the multipolar cells, the expansions of which, after many ramifications, pass into the plexus which terminates in muscular fibre or glandular cells. 2. All ganglia possess fibres of prolongation which continue perhaps with the fibres of the grand sympathetic, and likewise collaterals, which terminate in nerve cells. 3. Chiasma represent not alone a point of inter crossing, but also a point of bifurcation for the nerve-fibre prolongations, and for the expansion of visceral ganglionic cells. 4. There exists no anastomosis between the cells of the visceral ganglion, or between prolongation fibres, nor between the collaterals. The same probably holds for the interstitial cells.

A New Streptococcus.—MM. Doleris and Bourges presented notes on a new streptococcus, occurring in chain form and found in the pus of a pelvic abscess. This organism does not liquefy gelatine or change bouillon. It is inoffensive when injected into the rabbit. It is thus analogous to the coccus recently described by Marot.

The Pathogenesis of Scarlatina.—M. Ricochon made some observations on the pathogenesis of scarlatina. He related first a case of irregular scarlatina which desquamated on the sixth day. At the time of the appearance of the eruption the patient developed a painful sore on the leg, which became the point of departure of a suppurative lymphangitis. Two months later he succumbed. A woman came to visit this patient twelve days after the advent of his illness. She contracted an erysipelas of the face, which ran an ordinary course. Nine days after, her husband, who had a local abrasion on the finger, had an attack of adenitis axillaris suppurativa. A few days after a newly confined woman came to the village where these patients resided and was taken with scarlatina. In the meantime a debilitated young man who visited the first patient, suffered an attack of lymphangitis from which he recovered, and a second friend, who came to visit him from an adjoining village, had an attack of erysipelas with hepatic complications and albuminuria.

M. Ricochon thinks these facts presumptive evidence in favor of the identity of the poison in these different affections.

THERAPEUTIC SOCIETY OF PARIS.

Intoxication from Salicylate of Soda.—Dr. Huchard cited a case where the administration of salicylate of soda in one of his patients was followed by the phenomena of intoxication. The solution was old, probably concentrated.

ACADEMY OF MEDICINE OF PARIS.

Dyspepsia and Constipation.—Germain Sée considers that most of the conditions treated as dyspepsia, dilatation of the stomach, etc., are really sluggish conditions of the enteric mucous membrane due to constipation. He insists on the mechanical *rôle* of this constipation in causing hemorrhoids, hernias, vesico-uterine tumors, hypertrophy of prostate, etc. He recommends that the constipation be overcome without purgatives, but that simple laxatives like senna, hydrastis canadensis, castor-oil or large doses of olive oil be used. To relieve the pain attending these conditions of the mucous membrane of the intestine, he recommends:

℞. Calcium brom.,
Calcium chlorid. ..... āā 50 gm.
Aquæ. ..... 500 gm.
Sig.: Dessertspoonful in twice its quantity of water at meal-times.

For particularly acute crises of pain, he uses:

℞. Menthol. ..... 10 gm.
Spts. vin. rect. ..... q.s.
Aquæ des. ..... 180 gm.
Sig.: Teaspoonful as indicated.

To combat fermentation and tympanism, he recommends phosphate of soda ℈ ij. to ℈ iij., salicylic acid, gm. iij. to vi., and borax. To combat auto-intoxication, he regulates the diet.

MEDICAL SOCIETY OF THE HOSPITALS (PARIS).

The Pathogenesis of Floating Kidney.—Dr. Le Gendre points out the following etiological factors in the pathogenesis of floating kidney: 1. It exists almost always in females. 2. It is exceptional in children. 3. It rarely shows itself in young girls before adolescence. 4. It is most frequent in females who have been pregnant. 5. It frequently coincides with atonic gastro intestinal dyspepsia and dilatation of the stomach. 6. It exists most frequently associated with lax abdominal walls, due to any cause. The corset probably has something to do with its frequent occurrence in women, and he recommends that children who present symptoms of nervousness and atony of the gastro-intestinal canal, should be made to wear specially constructed corsets which will not constrict the base of the thorax.

Non-exudative Tubercular Peritonitis.—M. Demailer reported a case of non-exudative tuberculous peritonitis treated by laparotomy. The patient presented the symptoms of peritonitis with diarrhœa. On opening the abdomen the parietal portion of the peritoneum was found adherent to the visceral portion, the intestines were matted together, and innumerable granular surfaces studded the peritoneum. Drainage-tube was introduced, and the cavity washed with a boric-acid solution. Twelve days after the operation the patient was quite well. This amelioration persisted for a month. Then the bad symptoms reappeared concomitantly with a fecal fistula, and the patient died of inanition and exhaustion two months after the operation. He remarks that the non-exudative peritonitis, contrary to the exudative forms, should be looked on as non-operable.

Aphasia and Pneumonia.—Chantemesse has seen transitory aphasia of an ataxic type occur during the course of pneumonia. It shows itself on the second or third day of the disease, either suddenly and without loss of consciousness, or preceded by vertigo, headache, and paræsthesia of the right side of the face and right upper extremity. Accompanying it in every case was paresis of the right facial nerve and some weakness of the right upper extremity. The course and termination of the pneumonia is seemingly not influenced by the presence of the aphasia. The duration of the aphasia is from one hour to four or five days. The facial paresis lasts about the same time, but the arm is slower in recovery. The cause of the aphasia is probably the action of the toxine

of the pneumococcus on the central nervous system or on the contractility of the blood-vessels.

M. Nicati spoke of a new treatment for glaucoma by means of sclero iridotomy. To his mind the cause of glaucoma is the retention of the aqueous humor. The only efficacious treatment is sclero-iridotomy, permitting the escape of the aqueous humor. In spontaneous glaucoma perforation of the iris is absolutely necessary. In secondary glaucoma simple sclerotomy suffices.

PATHOLOGICAL SOCIETY OF LONDON.

Myo-carcinoma of Uterus.—Dr. Dickinson showed a specimen of a tumor of the uterus, which appeared to have begun as an ordinary fibro-myoma, but latterly to have assumed a character which could only be described as malignant or sarcomatous. The patient was a single woman, aged forty-eight, who had noticed its growth for twelve months. The tumor, about the size of a melon, situated in the anterior wall of the uterus, caused death by exhausting discharge and pressure. Externally it resembled a fibroid, both ocularly and with the microscope; centrally it was soft and yellow. The soft part had broken into the cervical canal and through the back of the uterus into the peritoneal cavity, forming a sprouting hemorrhagic growth, which on microscopical examination was seen to consist of short spindle-cells with enormous nuclei. Between the fibroid part and the sprouting part the cells showed in a state of transition between the two extremes.

Mr. A. Doran remarked that he had seen many cases where a myoma became clinically malignant, setting up ascites and killing the patient without growing very large.

Sacculated Hypertrophied Bladder.—Mr. F. C. Wallis showed a specimen of sacculated hypertrophied bladder which had ruptured through a saccule into the portæ vesicæ, and thus produced all the symptoms of a distended bladder, the escaped urine being extra-peritoneal.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, January 18, 1894.

D. B. St. John Roosa, M.D., President, in the Chair.

Bureau for Nurses.—Dr. Landon Carter Gray, President of the newly appointed Committee on Bureau for Nurses, stated the purposes for which the bureau had been established, the manner in which it was proposed to carry out the work, and asked for an appropriation the first year of $500, a room in the Academy building, and permission to put in a telephone. The plan had been in successful operation in Philadelphia, Brooklyn, and Boston, and the income had exceeded the expenses in those cities by a considerable sum; the same could be expected in New York City after the first year. The Committee had inquired into the workings of the system in the cities referred to, and it was proposed to have a superintendent in a room in the Academy; nurses were to be recommended by physicians; they were to be assessed $2 a year; when the services of one were requested the patient was to pay to the bureau $2, and from this income it was expected to meet the running expenses. On motion the Committee's request was granted. The President of the Academy said he anticipated great increase of usefulness of the Academy from this step.

Observations on Excessive Intestinal Putrefaction.—Dr. C. A. Herter read a paper on this subject. Not long since, he said, attention had been called to excessive intestinal putrefaction in epileptics, and observations were then made which went to show that sometimes in epilepsy the appearance of such excessive putrefaction determined the epileptic seizure. The character of the observations, which had been continued by the author, related, 1, to the evidence of the existence of putrefactive processes in the intestine; 2, the clinical conditions in which putrefaction occurred in excess; 3, the principles which entered into the management of cases where excessive putrefaction was present.

In the first part of the paper the author reviewed the evidence pointing to the fact that the presence of ethereal sulphates in the urine was due to putrefactive changes in the proteid substances in the intestine, and the amount of such sulphates was indicative of the extent of the putrefactive process. The only source of error was in the fact that certain drugs, as salol, would give rise to ethereal sulphates, and their presence might also be determined by an undrained abscess in the body. As a rule, however, these sources of error could be excluded in any given case.

The most important of the ethereal sulphates was what had been called indican, which colored the urine indigo-blue when treated with hydrochloric acid. The quantity of indigo blue consistent with health was believed to be very small. Even moderate amounts were likely to be associated with digestive disorders and might properly be regarded as abnormal. If the quantity of indigo-blue was greater than five milligrammes in twenty-four hours, which amount would yield a distinct reaction by the Jaffé test, it might be regarded as pathological, and, as a rule, due to putrefaction of proteids in the intestine. The possible relation of certain bacteria to the intestinal putrefaction was only alluded to in the paper.

The symptoms ordinarily referred to intestinal indigestion might be grouped under two heads—local symptoms due to direct effect upon the bowel and its function, and remote symptoms due to absorption of intoxicants, etc. Of the local symptoms, the most important was flatulence. With it was associated abdominal pain. In his observations it was usually in relation to the amount of indican in the urine, yet indican was often present when there was no flatulence. In one class of cases the indican disappeared with control of flatulence, in another it did not. A change of diet to a form of nitrogenous, which was little likely to undergo putrefaction, was frequently attended by disappearance of the indican from the urine. In some cases, however, this effect was not observed.

Among the remote symptoms of intestinal putrefaction were malaise, lassitude, aversion to exercise, involuntary muscular twitching, especially in the back, flushing of the face, cold and moist extremities, irregular and habitually rapid heart, perhaps attacks of tachycardia, drowsiness during the day, hypochondria, impaired appetite, loss of weight, etc. Most of these symptoms were those of neurasthenia. It was not yet clear what was the cause of the remote symptoms.

The author had studied intestinal putrefaction in forty cases of epilepsy, eight of acute melancholia, and eight of chronic Bright's disease. In the cases of epilepsy about two-thirds of those of grand mal showed distinct evidences of excessive intestinal putrefaction, and in a few there seemed to be a direct relationship between this and the seizures, and in some the seizures were checked by controlling the intestinal putrefaction. Six of the eight cases of Bright's disease showed a marked increase in the ethereal sulphates. In some cases of simple anæmia there was increase of the ethereal sulphates, in some there was not. In two cases of Basedow's disease the sulphates and indican were largely increased, the same of three cases of urticaria and in catarrhal jaundice.

Treatment of Excessive Intestinal Putrefaction.—The object of treatment was not to check all intestinal putrefaction and to render the intestine free from bacteria, but rather to limit the changes within normal bounds as indicated by the condition of the urine. Limitation of the amount of putrefaction might be undertaken with reasonable hope of success. The methods were by drugs and hygienic measures, especially diet. The drugs which first suggested themselves were those supposed to restrict the growth of bacteria in the intestine, the so-called intestinal antiseptics; but there was

not much to be said in their favor, either *a priori* or after clinical experience. Their effect upon the urine, however, had been studied, and it had been found that some of them, as resorcin and salol, were eliminated as ethereal substances in the urine, so that their value could not be tested in this way. Many of the symptoms of pain and flatulence were often relieved by large doses of salol. Both hydronaphthol and beta-naphthol appeared to have no effect in checking the ethereal sulphates in the urine when administered in doses which could be well borne. Salicylate of soda, fifteen grains three times a day, might be safely recommended as a valuable intestinal antiseptic. In some patients it tended to bring the ethereal sulphates down to the normal. If reduced to below ten grains it seemed to be of little service, and many people could not take more. There was conflicting evidence as to the effect of calomel on the ethereal sulphates, but probably it had no effect in intestinal putrefaction except as a cathartic.

Regarding Diet.—A given amount of nitrogenous food in the form of milk and meat was more easily digested than the same amount in oatmeal, beans, peas, and a mixed diet. The easiest way to reduce the ethereal sulphates when in excess was to put the patient on a diet of which milk was the chief or exclusive constituent. The evil effects of physical over-fatigue on digestion should be borne in mind, also that of sexual excitement and masturbation.

Regarding the treatment of epilepsy based on a knowledge of intestinal putrefaction, it must be admitted that the results had not been very encouraging, especially in well-established cases. In infants the symptoms sometimes disappeared for months, sometimes as long as the patient had remained under observation. In all recent cases of epilepsy, in children especially, attention should be paid to the intestines.

The following conclusions were reached: 1. An excess of the ethereal sulphates in the urine is evidence of excessive putrefaction of the proteids in the intestine. There are two exceptions to this statement: *a*, In the case of suppuration without free drainage; *b*, where certain drugs, as creosote and salol, have been administered. 2. The indigo-blue of the urine is not necessarily proportional to the total ethereal sulphates, and is to be regarded as due to a chemical formation by putrefactive change. 3. The regular occurrence of more than a trace of indigo-blue is to be regarded as pathological, although in robust persons there may be but little evidence of digestive disturbance. 4. The presence of indigo-blue in the urine of infants is no evidence of a tubercular process, as has been supposed by some. 5. Intestinal flatulence is more often associated with intestinal putrefaction than any other symptom of intestinal indigestion. 6. Both constipation and starvation may increase the putrefactive products in the urine under certain conditions. 7. Epilepsy, acute melancholia, and chronic Bright's disease are usually associated with excessive intestinal putrefaction. 8. The treatment of excessive intestinal putrefaction by means of drugs is at present unsatisfactory. 9. The use of rare beef and milk, and the exclusion as far as possible of vegetable nitrogenous food, are important means of reducing excessive intestinal putrefaction and of relieving the symptoms of intestinal indigestion. 10. The relief of the intestinal symptoms cannot be ascribed wholly to the effect of milk- or beef-diet on intestinal putrefaction. 11. The treatment of epilepsy by measures directed to the intestinal condition leads in many cases to a reduction of the number or severity of the attacks and marked improvement in the health. 12. It is possible that in children the early seizures are sometimes determined by putrefactive excess, and treatment directed thereto may improve or even cure the patient before the epileptic habit has become established.

Dr. L. C. Gray thought the author had presented a very valuable and original paper upon one of the phases of nervous troubles, which promised to throw some light upon a very obscure class of cases. Time would not permit of his giving in detail certain observations made by himself upon the urine during the past few years, but because of the bearing which they had upon certain nervous troubles he hoped to lay them before the Academy in a paper at no distant date. His studies on the urine, however, had not been limited to the indications of intestinal putrefaction, but he might state in general terms at present, that they went to confirm the conclusions reached by Dr. Herter. Regarding certain drugs, perhaps his results had been somewhat more satisfactory. Salol had relieved some severe cases; others had been relieved by a combination of salol, bicarbonate of soda, and pancreatin. In some nothing could be done to correct the intestinal putrefaction and symptoms arising therefrom until a cathartic of calomel had been administered. The most remarkable agent, on the whole, had been the subgallate of bismuth, but in some cases it failed entirely. As a rule, where there had been reason to make a diagnosis of intestinal putrefaction, the patients had been more successfully relieved by a combination of disinfection with a slight laxative, than by disinfection alone. The laxative which he usually employed was Rochelle salt. It was difficult to leave out of consideration the amount of uric acid in the urine in both functional and organic nervous diseases, and he had found, when he had studied the urine with regard to the presence of this and other factors, that when he gave an exclusively nitrogenous diet the uric acid increased, and, according to the case, certain symptoms became aggravated; whereas, if the patient were put on a vegetable diet, the indican in the urine increased, so that he found himself placed, as it were, "betwixt the devil and the deep sea."

Dr. Charles L. Dana thought Dr. Herter deserved much credit for pushing his inquiries along a line which involved so much careful and diligent research. Neurologists would do well to profit by such investigations. He had himself, for several years, borne in mind the influence of uric-acid excess and that of intestinal putrefaction in the treatment of nervous diseases. He had found that excess of indigo-blue and of uric acid were apt to go hand in hand, and were often present in epilepsy and neurasthenia in adults. In the therapeutics of intestinal putrefaction he had also met with variable results, both as to the effects on the primary condition and on the nervous affection from which the patient might be suffering. It was well known that in neurasthenia attention had been turned first to one thing, then another; at one time it was the uric-acid theory; at another, the lithæmic; at another, eye reflexes; at present, intestinal putrefaction. While a single explanation had not been found for all cases, he thought benefit was being derived from the total of our observations in these several directions. He also had obtained better results from combined laxatives and antiseptics than from the latter alone. Naphthalin had acted like magic in some cases of neurasthenia and migraine.

Restricts Meat in Epilepsy.—Dr. William H. Thomson had long thought that more light could be thrown upon the subject of functional nervous diseases by chemistry than by pathological anatomy. The striking feature of intermittency pertaining to functional nervous diseases, such as epilepsy and migraine, certainly deserved study. It was in marked contrast with what was observed in organic nervous diseases. Considering these facts, he had always felt a great interest in the question of auto infection from the alimentary canal in the functional nervous disorders. For years it had been his custom to inquire carefully into the condition of the intestinal functions in epileptics. One of the first questions which he put was, whether the patient's breath was offensive before, during, or after an attack, and in about thirty per cent. of the cases the friends had given an affirmative answer. In about forty per cent. there had been evidence of flatulence and other intestinal disturbance: in a small per cent. there had been diarrhœa. Treatment based on this knowledge had given him considerable encouragement.

His experience with intestinal antiseptics had been much like that of the previous speakers. Salol had often been useful, but in efficient doses often caused gastric disturbance, so that he had come to give it in smaller doses combined with other antiseptics. On the whole, benzoate of soda was his favorite. Bismuth had shown very marked power over intestinal putrefaction in that it was almost a sure preventive of diarrhœa when given in large doses throughout typhoid fever. If diarrhœa were already present, a calomel purge would almost uniformly stop it Regarding the diet of epileptics, he had for years been in the habit of cutting off nearly all flesh food, relying on milk for the nitrogenous element, especially in the form of matzoon or fermented milk, a moderate amount of vegetable food. Peas and beans increased albumin in the urine in chronic Bright's disease, and were apt to aggravate any renal trouble. Probably beans increased intestinal putrefaction, aggravated kidney troubles, and enhanced the dangers of convulsive nervous disorders. There was a great difference between nitrogenous food as found in milk and as found in flesh. The fact that almost all carnivorous animals died in convulsions, and that the feline tribe were peculiarly liable to fits, gave some reason for believing that a meat diet was not favorable for epileptics.

Intestinal Putrefaction in Children Due to Carbo-hydrates.—Dr. L. Emmet Holt said a great many children, three or four years of age, were brought to the clinics, who had a spare body, an immense abdomen, and who suffered from chronic constipation. Usually the history was a food composed almost exclusively of oatmeal and carbo-hydrates. The treatment almost uniformly followed was to take away most of the starchy food, and to put the patients at once upon peptonized milk and raw or rare meat. If necessary a dose of calomel was given every three or four days. Generally the constipation was pretty well controlled by the diet, particularly if the milk were not only well peptonized but contained a little more than four per cent. fat. The result was gain in weight, diminution of flatulence and in the size of the abdomen, and disappearance of a large number of nervous symptoms.

Dr. Herter closed the discussion.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, January 5, 1894.

George L. Peabody, M.D., Chairman *pro tem.*

The Caisson Disease. — Papers were read on this subject by Drs. Andrew H. Smith and W. Gilman Thompson (see pages 130 and 133).

Dr. Smith said that since writing his paper a very interesting case had entered the hospital, in which a large area of the skin was covered by a mottled eruption of a little lighter hue than that of port wine. The spots would disappear after a little gentle friction and did not return, at least not for a considerable length of time, and then in a less marked degree than before. This showed that the blood was still in the capillaries and could be moved on into the general circulation. There were some spots, however, that could not be made to disappear, showing that they were due to true ecchymosis, the blood being outside the vessels, in the tissues. A man when seen in the caisson was pale, having the appearance of tallow, the pressure driving the blood from the surface, during which time the vessels lost to a considerable degree their power to regulate their calibre, so that when pressure was removed they became over-dilated, and if the change were sudden, the blood entered the tissues and formed ecchymotic spots.

Dr. Abbe inquired whether visitors to caissons were ever affected.

Dr. Smith replied that it was exceedingly dangerous for any man who had never been in a caisson to go down and stay more than a few minutes. A student once went into one where the pressure was only two atmospheres, and had a pretty severe attack of the caisson disease after a brief sojourn.

Dr. Abbe said that when the Brooklyn Bridge was being built he went down into one of the caissons, and the sensation experienced was a very pleasant one. He suffered no evil consequence afterward.

Dr. Roosevelt inquired whether divers suffered in the same way, and Dr. Smith replied in the affirmative.

Dr. Robinson wished to know what induced men to work in these dangerous occupations. Did they know of the danger?

Dr. Smith said they knew the danger. The chief attraction was good pay for short hours. Being asked whether he had ever been in caissons, and whether he had experienced any trouble, he said he had frequently been in them, but had not stayed long at a time and had never been affected. He added that in general one or two atmospheres endured for four hours was equal to four atmospheres endured for two hours.

The President, Dr. Peabody, said that he had seen what was called caisson disease in a diver who had never been in a caisson. His symptoms were confined to the lower extremities and the bladder. The patient came under Dr. Peabody's observation in the second week, when the chief symptoms were paralysis of the bladder and loss of motion in the lower extremities, the pain having about disappeared. He remained under treatment two weeks, improved materially, and then disappeared. The patient told him that all divers were hard drinkers, and that mild attacks of his disease were very common among them. They would become doubled up with severe abdominal pains, which would disappear after they had swallowed two or three glasses of whiskey. The paralytic symptoms, however, were not very common, at least not as common as abdominal symptoms.

Dr. Peabody thought it was a great pity that there had been so few well-reported autopsies in the caisson disease. He knew of but two, in both of which lesions of distinct myelitis were found in the cord. He believed the theory of the disease which had been most accepted was that of Paul Baer, namely, the escape of nitrogen from the blood. He supposed the reason why the spinal cord suffered most was that its symptoms were more striking.

Dr. Smith made some closing remarks. He said that two autopsies at the Presbyterian Hospital revealed small but distinct air-bubbles under the epithelium of the mesentery, over quite an area. Men who began work at the time when a tunnel was first started and followed it up as it progressed, became accustomed to the increased pressure and were much less likely to be affected by the caisson disease than those who began at a later period, when the pressure was already great. This had been observed during the building of the Brooklyn Bridge and other occasions. One of the men who were sacrificed during the building of the bridge succumbed the first time he entered the shaft.

Regarding the question of the escape of air into the tissues, he had made some experiments which went to show that the amount of air which was taken up was very small, and that under ordinary conditions there was ample time during exit from the tunnel for the escape of all that air through the lungs. Paul Baer himself had found that it was necessary to apply a pressure of five atmospheres during a period of three months before he got the phenomenon referred to by Dr. Peabody, bubbles of air in the blood. Such condition never existed in any cases of the caisson disease. Then, too, it was difficult to conceive how persons could become inured to the presence of air-bubbles in the blood. It was a condition to which the system could not, by any amount of gradation, accommodate itself; whereas, accepting the theory which he had offered, one could readily understand that the blood-vessels could become accustomed to the varying degrees of pressure, when this was not so great at any one time as to destroy life or cause paralytic symptoms.

Concerning the Custom of Abusing the "Abuse of Medical Charity."—Dr. J. West Roosevelt read a brief paper bearing this title (see page 134).

Dr. Andrew H. Smith said it seemed to him that if we came down to the foundation of the matter, it would be found that the profession was to blame for the abuse of medical charity, and if they would turn around and abuse their own work they were doubly at fault. It was a common thing, he thought, to see the same individual occupying opposite positions in this matter at different periods in his life. The young man who was very anxious to get dispensary opportunities was not inclined to regard the abuse as very serious. When he got through the pupilage and began to look around for practice, he then found that it had been a very serious abuse. Until somebody could find some way to procure clinical material in sufficient quantity to meet all the demands of the profession, he did not believe that the profession itself would succeed in curing the abuse of medical charity. Of course many people received the benefits of medical charity who did not deserve them; but back of all that was the constant demand for clinical material, so that those very people were dragged, as it were, into dispensaries for the very purpose of supplying such clinical material. He would be glad if Dr. Roosevelt could suggest some way of reconciling these two opposing forces.

Against more Dispensaries.—Dr. Roosevelt thought there was one thing which could be done in a practical way, and that was for the profession to place the whole of its influence against establishing any more dispensaries of any kind, with the exception, he might add, of hospitals for the incurable and for the infectious and contagious diseases. The stand-point from which we viewed this question varied not only with the individual, but at different times with the whole profession. At the present time men were lauding the benefits of clinical opportunities and the great good which resulted to the human race from such clinical opportunities. While the teaching institutions might be quite right in giving a certain class of patients the benefits of free consultation, when they might be able to pay more or less elsewhere, he thought it would be absolutely wrong for the ordinary dispensary, not connected with any teaching institution, to do the same thing. Still it was impossible for even teaching institutions to continue indefinitely giving the benefits of free medical advice to persons who were well able to pay.

Dr. Roosevelt did not know of any definition of what constituted a fit case for the dispensary. A number of points ought to be taken into consideration: The person's financial condition, family relations, nature of the disease, etc. For instance, if Mr. Smith, who out of his wages of three dollars a day had been able to lay up a little sum, should become sick with a disease which not only disabled, but might lay him up for an indefinite length of time, should we say that he should pay over his last cent to a neighboring physician, and be reduced to absolute pauperism before he was entitled to medical charity? There might be some in the same family receiving sufficient income to enable them to pay a physician, while other members being entirely dependent were proper subjects for free treatment. To sift the subjects worthy of charity from those who were unworthy because able to pay, was a difficult task. The provident system had been tried, but was foreordained to failure. To send persons around to investigate the living condition of those applying for treatment at dispensaries would require in New York an expenditure of about three hundred thousand dollars a year.

The speaker said he had no new suggestions to make, but wished the members to remember that it was doing the profession harm to continue an indiscriminate abuse of the subject, especially in the indirect way in which it had been done. We heard laymen speak of the jealousy and impracticability of doctors, and there was some foundation for the statement as long as doctors attacked questions in what might be termed a murderous way, instead of being reasonable and consistent.

New Charities may be Justified.—Dr. Virgil P. Gibney doubted whether all physicians could accept Dr. Roosevelt's suggestion, and turn their faces absolutely and positively against the founding of new charities or new dispensaries. It should be remembered that all existing institutions had been new at one time, and all new institutions had to do a certain amount of advertising in order to get established. They had to seek the money of the public with which such institutions were supported, and until they got well under way it was but natural that they should try to make a good showing in the numbers treated by rejecting none who sought relief. It ought also to be remembered that old institutions sometimes got into routine ways, and it was good for the public, especially the dispensary public, to stir up better effort by founding new institutions. With regard to present institutions, one should not forget that the positions on the staff were all filled, and, in most cases, a large number were on the waiting list, so that when a man died or dropped out by resignation it required an immense amount of wire-pulling to get his place. Dr. Roosevelt had said that the dispensaries and hospitals were already so crowded that the doctors could not do justice to the work. Why, then, not found more dispensaries and hospitals, and let the men who were waiting have a chance to do justice to the work and the patients?

Dr. Roosevelt thought it would be better for existing dispensaries and institutions to be enlarged, and more men be added to the working staff. Let those who had money to spend on medical charity spend it upon institutions already established, and thereby save them perhaps forty per cent. of their present expenses. Regarding the young men who had no hospital or dispensary position, we had to deal with a larger question than the wants of one person or of a number of persons.

Dr. Samuel Sexton did not think Dr. Gibney's question had been fully answered. There were certainly as many men out of dispensaries as in them, and they would like to get to work, yet there was at present no possible opportunity. He saw no reason why they should not get together, establish an institution, and push themselves forward as others had done before. No one in a hospital would get out and let others in. Then let the others make a place for themselves.

Dr. Roosevelt thought we should not approve of a method because it might make things easy for some individuals. He objected to the public doing anything in the name of charity when it was for the benefit of some young men.

Dr. Sexton said he thought much was done in the name of charity which was nothing but a matter of business.

Dr. Peabody thought Dr. Roosevelt's proposition was a true one, viz., that it was no function of a dispensary to do anything except to give gratuitous medical aid to people who could not afford to pay for it. It had no right to establish itself as a protector of doctors; if incidentally it taught doctors, that was another matter, but it was not the function of a dispensary to protect doctors or do anything except treat the sick poor. Personally, however, he thought it was about impossible to say who were the poor among those who came to one and said they were poor. After all, one had to take their word: no amount of investigation would solve the problem.

Dr. W. G. Thompson thought the question not a very clear one. By increasing institutions we were actually pauperizing the people. He did not know that we could at present do better than follow the suggestions of persons working among the poor. They had better opportunities than others of judging of the facts in the case. Most of them, he believed, had confirmed the general impression that medical charity had been much overdone.

Dr. Beverley Robinson thought dispensaries had done not a little harm by leading poor people to exaggerate the importance of their ailments. This came through the subdivision of labor into specialties, so that if a patient had disease of the throat he was referred to one doctor, if

of the abdomen to another, and so on. Speaking with the experience of one who had treated a certain class, he was convinced that some patients had wasted time at the dispensary which they, as poor people, could ill afford to lose. The doctor's special efforts to cure them was probably the cause of their exaggerating their ills and of placing undue reliance upon the action of drugs. The same evil prevailed in no small degree in private practice, well-to do people being compelled to lose much time visiting several specialists for different affections, when a broadly educated general practitioner could meet all the indications in the case.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

VITAL STATISTICS OF THE NAVY—DANGEROUS TRADES AND SANITARY QUESTIONS IN PARLIAMENT—MEDICAL SOCIETY OF LONDON—PERIPHERAL NEURITIS WITH ATROPHY—THYROID TREATMENT IN SKIN DISEASES—OBSTETRICAL SOCIETY—ALBUMINURIA IN PREGNANCY—RETINITIS—ECLAMPSIA AND OTHER FITS—INFLUENZA IN LONDON.

London, January 13, 1894.

The Report of the Director-General of the Medical Department of the Navy has been presented to Parliament. It is a volume of considerable interest to those who appreciate statistics, though to others it may prove rather heavy reading, for 100 pages out of the 208 consist of tabular matter. There are in addition maps illustrating various points set forth in the report. The returns as to the total force, show that the health of the Navy for the year may be regarded as satisfactory. The vital statistics of our Navy and naval hospitals, and stations at home and abroad, are in this report analyzed and presented in a condensed form.

In the House of Commons the Home Secretary has announced his intention of introducing a bill next session, dealing with long hours of work in dangerous trades, such as alkali and other chemical works. This is really the result of a committee of the House on the subject. The Government have also decided to reduce the working-day at Woolwich Arsenal to eight hours. In reference to some other departments, inquiries are said to be going on, which no doubt means that we may expect the same boon to be extended to all workmen under Government. Some are declaring that this is only a move to secure the votes of workingmen at the next election; but political gratitude to a party is rather likely to follow the example of the greedy little boy, who illustrated his by "asking for more."

Questions as to female factory inspectors, unwholesome houses in London, vaccination, lodging-houses, and contagious diseases, have also come before the House. So has the rather remarkable discovery of a quantity of human bones, estimated at about a ton, and conjectured to be the remains of persons who perished in the great plague and were hastily buried during the terror that prevailed. It was presumed, said the Home Secretary, that those who superintended the excavations would see that the remains were decently interred. At the Medical Society of London, on Monday last (January 8th) a paper was read by Mr. William Anderson, relating the case of a lad, aged fifteen, who, after a day's skating, was very much done up, and returned home. A day or two later he developed swelling and pain in the joints of the lower limbs, with a high temperature and abundant sweats. His medical attendant regarded it as rheumatic fever; but the constitutional disturbance did not subside for ten weeks, when all the joints of the lower limbs were fixed and rigid. In endeavoring to procure some mobility of the knee the stretched and inelastic skin broke down, leaving a very nasty wound. Later an abscess formed in the neighborhood of the hips, and this was followed by atrophic lesions affecting the skin and certain groups of muscles in the lower limbs. At St. Thomas's Hospital he was put under a course of massage, and in some months recovered so far as to be able to get about by the aid of a stick. He was shown at the meeting, to illustrate what is now described as "A case of Peripheral Neuritis followed by Multiple Anchylosis and Atrophic Manifestations."

Mr. Lockwood thought the symptoms were compatible with the disease having been due to some infective agent, and he experienced a difficulty in thinking that any other cause would account for such extensive suppuration as this lad had undergone. Peripheral neuritis occurs in association with various forms of septic infection, and he asked whether there had been any effusion into the joints, and also whether any albumin had been discovered in the urine, as such was usually the case in septic infection.

Mr. Anderson explained that he had dismissed the possibility of the case being due to infection, as the abscess in the thigh did not come on until ten weeks after the onset of the symptoms; the traumatic condition was limited to one side, and the muscular and cutaneous lesions did not appear until after that date. There had been effusion into the joints at the beginning, but there was none on the lad's admission to the hospital. No albumin had ever been detected in the urine subsequent to his admission, and nothing was known of the condition previously in this respect.

Dr. Abraham then gave the result of some ninety cases of various skin diseases, in which he had tried the effects of the administration of thyroid extract. Of this number there were sixty-five cases of psoriasis, the remainder being made up of cases of lichen planus, lupus, leprosy, eczema, etc. Unfortunately the value of his results is impaired by the fact that, in most of the cases, the patients were making use of some other treatment at the same time; but Dr. Abraham arrived at the following conclusions: 1. That the ingestion of thyroid extract has no constant effect in psoriasis and other skin affections. 2. That the results are often negative, and in a few instances the disease is even aggravated. 3. That in a small number a markedly curative effect was produced. 4. That there are no indications of the class of cases likely to be benefited thereby. 5. That severe constitutional effects are often produced. 6. That age and sex do not influence the effects of treatment, successful or otherwise. Mr. W. Anderson referred to a typical and severe case of eczema in a man, aged thirty-five, of thirty years' standing, in which not only did no good result follow, but his last condition was worse than the first, though when the external application of tarry preparations was substituted the patient promptly and rapidly improved.

Dr. Hingston Fox pointed out that the gland itself varies considerably, not only in size, but probably also in physiological activity. Moreover, the gland undergoes periodical changes in woman, and probably also in animals; and as we know nothing of such changes, we must expect discrepancies of observation until the active principle of the thyroid is separated.

The serious significance of albuminuria during pregnancy is a source of anxiety to many practitioners. It is generally accepted that some cases may do well, although it is difficult to distinguish them from others which are of the gravest import. The prognosis is, therefore, fraught with uncertainty and apprehension.

Dr. Herman, President of the Obstetrical Society, related six more cases at the last meeting, and compared them with eleven others which he had communicated on former occasions. He said there were evidently two forms of renal disease to which pregnant women are liable. One is very acute, with few if any premonitory symptoms, diminished quantity of urine, and that small quantity deficient in urea, but containing enough albumin to solidify on boiling. The fits in such cases recur rapidly, and unless the excretion of urea is restored, death soon ensues; but if the secretion of urine increases and contains more urea, the fits may cease and the patient

recover. The other form is chronic, the premonitory symptoms occupying weeks or months. There is increased secretion of urine, with much loss of albumin, but not so much in proportion to the liquid as in the acute form. There is diminution of urea, but not to the extent found in acute cases. Delivery is followed by increased elimination, and when this is considerable the albumin diminishes and the patient gets well; but if it is only slight, the case becomes one of chronic Bright's disease. The most grave symptom is retinitis. In the acute disease with eclampsia, and in the chronic cases when there is intra-abdominal pressure, much of the albumin is paraglobulin. When it is chiefly serum-albumin, the patients either die or pass into chronic Bright's disease. Dr. A. Routh differed from the author as to paraglobulin, which he found in the lighter rather than the graver cases. Dr. Duncan referred to two cases in which there was albuminuric retinitis, promptly relieved on emptying the uterus, and he insisted that this was the proper treatment as soon as retinitis set in. Dr. Horrocks could not recollect any case of recovery from albuminuric retinitis, and said that the fits that occurred during pregnancy or labor, apart from albuminuria, were of a different kind, and usually were amenable to bromides. In his reply, Dr. Herman commented on the great differences observed in the renal affections during pregnancy from those in other circumstances. None determine fits within so short a time from the onset as those associated with pregnancy, and the rapidity with which the gravest symptoms subside on emptying the uterus is most remarkable. After death from puerperal eclampsia, marked renal mischief is often conspicuously absent. He not only agreed with Dr. Duncan that labor should be induced as soon as the retinitis set in, but would even induce it in every case of severe albuminuria, in order to lessen the liability to chronic kidney disease. He held that the term eclampsia ought to be used only for albuminuric cases; others might be distinguished as "fits without albuminuria."

Influenza is declining rather rapidly. Last week the deaths registered, in London, from this disease were 87, as against 164, 147, and 108 for the three weeks preceding. The disease this time is of a milder type, but it shows a tendency to attack the larynx and nares, and some cases have simulated whooping-cough from the paroxysms of cough arising from the irritation of the larynx. In some of the cases, too, the onset is remarkably sudden. I have met with some who declare they felt seized in a moment, as, for instance, in crossing a street, with a severe feeling of illness, when the instant before they felt in perfect health.

TURKEY AND PTOMAÏNE.

To the Editor of the Medical Record.

Sir: In your edition of January 6, 1894, I find an article by Dr. H. H. Seelye, of Amherst, Mass., in which he describes a case that occurred in his practice; in this case fifteen people that had partaken of turkey were taken sick, under symptoms which led the doctor to believe that they were suffering from atropia poisoning.

I feel it my duty to draw the attention of your readers and the author to the fact that, far from being a unique case, it was a mistaken diagnosis; the patients did not suffer from atropia poisoning, but from ptomaïne poisoning.

To prove my statement I may be permitted to quote, Berger: "Maladies des Yeux dans leurs rapports avec la pathologie générale;" Paris, 1892, page 392. "Déjà, en 1869, Zulzer et Sonnenstein ont montré que les réactions dues aux produits toxiques de la putréfaction sont analogues à celles de l'atropine; l'empoisonnement qu'ils déterminent a pour résultat de dilater la pupille et d'accélérer le pouls. . . . Des troubles oculaires se manifestent généralement de très bonne heure dans l'empoisonnement par les ptomaïnes: on voit survenir la dilatation des pupilles et la paralysie du muscle de l'accommodation. . . . On prétend aussi avoir observé des troubles oculaires produits par une action locale des ptomaïnes."

Translation:

"Already in 1869 Zulzer and Sonnenstein have proven that the symptoms caused by toxic products of putrefaction are similar to those caused by atropine; the poisoning which they cause effects a dilatation of the pupil and quickens the pulse. . . . In ptomaïne poisoning, eye troubles show themselves generally very soon; dilatation of the pupil and paralysis of accommodation is noticed. . . . It has also been claimed that eye troubles have been produced by a local action of the ptomaïnes."

I could quote other authors, as Knies, Bouchard, etc., but I think it unnecessary.

It is a well-known fact that ptomaïne poisoning is very often caused by sausage-meat, cheese, fish or vanilla ice-cream, even if these substances are apparently fresh.

A. W. Herzog, M.D.

208 East Fourteenth Street, New York City.

NEW AND RAPID METHOD OF ANÆSTHESIA.

To the Editor of the Medical Record.

Sir: In submitting my article, on the above title, to you for publication in the Medical Record of November 18, 1893, in answer to Dr. Magill's article of October 21, 1893, I did not think I should be obliged to ask your indulgence for a second communication on the same subject; but as my former one appears to have failed in its mission, viz., "Honor to whom honor is due," and as I am challenged to corroborate facts therein cited, I will endeavor to be as brief as possible and, as well, thorough.

In Dr. Magill's second paper in the Medical Record of January 13, 1894, the attention of the reader is directed wholly and entirely to the use of chloroform after bromide of ethyl, and no mention is made of ether; and, if I understand aright, his claim of priority applies only to the use of chloroform following bromide of ethyl. In Dr. Magill's first communication to the Medical Record of October 21, 1893, I find it distinctly stated "that the complete anæsthesia is immediate, instead of resultant of a period often long, which is necessary in the process of chloroform anæsthesia [and more so in case of employment of ether]" the bracketed portion being added by Dr. Magill. I also find, "advantage 2. Doing away with all violent agitation on the part of the patient, so common when chloroform or *ether* alone is used" (italics my own).

From the fact that ethylization followed by etherization is mentioned in Dr. Magill's first article, and originality in the method of administration was claimed by him, and the entire matter totally ignored by him in his second article, I conclude either that, by my reference to the *Medical and Surgical Reporter* of August 7, 1880, I demonstrated satisfactorily to him that his claim of priority was unfounded (and if so why did he not admit it in his last article?); or that I misunderstood his first article, and that it was misleading, the two sentences above quoted will show.

Dr. Magill questions that Dr. H. Augustus Wilson, in the article published in the *Medical and Surgical Reporter* of August 7, 1880, in any way mentions the combined process of anæsthesia by ethyl bromide and chloroform. The process is not mentioned in this article, but the process of anæsthesia by ethyl bromide and ether is mentioned, and so far as I have been able to determine, Dr. Wilson's article is the earliest published reference to this method; hence the "honor" belongs to him.

I referred also to Dr. E. E. Montgomery's report of its use in this capacity, giving, however, no journalistic reference. In the *Therapeutic Gazette* of June 15, 1892, Dr. Montgomery published an article on "Bromide of Ethyl," and on page 366 I find the following: "Chis-

holm and Prince have administered it in several thousand patients, the former, etc., and the latter preceding anæsthesia for major operations by the use of this drug (bromide of ethyl), and thus recommends it for its value in obviating the unpleasant stage of excitement upon the use of the other and more permanent anæsthetics." One might ask what is meant by "the other and more permanent anæsthetics," for anæsthesia has been accomplished by ether alone; chloroform alone; alcohol, chloroform, and ether; chloroform and ether; nitrite of amyl, chloroform, and ether; hypodermatic injection of morphia and atropia preceding ether; nitrous oxide; nitrous oxide and ether; bromide of ethyl; bromide of ethyl and ether; and bromide of ethyl and chloroform. In the October, 1883, number of the St. Louis *Medical and Surgical Journal*, Dr. A. E. Prince (referred to in Dr. Montgomery's article) published "Observations on the Use of Bromide of Ethyl as an Anæsthetic for Short Operations, and as a Precursor to the Administration of Ether," and in it we find the kind of anæsthetics to which Dr. Montgomery refers. I quote the following: "The aim of the following remarks will be, first, to place it, etc.; second, to suggest a new function which has been found of value only secondary to the above, viz., A Precursor to the Use of Chloroform and Ether."

This article is "illustrated by a brief of the first 50 cases" in which the combined or single administration was employed by Dr. Prince. In this "brief," I find that chloroform alone was administered after ethylization in cases 23, 28, 29, 30, 38, 39, 43, 46, 47, and chloroform and ether after ethylization in cases 22, 40, 49.

I have not sought for any further references to the subject, so do not know if there are any; but this proves conclusively that Dr. Magill's first experiments, August, 1892, were antedated by at least thirteen years in the publication of the administration of bromide of ethyl followed by ether, and by about nine years (February 7, 1883, being the date when first used by Dr. Prince) in the publication of the combined method of ethyl and chloroform. Truly, Dr. Magill's fears, expressed in his last article, viz., that I am led to the conclusion that his "priority" is "pretended," become realities, and the attention of the profession is only redirected to a method formerly used quite extensively. This may, however, be the means of reviving this use of the drug among surgeons, and if so, Dr. Magill will have accomplished considerable, and his labors in this field will still be rewarded.

Respectfully,

J. Torrance Rugh, M.D.

1431 Walnut Street, Philadelphia, Pa.

VICTORY FOR THE MEDICAL BOARD OF THE NEW YORK INFANT ASYLUM.

To the Editor of the Medical Record.

Sir: I hope you will allow me to express my thanks and gratification at the position you have taken in regard to the New York Infant Asylum and its Managers. As one of the members of the ex-Medical Board, I can assure you that you have done no more than justice to the medical gentlemen who once worked so faithfully for the Institution. There is no doubt that if even a modicum of courtesy and tact had been exercised toward the Board no trouble would have ensued. The final cause of our resigning was, however, as you have stated, not so much what had been done in the past, but rather the direct refusal of the President of the Managerial Board to allow us in the future any voice in nominating candidates to sit with us on the Medical Board.

It is gratifying now to find that our resignation as a body has accomplished precisely the object we desired. For Dr. Nicoll in his letter to the Medical Record describing the radical changes which the organization of the Asylum had undergone, was not quite candid enough to add that the new Medical Board has been granted the right of nomination.

Apart from this personal vindication, it seems unquestionable that the Managing Board has been stimulated to a keener sense of its responsibilities, and there is no doubt that the Asylum will be greatly benefited through the act of the late Medical Board. I believe that the profession as a whole will cordially unite with the Medical Record in sympathy and support of the gentlemen who, like Dr. Holt, resigned, but who, unlike him, did not refrain from defending their act and so did not get reappointed, Yours very truly,

X.,

An Ex-Member.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 27, 1894.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	4	4
Scarlet fever	128	4
Cerebro-spinal meningitis	0	1
Measles	527	20
Diphtheria	226	69
Small-pox	22	2
Cholera	0	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0

ELEVENTH INTERNATIONAL MEDICAL CONGRESS, TO BE HELD AT ROME.

Practical Hints and Suggestions for Intending Visitors.

Those who are familiar with transatlantic voyages and European pilgrimages require no instructions other than those which relate specially to the affairs of the Congress itself. But there are doubtless many who will go abroad for the first time on the occasion of the Eleventh International Medical Congress. It is for the information and guidance of this class of visitors that the following suggestions are made. The Medical Record has recently sent a representative over the country, and the hints we are about to give are based on personal experience.

Young children under no circumstances should accompany medical parties on this occasion.

Expense of Trip.—As to the probable expense of the trip to Rome it is impossible accurately to compute it. The principal steamship lines and European railroads offer reduced rates. Hotel charges in Rome will also be subject to special conditions, arranged by the Local Congressional Committees. An approximate estimate for one person's living expenses, including cab hire, gratuities, etc., is from six to ten dollars per day. The most rigid economy will not enable one to live, with ordinary comfort, at less than $5 per day. In going to the poorer hotels one exposes one's self to impositions that in the end make the best hotels the cheapest. In Italy everybody bargains, and even hotel-keepers will often take less than they ask. Make your arrangements by the day, and if not suited take a cab and drive from hotel to hotel, until your tastes and purse are equally suited. Never rely on the local guides, as they always get a commission which comes out of your pocket. Do not wait before asking for your bill till a few moments before your departure. If in doubt as to prices, ask for a daily account and pay as you go along. If you have decided to remain several weeks in one town, then a weekly *pension* rate is decidedly cheaper. Do not develop into a chronic kicker, even if you feel that you have been repeatedly imposed upon.

It will mar your enjoyment of Italy if you make a point of never being swindled or cheated. Don't insist on an American breakfast in out-of the-way places. The French and Italian breakfast consists of coffee and rolls. Eggs are, however, permissible.

Passports.—These are not now an absolute necessity for travellers in Europe, except in Russia and Turkey. Vexatious delays may occur, however, when they will be found useful. It is therefore best that all persons going abroad should carry them. On application direct to the Hon. Walter Q. Gresham, Secretary of State, Washington, D.C , blank forms of application will be returned, which are to be filled up and sent back to Washington, promptly, on receipt of which the State Department will return the desired passport. The amount of the trifling fee to accompany the application is stated on it.

Baggage.—The least one can travel with comfortably will be found the most satisfactory. On the voyage there will be needed, besides the suit of clothes one is wearing at the time of starting, a heavy overcoat and a thick shawl or a warm rug. If the voyage is to England, Germany, or France, winter clothing will be required at this season of the year all the way across the ocean. If the Mediterranean route be selected the temperature will rise after crossing the Gulf Stream, as the course is somewhat to the southward, but it is safer to change for thinner underwear than to leave off the heavy outside clothes. Do not omit to carry a dress suit. One steamer trunk and a few hand-bags or shawl-robes can be made to hold all that is necessary, and these can all be taken into the state room of the steamer. It is necessary that the trunk should be of the kind usually termed steamer trunks, or it may be so large as not to go under the berth, in which case it cannot conveniently be carried in the state room. The space between the bottom of the berth and the floor of the state-room usually measures about thirteen inches. Every piece of baggage should have a tag upon it, stating the number of the state-room on the steamer, and that it is to go into the room. If too large it will have to go into the hold of the vessel. The steamship companies supply these tags when passage is booked.

Money.—On arrival in New York purchase a letter of credit for such an amount as the expense of the trip may have been estimated at, and as expenses always exceed estimates, add one-third to the amount. It is not lost if not used. This should be obtained of some first-class banker, such as Brown Bros. & Co., or Drexel, Morgan & Co. Letters of credit issued by Thomas Cook & Son are also perfectly good.

The coin used in France, Italy, and Switzerland is the *franc* (1 franc = 100 centimes) = 9½ pence English and 19 cents American money. The franc is called *lira* or *franco* in Italy, and contains 100 *centesimi*. The legal coin of Germany is the *mark* (1 mark = 100 pfennige) = 1 shilling English and 24 cents American money. Austria has the *florin* or *gulden* (1 fl. = kreutzers) = 2 shillings English, or 49 cents.

If it is proposed to land in England, it will be best to purchase $10 or $20 worth of English gold and silver in New York. If the landing is to be made at Hamburg, get the same amount in German gold and silver. If in Havre or Antwerp, then the same in French gold and silver. If the voyage is to be direct to Genoa, buy the same of Italian money. In any event it is better not to carry any American money in one's pockets at all, as it will cause considerable trouble to exchange it on the other side or with the purser of the steamer, who is always ready to accommodate travellers in this way to his own profit.

Guide Books.—It will be found quite a help to buy Baedeker's or Cook's Guide to France and Northern, Central, and Southern Italy, and read them on the voyage over. These books are very practical, and any recommendations as to routes, hotels, etc., may be relied upon. In this connection it may not be amiss to say that if any American needs any assistance at any of the principal railroad stations on the Continent, if he will inquire for Thomas Cook & Son's representative he will find courteous and valuable assistance. Cook's railway tickets are the most convenient things one can travel on anywhere in Europe. They have offices in all the large cities, and are often friends indeed to the inexperienced traveller.

Steamship Lines.—There are a large number of lines regularly crossing between New York and various ports on the other side. Of these the most direct and convenient for those anxious to attend the sessions of the Congress is the German Mediterranean service, composed of the amalgamated lines of the North German Lloyd S. S. Co. (offices at No. 2 Bowling Green, New York City), and the Hamburg-American Packet Co. (offices at 37 Broadway, New York City). The Mediterranean Lines send the Fulda on March 3d, the Columbia on March 10th, and the Kaiser Wilhelm II., on March 17th. Single berth in state-room, first cabin, on the Fulda, from $70 upward; on Columbia, $75 upward, and on the Kaiser Wilhelm II., from $90 upward.

These companies inform us that delegates visiting the International Congress will be granted a reduction of twenty-five per cent. on the outward passage on any of their steamers, and ten per cent. on the return passage, if it is decided to return home by the same line. The vessels and service are first-class in every particular. Passengers by these steamers have an opportunity of seeing the Azores, Gibraltar, and Naples *en route* to Genoa.

Many will doubtless wish to go *via* England and across the Continent, stopping by the way at some of the noted cities through which they will pass. For such the splendid stanch steamers of the American Line to Southampton (offices in New York City, 6 Bowling Green) are decidedly the best. The Chester will sail March 10th, fare from $60 per berth upward, and the magnificent New York on March 17th. This latter steamer is one of the finest, most stanch and fleetest of all the superb modern steamships crossing the Atlantic. The White Star Line (office, 29 Broadway, New York City) send the Teutonic, March 7th, and the Britannic, March 14th, to Liverpool, England. Tickets from $60 upward. The Cunard Line (offices at No. 4 Bowling Green, New York City), dispatch the Aurania, March 3d, the Campania, March 10th, and the Umbria, March 17th. Passage on the Aurania and Umbria, $60 to $125 and upward, on the Campania, $75 and upward. Passengers are landed in Liverpool. The French Line (offices at 3 Bowling Green, New York City) have La Bourgogne, sailing on March 3d, La Gascogne on March 10th, and La Normandie, on March 17th. Tickets, $80 per berth and upward. There is still another route, which has advantages of its own, namely, the Red Star Line (New York offices, 6 Bowling Green), the Friesland, a new boat, stanch and luxurious, sails for Antwerp, March 14th.

On application to any of these offices, any information desired concerning any of these steamers, with deck plans, showing numbers and locations of the state-rooms will be promptly mailed. It is advisable to secure berths early.

Those who go by way of England will find it most agreeable to cross the English Channel from Dover to Calais. The railway trip from London to Dover takes about two hours. Another way of reaching the continent is from Folkestone to Boulogne-sur-Mer. Boats cross the Channel twice a day in two hours. Railway from London to Folkestone, three hours. From Calais proceed at once to Paris, and thence via Lyons, Marseilles, and the Riviera to Rome, or by way of the Mont Cenis Tunnel and Turin to Rome. On the Mont Cenis line the trains are equipped with sleeping-cars. First-class fare $40, and second-class fare about $28. Sleeper from Paris to Rome will cost $10. If the delegate arrives in Liverpool, his railroad journey by the same route as just described will cost, first class, $56, second class, $38.20. Sleeping-car as before. Delegates going direct to Genoa, go from there to Rome by rail in eleven hours. First class tickets, $12.20, second class, $8.55.

About the Voyage.—While it sometimes happens that the steamers are still at their wharves after the hour advertised for sailing, this is, in these days, a rare thing, and on no account should one fail to be on hand half an hour before the time advertised. Porters belonging to the ship will carry baggage from the wharf and place it properly, under the passenger's supervision, in the state-room for which it is tagged. It is necessary to make sure that this is correctly done. No fee is expected. While the steamer is fast to the wharf, the state-room on no account should be left with the baggage in it without being locked. After the lines are cast off this is no longer necessary during the voyage. As soon as possible after leaving the wharf it is advisable to see the steward and arrange for a place at the table during meals. If one is likely to be ill during the voyage, a seat on the outside of the table and as near to the door as possible is desirable. All the waiters on the English and German lines are called stewards, and garçon on the French line. The man who takes care of your state-room is also a steward. So also is the man who has charge of the comfort of the passengers on deck, and we thus have table stewards, cabin stewards, and deck stewards. The deck steward is the man who has charge of the blacking of shoes. No fees are expected until just before landing on the other side, when the steward who looks after the state-room will expect a fee of about $2.50, the one who waits on the table the same, and the deck steward, if he has simply attended to blacking shoes, about 50c., or from that upward to the same as the others, if the passenger has needed his service much during the voyage. If the smoking-room has been much frequented, the man in charge of it will be looking around for his tip of about 50c. This matter of fees is one which will not impress an American very favorably, but one who expects to travel with any comfort on the other side will be obliged to follow the custom, and it will be found most satisfactory to speedily fall in with it. Physicians are just as liable to become seasick as other mortals, so that it will be just as well not to experiment on one's self or one's fellow-sufferers with the latest remedy for mal-de-mer. It is quite possible that the voyage across may be made without any decidedly uncomfortable feelings, whereas, on the return trip it might be quite the reverse. Most sea-voyagers find it advisable when beginning to feel uncomfortable from the motion of the vessel, to give up and pay tribute over the side of the vessel at once. It not unfrequently happens that this early emptying of the stomach gives some relief, especially when it comes on immediately after rising in the morning. It is also far better to struggle up on deck into the fresh air, than to lie in bed in the confined atmosphere of the state-room. If one feels at any time that a few crackers, or ginger-snaps, or a light lunch of some kind, or oranges, or apples would taste well, if the state-room steward is rung for, he will bring them to your room day or night. There is almost no limit to the amount passengers are given to eat, on all of the transatlantic steamers, but he will have to pay for anything he desires to drink other than water, tea, and coffee.

Custom House.—Inspection of baggage at any of the transatlantic ports, either British, French, or Italian, is far less disagreeable in experience than in the United States. Cigars, liquors, and silverware are about the only articles the officers inquire about. It is not advisable to carry more than one hundred cigars, nor these in sealed boxes. It is best that the boxes should be opened and some taken out before the customs authorities examine them. No more liquor of any kind than the contents of a single flask should be carried on shore. Porters in England who carry baggage from the wharf to a cab expect from six pence to a shilling sterling. In France from ten centimes to a franc. In Italy, from ten centesimi to half a franc.

Baggage in Europe.—The American system of checking baggage to destination by means of tags is not used in Europe. Every trunk and parcel is weighed before being passed, and a receipt is given with a number upon it which corresponds with the number on all the slips pasted on the trunks and bags to be delivered. Europeans generally carry an uncomfortable amount of hand-bags into the passenger compartments, to avoid the compulsory payment for the carrying of extra baggage, only about fifty pounds being carried free by the railroad companies. Indeed on many lines every pound is charged for. It may be stated, however, that their charge is very much less than is charged on the American lines for what is termed extra baggage, and unless the amount carried by a passenger is very large, it does not add very much to the expense of travelling. Travellers should always be sure that their baggage is carried on the same train with themselves, or vexatious delays are sure to occur. On arrival at destination, it should also be looked after in person. The railway employee who weighs your baggage is considered entitled to a very small fee in England (about four pence), and on the continent its equivalent. The man who puts it on the baggage car expects a small amount, six pence or one shilling. The man who takes your handbags, if you have more than you can carry yourself, which it is always best to avoid, should have the same. It takes a very short time for an experienced traveller to fall into the ways of the country he is visiting. It is quite unwise to be too lavish in these gratuities, for trifling as they may appear separately, they become a very considerable sum at the end of a tour. Travelling in Europe is dearer for an American than in his own country, and unless one knows the language and ways of the people, he has to submit to many petty depredations, with the best grace possible. But if he goes expecting more or less of this sort of thing he will be philosopher enough not to let it destroy his pleasure.

From London to Rome.—Tickets for Rome are purchasable in London. It is, however, just as well to buy them in Paris. Take your baggage with you. It is, of course, much cheaper to have it forwarded as freight. But the uncertainty regarding its fate and time of arrival outweigh the saving made. Unless pressed for time, stop at least one day in Paris. As to Parisian hotels, Americans prefer those on and near the *Rue de Rivoli*, or the *Place Vendôme*, and the commodious Grand Hotel, on the Boulevard des Italiens. The trip from Paris to Genoa is best accomplished by taking the Paris, Lyons, and Mediterranean Railroad, via the French Riviera.

Stop one day at Marseilles, and if not pressed for time, one day each at Cannes, Nice, Monte Carlo, Mentone, and San Remo. At Marseilles the best hotel is the *Grand Hotel du Louvre et de la Paix*. At Cannes, Nice, and Monte Carlo there are plenty of first-class hotels. At San Remo the West End and *Grand Hotel des Anglais* are the best.

Those who do not wish to break the trip at Paris, and to whom comfortable through travelling is an object, may remember that the Southeastern Company has made, in conjunction with the Continental companies, special arrangements to enable invalids to travel with speed and comfort from London to Cannes, Nice, Monte Carlo, and other places on the shores of the Mediterranean. They will be conveyed on Tuesdays, Thursdays, and Saturdays by the "club train" special service, which, leaving Charing-Cross at 3.15 P.M. daily, calling at Paris ("Nord" Station), and running on through to the Riviera, reaches Cannes the next day at 7.11 P.M., Nice at 7.46 P.M., Monte Carlo at 8.34 P.M., and Ventimille (Italy) at 9.7 P.M. The usual daily through mail services will also afford accommodation by *coupé-lit*, *toilette*, and *coupé-fauteuil* carriages through from Calais, running as they do in connection with the Dover and Calais steamers *Empress*, *Invicta*, *Victoria*, and *Calais-Douvres*.

For particulars on this subject travellers cannot do better than consult Messrs. T. Cook & Son, Ludgate Circus, Charing-Cross, and 33 Piccadilly, etc., who are always ready to afford every assistance in their power.

It is also well to remember that the "*rapide*," which leaves Paris for the Riviera at 7.15 every evening, is often

overcrowded. To get a seat it is advisable to be at the *Gare de Lyon* one hour before the train starts. Even then it may be necessary to circumvent some wily traveller who has filled up two corners of the compartment with his impedimenta, and unblushingly asserts that he is keeping a place for a friend. The expensive *train de luxe* service, which runs twice a week from Calais to the Riviera, is also generally very crowded at the beginning of the season. It is always best to book "berths" several days beforehand. Those who do not care to go to this additional expense will find an ordinary express more comfortable and less tiring than the popular 7.15 *rapide*, as there is very little difficulty in getting a separate first-class compartment. Toward the end of March, however, the tide of travel has set in northward, and hence visitors to the Congress may be subjected to very little crowding in these special trains.

The other route before referred to from Paris to Rome is via the Mont Cenis tunnel to Turin and Genoa. It is a much cheaper but more tedious and uncomfortable way of getting to Italy. It is necessary to change cars at least twice in going by this route. One also misses entirely the beautiful scenery of the Riviera.

Genoa.—The easiest and probably the most agreeable way to reach Rome is by way of the Hamburg-American line, and also by the German Mediterranean service of the North German Lloyd. The steamers of this new service are all first-class. The ocean route is a southern one. The steamers touch at Gibraltar, and passengers are landed on Italian soil.

A few words relative to Genoa, known as *La Superba*, will not be amiss here.

One cannot fail to be struck by the beauty of the harbor of Genoa, a semi-circular bay over four miles wide. On landing the first thing to do is to keep cool. There is always much bustle and confusion on account of the custom-house inspection of baggage. There is a contagion of unrest in the very air. The petty officials, however, are polite enough to those who patiently submit to the examination of their effects. Cigars and liquors are the articles most diligently searched for. Only about twenty cigars will be passed here. Nothing else is apt to give trouble. And the ordeal will be found far less trying than is commonly supposed, if only one is ready to be scrupulously polite to the small-fry inspectors.

The hotels of Genoa are all poor, and Americans are charged high rates. The Hôtel Isotta, in the *Via Roma*, is the largest and one of the best. The managers and waiters understand French and English.

Other hotels are the Grand Hôtel du Parc, *Via Ugo Foscolo*, and the Grand Hôtel de Gênes, near the *Teatro Carlo Felice*.

Do not be persuaded to visit the Campo Santo unless the weather is dry and fine. Confine your sight-seeing to the principal streets and palaces. You will see better paintings in most other Italian cities.

Those who wish to proceed at once to Rome can have their baggage booked through on the dock. It is more advisable, however, to spend at least one day and night at Genoa.

It may be well to remember that the porters (*facchino*, pronounce fakeno) are not always honest, and universally attempt petty extortions. A few cents is all they are entitled to for carrying hand-bags and parcels.

In most Italian towns, it is just as cheap to hire a cab to take you to the hotel as to get into an over-crowded hotel omnibus. Cab-drivers generally understand French, and often a few words of English. When in doubt about the fare, tell the concierge of the hotel to pay the bill.

Cab-hire is cheap in Genoa. The following is the official tariff:

	By day. Fr.	Ct.	By night. Fr.	Ct.
Per drive	1	00	1	50
Per hour	1	50	2	00
Each additional half-hour	0	75	1	00

American Consulate: Mr. Fletcher, *Via Assarotti*, 14.

Bankers: Granet, Brown & Co., *Via Garibaldi*, 7. For all information concerning telegraph, post office, omnibuses, street-cars, steamboats, railroads, time-tables, churches, theatres, drives, etc., apply to the concierge, or head-porter. This individual is pompous and condescending, but as he always knows English his superior attainments must be reckoned with.

From Genoa via Pisa to Rome.—Italian train service is poor. It is necessary to travel first-class. The average speed of the best trains rarely reaches thirty miles an hour. Even in the first-class compartments, the prodigious amount of hand baggage carried by passengers, makes travelling uncomfortable. When the station-master (*capostazione*) shouts out *partenza* (departure) the train moves slowly out. American hurry has no existence on Italian soil.

Be at the station forty minutes before time of departure. It takes time to buy a ticket, to see that you are not cheated, to have your baggage weighed, to see that it gets into the baggage van, to show your ticket to several officials, to make sure that you get on the right train, etc. Tickets are generally given up on leaving the station of your destination. The exit is marked *uscita*. But in going to Rome the conductor usually collects tickets on the train.

Be sure that you know, at least approximately, the weight of your baggage, or you will be rudely cheated. Carry no articles of value except on your person. Remember that one Kilo (*i.e.*, Kilogramme) is equal to about 2½ lbs. Bear in mind that Italian railroad employees are underpaid, and therefore driven to thievery. The *facchinos* (porters) are entitled to a tip of a few sous (big coppers). If you give them silver they will probably ask for more, on the assumption that you are a "greenhorn."

Don't enter a smoking compartment, "*pei fumatori*." The stench of Italian tobacco is intolerable to American nostrils. The right compartments are marked "*è vietato di fumare*."

Those who intend to make an extended Italian tour will save money by buying *viaggi circolari*, *i.e.*, circular tickets available for from thirty to sixty days.

They are supplied at all of Cook's agencies. The only drawback to the use of those tickets is that it is necessary at each fresh starting-point to have them stamped with the name of the next station at which the traveller intends to alight. The crowd around the single stamping-window is often so great that trains are sometimes missed. If the stamping is forgotten a heavy penalty in the shape of triple fare is exacted.

Pisa.—Those who have decided on a personal inspection of the famous leaning tower may stop over one day at this ancient city on the banks of the Arno. The town is one hundred and two miles distant from Genoa, and two hundred and seventeen miles from Rome. Express trains run to Rome in about eight hours. The hotels are all poor. The least poor are the Bretagne, the Grand Hotel, the Nettuno. At the Hotel Royal Victoria, English and American notions are understood, and the proprietors at least try to please.

Those who have some slight knowledge of Italian will do best to leave their baggage at the station, take a cab to the Cathedral, pay the cabby on alighting, spend a few hours inspecting the Cathedral, the Baptistery (*Battistero*), the *Campanile* (clock-tower or *leaning tower*), the *Campo Santo* or burial ground, and then drive back to the station in time for the next train to Florence or Rome.

Rome.—It is of course not yet known what arrangements will be made by the Local Italian Committee to facilitate the finding of proper hotel and private accommodations. Ordinarily it is necessary to order one's rooms beforehand (one to two weeks) if one expects to be properly provided for during the height of the Roman season. Foreigners of the average tourist kind flock to the Eternal City at the very time appointed for the meeting of the Congress.

On arriving at the railroad station there is generally a vexatious delay owing to baggage inspection by the city customs officers. Possibly this will be entirely done away with for members of the Congress. Have your card ready, showing that you are a doctor, and tell the inspector you are there for the *Congresso medico*.

It is not necessary to use the hotel omnibus, as an ordinary cab is quicker and not more expensive. But if you have large heavy trunks with you, then it is safer to take the omnibus. Most of the hotels send English-speaking porters to the station, so that one can manage to get along without a word of Italian.

Hotels.—The Roman hotels are, with few exceptions, not of a very high order of excellence. Do not allow yourself to be put in one in the old quarters of the town. The fleas alone will be unbearable there.

About the best hotel in Rome is the Bristol, in the *Piazza Barberini*. But it is a very small and very dear establishment. The Quirinal, under Swiss management, is a large and first-class hotel. It is often difficult to find accommodation there. Have rooms reserved by cable for a certain day, if you insist on stopping there. It is very popular with English-speaking people. Hotel Quirinale is the Italian name. It is located in the *Via Nazionale*. Other good hotels in the newer and healthy quarter (known as the Strangers' Quarter) are the Hotel Continental (*Via Cavour*); Hotel de Londres (*Piazza di Spagna*); the Roma (*Corso*); the Grand Hotel de Russie (near the *Piazzo del Popolo* and the Pincio Gardens); and the Hotel Royal Mazzeri (*Via Venti Settembre*).

Those who intend to make a more prolonged stay in Rome can find comfortable apartments in some of the numerous *pensions*. Many of these boarding-houses are managed by English ladies. Mrs. Shearman has an American establishment. For a stay of one week or less hotels are decidedly preferable. The Pension Tellenbach is one of the largest and most popular.

Cabs.—These conveyances are cheap in Rome, but the omnibuses are cheaper (ten to fifteen centimes). Do not attempt to save on this item, for if you fatigue yourself by much walking you will invite sickness. Do not fatigue yourself with sight-seeing in Rome. Always remember that your being an unacclimated stranger predisposes you to sickness. If you get a little feverish do not at once decide that you have caught the Roman fever. Do not eat overabundantly of new dishes. Always carry an overcoat with you. As you step out of sunshine into the shade you will probably experience a chilly sensation much more pronounced than you are accustomed to at home under similar circumstances. Do not force yourself to attend a section meeting if not thoroughly rested. And finally, do not attempt to learn the Italian language in one week. The people you are likely to meet generally understand plain English fairly well. Nevertheless you will probably acquire some experience in pantomime before leaving Italy for your home.

Supernumerary Breasts without Nipples.—Dr. Bué attended a woman in her third confinement, which occurred at term, in December, 1892. (*The British Medical Journal.*) Two days later a swelling developed in the anterior part of each axilla, especially on the right side. These swellings gave rise to pricking sensations. The patient noted, during the previous night, a feeling of tension in each axilla. The normal breasts were full of milk. The swelling on the right side was situated on the border of the pectoralis major and on the thoracic wall in the adjacent part of the axilla. It measured two and a quarter inches in diameter and over six in circumference, and was separated by a groove from the normal gland. Its centre lay four and a quarter inches from the right nipple. When the child was put to the right breast a distinct diminution in the size of the supernumerary gland was observed. Afterward it again enlarged. The skin over the extra gland was not reddened, but bore enlarged veins, as on the normal breast. There was no trace of any nipple, nor was the presence of dilated sebaceous ducts reported. The left supernumerary mamma lay in the same position as the right, but was much smaller. On the day after its appearance it vanished. Its fellow on the right side remained stationary all the time that the patient suckled.

An Antiseptic Varnish.—Berlioz has devised a covering for diseased skin and mucous membranes which he calls steresol. It is a mixture of gum lac with benzoin and Tolu balsam, the whole being dissolved in alcohol. The mixture is then impregnated with carbolic acid ten per cent. Essence of canella will mask the disagreeable odor of the phenol, while saccharine will remove the bitter taste of the varnish. The steresol can be applied to skin or mucous membranes by pencilling, having previously dried the membranes with hydrophile gauze. It will resist the action of the saliva when applied to the throat.

Behring's Serum.—Dr. Bruschke, of Berlin, pricked himself with the needle of a syringe with which he had just previously injected a mouse suffering from tetanus. The wound was immediately laid open and disinfected. Four days afterward (no symptoms having been noticed in the interval) a dose of Behring's serum was injected. On the second day after the injection symptoms appeared which may be understood as having been caused, either by some irritating matter in the serum, or as due to an attack of tetanus controlled and diminished in violence by the serum injection. The attack ended in complete recovery.—*Lancet.*

Treatment of Dyspepsia in Children.—Tordens, in a discussion of the therapeutics of infantile dyspepsia and the subsequent atonic condition of the bowels, makes four divisions of treatment: 1. Elimination of noxious elements by emesis, lavage (both rarely if ever called for), and catharsis. 2. Anti-fermentative medicines. Among these he includes the various combinations of pepsin, resorcin, salicylic acid. In cases of diarrhœa with markedly green stools, he recommends lactic acid in small doses. The following combination he also finds useful:

℞. Creosoti..... 2–4 drops.
Aquæ destil..... 35.00 gm.
Syr. altheæ..... 15.00 gm.
M. Sig.: A small spoonful every two hours.

3. Sedatives, warm baths, and light friction. For colicky pains a mixture of aqua chamomilla, subnitrate of bismuth, and syrup of anise often gives relief. 4. Tonics and stimulants for the subsequent atony, of great value are:

℞. Tinct. cascarillæ..... 10 drops.
Aquæ destil..... 50.00 gm.
Syrup..... 10.00 gm.

℞. Ext. cort. chinæ..... 0.25 gm.
Aquæ destil..... 50.00 gm.
Syr. aurante..... 10.00 gm.
M. Sig.: To be given in teaspoonful doses.

—*Boston Medical and Surgical Journal.*

Are There Pain Nerves and Pain Tracts?—At the conclusion of a paper read before the Neurological Society, Dr. C. L. Dana referred to the question of the existence or the non-existence of a pain-tract, and the advisability of our searching for it. Psychologists, he said, have come to the conclusion that pain is not a sensation, but a form of feeling; that it is not to be classed with the sensations of touch or temperature; that it does not have peripheral end-organs, and that there are no nerves in existence which on irritation produce pain alone; that there is no such thing as a pain tract; that in attempting to locate such a tract we are pursuing a will-o'-the-wisp. Dr. Dana said that after a very careful study of this question, he was inclined to the psychologists' view of the matter. If we claim that there is a special tract for pain, we can just as well claim that there is one for hunger and various other sensations. If there is a special tract for any of the common subjective sensations, there must be a special tract for all. If, he added, we could get rid of the idea that we must keep on hunting for a pain tract, it would save much exertion and many futile experiments on monkeys and men.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 45, No. 6.
Whole No. 1214.

NEW YORK, FEBRUARY 10, 1894.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

RECTAL INCONTINENCE AND ITS CURE BY TORSION.[1]

BY ARPAD G. GERSTER, M.D.,

NEW YORK.

RECTAL incontinence, though not as troublesome as urinary leakage, is yet a very disagreeable, and to some persons fatal, complaint, fatal to social and business possibilities, and depressing in every respect. As to the absolute degree of incontinence, this does not depend so much on the causal factors involving either the loss of the sphincter muscle itself, or the loss of its function merely. It depends more upon the process of intestinal activity, by which is influenced the state of cohesion of the fæces when they arrive at the breach.

We know that a properly regulated diet, with the digestive process slightly influenced by small doses of opium, will mostly suffice to produce that consolidation of fæces that is indispensable to the comfort of patients lacking sphincteric occlusion. But there are remarkable variations within the pale of normal health as to the activity of peristalsis, some men defecating once in two days, others twice or three times daily, the former ones producing hard formed scybala, while the latter's stools always appear to be semisolid or even semiliquid. Accordingly the management of the bowel of patients without a sphincter may be easy or difficult. In most cases it will be easy, as a rule, the exceptions being acute attacks of enteritis caused by transient influences. Occasionally, however, the question of rendering the patient comfortable and tolerably safe from mortifying surprises will be found immensely difficult. I refer here to a patient whose habit required evacuation of the bowel twice a day, the fæces being always semiliquid. He lost the use of his sphincter by a series of extensive operations performed by various surgeons for multiple fistulæ in ano. The anal aperture was an irregular, ghastly looking cavern, lined with bulging tabs of congested mucous membrane, from between which there oozed almost continually a quantity of semiliquid fæces. The man was unfit to do any kind of work involving contact with other people, and became a charge upon his relatives. No form of diet, no astringents, no opiate could retard peristaltic action in the manner observed in ordinary cases, where, solid fæces being produced, the fæcal column is easily retained for twenty-four hours to be then expelled, so as to render the patient safe for the space of another day. A number of plastic attempts were made to restore the mutilated sphincter to its function, but though the size of the aperture was materially reduced, the incontinence still remained. The cause of this was that the nerve-supply of the sphincter had been completely destroyed by extensive incisions and by displacement of the nerve-ends through cicatricial retraction. It was very difficult to identify the atrophied remnants of the mutilated sphincter, and hence the operation failed. The disheartened patient finally committed suicide.

Fortunately these cases are rare. Formerly they were incurable in the strictest sense of the word, as neither the function of the sphincter could be re-established, nor a satisfactory closure effected by plastic arrangements of skin and mucous membrane directed toward a narrowing of the anal orifice. We shall see later on that a mere narrowing of the breach, even if it attain the character of a stricture, is no safeguard against incontinence.

Having considered one factor of incontinence, that is the character of the digestive process influencing the cohesion of the fæces, let us now pass in review the other factor, that is the state of the sphincter muscle itself.

The sphincter may be in existence but useless, and this for various reasons. First of all is to be mentioned the more or less pronounced paralysis of the sphincter caused by spinal injuries and spinal maladies. Both of these forms may be temporary or permanent; but as they are usually accompanied by great sluggishness of the peristaltic motion, and for other obvious reasons, they rarely constitute a very great hardship and need not be dwelt upon any longer.

The second group of cases of sphincteric insufficiency is much more extended, and contains the numerous cases in which the sphincter itself, or both the sphincter and its nerve-supply, were severed by the surgeon's knife or by the elastic ligature, for the cure of multiple fistulæ in ano. Even one deep-going incision, involving the entire thickness of the sphincter, will produce a certain amount of retentive weakness, which, as I have seen, may cause considerable inconvenience to the patient. I recall the case of a very refined young woman, of agreeable presence, whose cheerful disposition changed into hypochondriasis and melancholia because she had to wear continually a bandage and pad. A complete division of the sphincter, posteriorly in the median line, was necessitated by a very extensive complete fistula. After the large wound had healed, the fæces could be easily retained, if solid: if semiliquid, however, they were apt to escape when she laughed or on slight exertion, causing her extreme anxiety and mortification. This laxity was easily relieved by exposure of the cut ends of the otherwise active sphincter, and their union by catgut suture. The line of sutures was protected by drawing down and stitching to the outer skin of the mucous lining of the gut.

Another illustrative case belonging to this group was that of H. W——, aged twenty, who, after an operation performed at Bellevue Hospital for fistula in ano, suffered from incontinence of fæces. The patient presented a widely patulous breach, with two wide and deep cicatrices, both in the median line, one anteriorly, the other posteriorly. The sphincter had been divided in two, and its semilunar two segments were far retracted. On irritation they both responded readily by a lively contraction, which, however, failed to close the anus. On May 6, 1893, at the German Hospital, both massive cicatrices were excised so far as to expose the cut ends of the two halves of the divided sphincter, which were then readily united by a double row of buried catgut sutures. After this the mucous membrane was raised for an inch and a half all around, and was drawn down and over the sutured sphincter. Prompt primary union followed, and the function of the sphincter was perfectly restored.

As long as the remaining segments of the sphincter show signs of irritability and contractility, measures at their union and the restoration of the muscular ring are justified, and will generally be more or less successful. But when the nerve supply has been irremediably damaged, and the divided nerve-ends and muscular segments were much displaced by cicatricial retraction, restoration of the sphincter becomes impossible. In addition, the rudiments of the muscle are so atrophied that they can hardly be recognized, and should it be possible to find and unite them, the lack of innervation will render the

[1] Read before the New York Surgical Society, January 24, 1894.

attempt at restoration of the function futile. The case related in the beginning of this paper may serve as a fair example of this form of the disorder.

To remedy this distressing condition, surgical ingenuity has devised a number of plastic operative measures, most of them directed toward the narrowing of the terminal aperture of the breach. All of these are of a very doubtful value, and will not be considered in this study. One of them, its object being the re-establishment of sphincteric action, and recently devised and recommended for another group of cases of incontinence, by Willems,[1] may be mentioned now. It consists in the implantation of the freed end of the rectum into a slit made by blunt separation of the fibres of an adjoining portion of the gluteus magnus muscle. The end of the gut is attached by suture to a corresponding aperture in the skin. This procedure was proposed as a complementary step of one of the modifications of Kraske's operation for excision of the rectum. It involves a great deal of dissection, a wide displacement of the gut to an inconvenient locality, and does not give much promise of success. As I have never had occasion to employ this procedure, I content myself by mentioning the idea.

As before stated, this last form of incontinence was justly considered to be incurable as far as full control of semiliquid fæces is concerned. There is good reason to say that now even these hopeless forms of the trouble have a fair chance of cure by a procedure that surgery owes to Gersuny. The procedure I refer to is torsion and implantation of the twisted end of the gut by suture. But we shall revert to this later on.

To complete the enumeration of conditions in which incontinence is observed, though the sphincter is still present but disabled, we have to mention various forms of ulcerative and stricturing proctitis, in the course of which parts of the sphincter are either destroyed by ulceration, or lose their active contractility by permeation with inflammatory deposit, and conversion of this into a dense, unyielding cicatricial mass. These are the cases in which stricture and incontinence may be simultaneously present. I have observed a number of instances of this state of affairs, and may be permitted to give an illustration. A young married woman, who had been cut for abscess of the Bartholinian gland accompanying a suspicious vaginal catarrh, returned to me after an absence of over two years with ulcerative and stricturing proctitis. Periods of most obstinate constipation, and just as obstinate diarrhœa alternated, and the woman presented a very marked state of febrile emaciation. The anus was the seat of a dense, massive stricture, extending an inch above the outer skin, through which an elastic urethral bougie of twenty-four French gauge could barely be passed. The sigmoid flexure and descending colon were perceptibly thickened, very painful to touch, and a mixture of pus, fæces, blood, and ropy mucus was continually oozing out of the small anal aperture. The stricture being divided by the knife, a wide area of ulcerated mucous membrane, occupying the rectal pouch, was exposed.

The ulceration extended a good deal beyond the visible portions of the gut, and this was ascertained by touch. Enormous quantities of slate-colored, putty-like, fecal matter were evacuated after this, and the stricture and ulcerations were subjected to a methodical treatment by dilatation, and by the application of various measures directed toward the maintenance of cleanliness in the rectal pouch. The fever diminished, but did not entirely subside, and the older ulcerations, situated near the anus, slowly healed one after the other. The patient would not hear of a colotomy, and finally withdrew disheartened from further treatment. It seemed to me then, that by means of colotomy the ulcerative process might have been brought to a standstill. After this the diseased part of the rectum might have been excised, and the colotomy wound closed. To-day torsion of the rectal stump would offer a very fair chance of the restoration of rectal continence.

[1] Centralblatt für Chirurgie, 1893.

These are, then, the various forms of rectal incontinence caused by disability of the sphincter.

Let us now consider those cases of incontinence which depend upon the absence of the sphincter muscle.

They are naturally divided into two groups. First come the cases of congenital defect of the sphincter, frequently observed as a complication of the various forms of imperforate anus and of atresia of the rectum. A large proportion of infants born with imperforate anus present other grave defects and instances of arrest of development, chiefly of the uropoetic system, which compromise their viability and lead to their speedy death. Those that survive proctoplasty, or proctotomy, and are provided with a sphincter, are fortunate and are few. Those that survive without a sphincter, will suffer from rectal incontinence.

Before proceeding further I have to state that R. Gersuny, of Vienna, in Austria, described, in No. 25 of the *Centralblatt für Chirurgie* of the year 1889, a novel and very ingenious process for the cure of vesical incontinence in women, which had yielded to him a brilliant success in one case. This process consisted in dissecting out of the entire female urethra, its torsion, that is, rotation around its own axis, and fixation of the twisted cylinder to the outer skin by suture. By establishing an elastic resistance, which could be overcome only by considerable intravesical and abdominal pressure, perfect continence was gained.

In July, 1893, F. F——, a boy, seven years of age, was admitted to the German Hospital with prolapse of the rectum and incontinence of fæces, due to congenital defect of the sphincter. He was born with an imperforate anus, for which proctoplasty had been performed shortly after his birth. There was present a prolapse of a cylinder of mucous membrane of about five inches in length, and on account of the continual oozing of fæces the child was excessively uncleanly. Remembering Gersuny's publication of 1889, I determined to try the identical method on the rectum. Accordingly, on August 12, 1893, the boy being anæsthetized, about two and a half inches of the lowermost portion of the rectum, including all of its coats, were freely dissected out. Then the free margins of the gut were secured at the four quadrants of its circumference by four artery clamps, and then twisted in an arc of three hundred and sixty degrees. I feared that this torsion would lead to an interference with the circulation of the gut, but the intestine did not change color and its circulation remained unimpaired, whereupon it was stitched to the outer skin by a dozen silk sutures. It was exceedingly interesting to observe, on introducing the index-finger into the anus, how great the resistance was that was offered. Though the wound did not heal entirely by primary union, the functional result was excellent, and both prolapse and incontinence were cured. I may add that the dissection was moderately bloody and not at all difficult. The patient was discharged on September 2, 1893.

Later on, in November, I had another opportunity to perform this operation, and while demonstrating the result to Dr. Lange, he informed me that someone had anticipated me in doing this same operation. Upon search, I found this verified by an article of Gersuny himself in No. 26 of the *Centralblatt für Chirurgie* of 1893, where he published the result of two successful cases of his own.

Let us now return to the consideration of the last group of cases of incontinence due to the absence of the sphincter. This most numerous group is made up of those instances in which the sphincter is extirpated by the surgeon in removing neoplasms of the rectum. Here torsion and fixation of the twisted stump will be an easy addition to the act of extirpation, or can be done later on with little risk, during or after the healing of the external wound. The amount of torsion required will be readily estimated by the resistance felt to the introduction of the index-finger. The smooth cylinder of the rectal channel will thus be converted into a rather close spiral twist, the

conditions being parallel to those of a smooth bore gun-barrel on one hand and of a rifle on the other. In leaving the twisted rectum the fæces will have to overcome the elastic resistance of normal living tissues, and must traverse the spiral course of a rifle projectile.

The second case operated on by myself and mentioned before was that of Mrs. Sarah G——, aged forty-one, who on February 21, 1893, underwent the operation of excision of the rectum for cancer at Mt. Sinai Hospital. Four and a half inches of gut, together with the sphincter, were removed after excision of the coccyx, and the stump was attached close to the sacrum. She made a good recovery. In November she presented herself again, complaining of incontinence due both to the absence of the sphincter and to a diarrhœal tendency. I found the anal aperture representing a flaring and wide funnel of mucous membrane, this excessive flaring being apparently caused by cicatricial retraction, its antero-posterior diameter being two and three-quarter inches, its lateral diameter two inches.

The advice to submit to Gersuny's operation was accepted, and accordingly this step was taken on November 28, 1893, at Mount Sinai Hospital. Dissection, the path of which lay mostly through cicatricial tissue, was remarkably unbloody. The peritoneum being incised, its free margin was stitched with catgut to the anterior aspect of the gut about three inches above the intestinal margin. After this the freed gut was twisted around its own axis in an arc of nearly three hundred and sixty degrees, and then attached to the margins of the external wound by a number of silk sutures. The wound healed in about three weeks. The patient's intestine is very sensitive to irritation, and in consequence of the absorption of mercury from the sublimate lotion used for irrigation during the operative work, a smart mercurial enteritis set in, which was overcome by the exhibition of opiates. There was considerable diarrhœa present, during which, however, the patient never failed to control her bowels. In presenting this patient to you I beg to direct your attention to the small amount of anal mucous membrane exposed; to the starlike concentric arrangement of the anal folds, very much resembling the aspect of a normal anus; and finally, to the close apposition of these folds to each other. On introducing the index-finger about two inches, especially if this be done immediately following defecation, a resisting ring of elastic tissue is encountered simulating a sphincter. This resistant ring of tissue is apparently corresponding to the place where the fixed portion of the gut ends and joins the twisted part.

There the effect of torsion must be most pronounced. Gersuny also mentions this peculiarity in his two cases. *A priori*, it may be assumed on general physiological principles that a new resistance having been created, a compensating hypertrophy of the muscular elements of the lower portion of the rectum down to the twisted part would result after a while. Whether this hypertrophy would embrace the twisted part of the rectum also, increasing its resistance and improving its function, or not, would be very interesting to decide by observation.

In conclusion, it may be added that torsion might be applicable to any portion of the large intestine, provided that the gut be first cut across completely, and is freed of its mesenteric attachment to a moderate extent. The distal segment can be either closed and dropped into the abdominal cavity, or can be attached to the margin of the external wound in the usual manner.

The great value of this simple and ingenious addition to the technique of intestinal surgery will be at once apparent to the practitioner, and its application in suitable cases can be warmly recommended.

OPENING THE CRANIAL CAVITY WITH A NEW SET OF INSTRUMENTS.

The Operation Illustrated from an Interesting Case, with a Report.

By J. S. PYLE, M.D.,

CANTON, O.

Surgeons find it very often necessary in brain surgery to secure an ample field for operation. To do this, in my opinion, there is no method that equals that performed with the diamond drills illustrated in this paper. The idea is not original. Drs. Hartley and Parker, of New York, advanced the principles of the operation, but I do not know how extensively these gentlemen have applied it. It is for the purpose of familiarizing the general reader with the operation, and extending its application, that an exposition of it is undertaken here. The step is too important a one in advance to reserve for the specialist in brain surgery. Every person who is likely to be called to render surgical aid in emergency cases of injury to the head ought to be able to make the operation. As an exploratory measure, the specialist will find that it answers every requirement without in the least sacrificing the protective envelope—the cranium. This is a very important consideration, and will, no doubt, be appreciated by those who frequently have occasion to extend the field of examination, but live in fear of the results from the loss of so much protection to the cranial contents. The extent of the cranium that can be loosened up and restored to its proper office has not been determined, and there seems to be no reason to suppose that any limit will be established. The bone that is turned out is not detached from the periosteum and scalp, and its nutrition is thereby preserved, making repair certain. The illustrations used to make this method clear are reproductions of photographs taken from one of my cases during the operation; the instruments are of my own device and are the result of a study of this class of work. The operation, whether performed for the relief of depressed

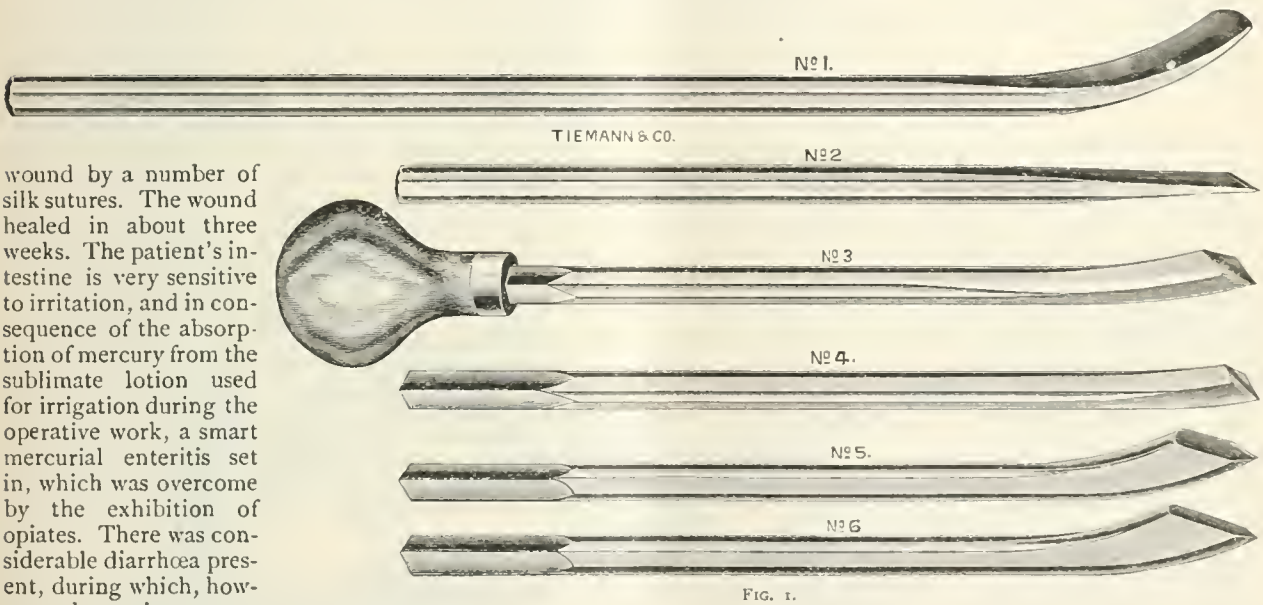


Fig. 1.

bone, or as an exploratory measure, is the same. The prerequisites are the necessary instruments, consisting of those shown in Fig. 1, a scalpel, hæmostatic forceps, needles, mallet, sponges, irrigator, etc., and antiseptics. There should be four assistants. The patient should have the entire head shaved and the scalp cleaned with a

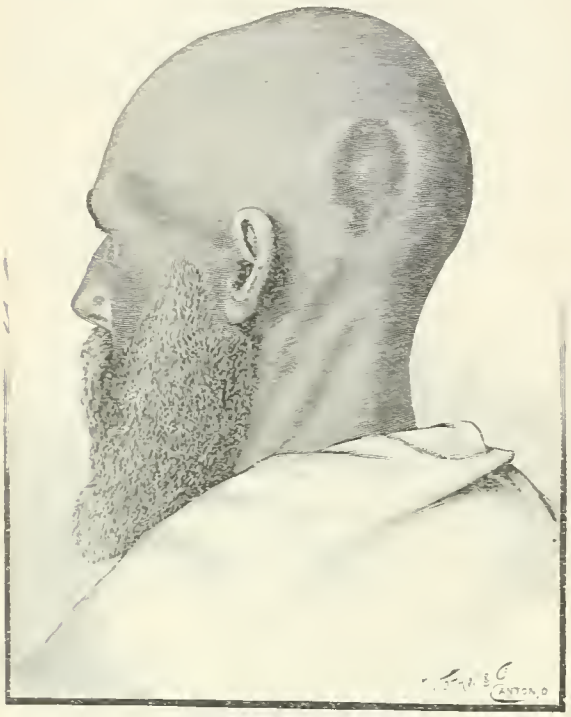


Fig. 2.

brush, soap, and water, and the head then treated with a five per cent. solution of carbolic acid. Our Fig. 2 shows a depression of the occipital bone, and the head after it has received the preliminary treatment. The site of the operation might with advantage be further protected by covering it with a napkin soaked in the antiseptic fluid until the instant of beginning the incision. In all cases the incision through the soft parts and bone should be square or U-shaped; one side of the square, or the base of the U-shaped piece of bone thus mapped out should not be divided in the incision, the bone being simply broken away in the manner shown in Fig. 4, forming a flap consisting of cranial wall, periosteum, and scalp. The incision in the case shown in the illustration is U-shaped, with the base directed downward and made to include the whole area of depression. A scalpel is used to divide the scalp and periosteum. The latter should be thoroughly severed so as to avoid any denudation of the flap of bone when the cranium is cut through. The diamond points shown at Nos. 3, 4, 5, and 6, in Fig. 1. are the instruments used to effect the separation of the bone. This step is illustrated in Fig. 3. The instruments are made of the very best steel, and in four graduated sizes, so that when commencing the operation with the largest, as the excavation proceeds and the furrow grows deeper a smaller size may be used, thereby reducing the cutting surface and facilitating the progress of the operation. Nos. 5 and 6 are specially made to work at the required depth and with the necessary precaution to the underlying membranes and brain substance. They are curved at the cutting end, which makes it possible to regulate the depth of the stroke to a nicety. This is of the greatest importance, as when the internal table is reached care must be exercised not to damage the underlying dura mater. Accidents to the dura mater, however, are not near so likely to happen in this operation as with the trephine or electric saw. Depressing the handle of the instrument raises the cutting point, and this may be so directed that the internal table may be cut through with rapidity without doing harm.

One ball shaped handle is provided for the entire set, and when used it is slipped on the instrument and held in the palm of the hand. The position of the right hand grasping the instrument, and that of the left steadying the head of the patient during the operation, is well shown in Fig. 3. The bone is divided by repeated strokes in the same manner that a wood-engraver cuts a deep furrow in a piece of wood. In beginning this part of the operation No. 1 is operated with the mallet. The handle is left off and the instrument is driven along the line mapped out, by gentle taps, until the furrow is of sufficient depth to retain the point of the instrument, when the hand may be used exclusively to propel it. From this on until the internal table is reached, the cutting may be done with the greatest rapidity. When the bone has been completely divided as far as intended, it will be next in order to turn out the section bounded by the furrow in the manner illustrated in Fig. 4. The instrument used is that shown at No. 1, in Fig. 1. There are three of this kind, one is placed in the middle of the piece of bone to be elevated, and the remaining two on each side at the point where the bone is to be broken through. An assistant is needed to manipulate the instrument occupying the middle and upper part of the piece to be raised, while the operator takes charge of the other two, and by simultaneously raising and lowering the handles of the three instruments, the bone is broken. This step should be done

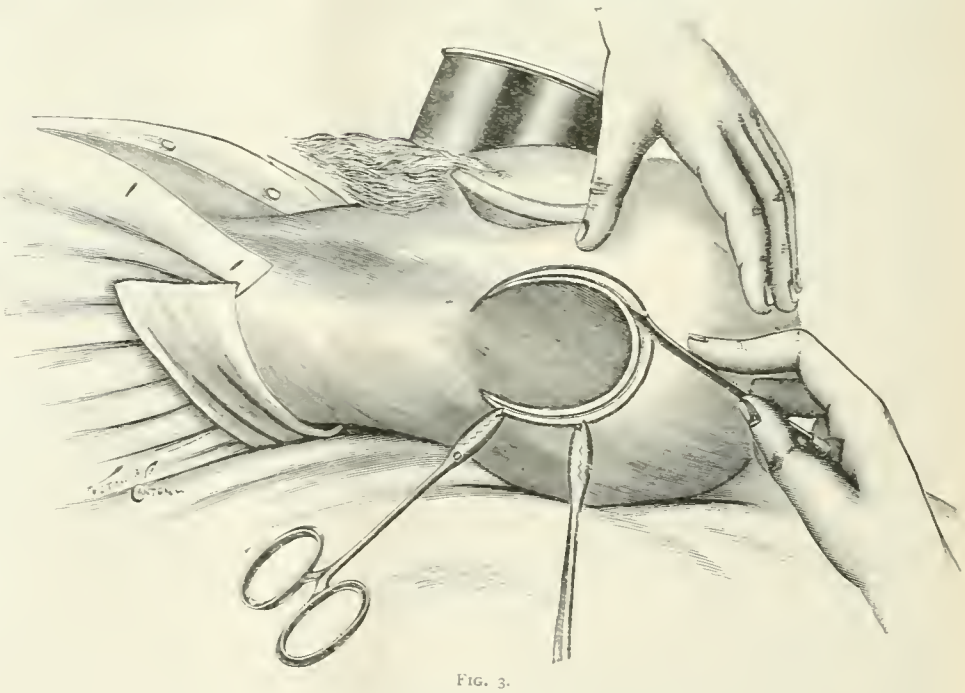


Fig. 3.

deliberately and gently, so as to allow the dura mater time to peel off without injury or causing undue hemorrhage. If this is followed the fracture will also take the direction required. The instruments are used as levers and are curved slightly at one end, which is somewhat flattened and edged so as to make them easy to introduce beneath the bone and between it and the dura. The cranium surrounding the piece to be elevated is used as a fulcrum.

The instrument shown at No. 2, in Fig. 1, is for the purpose of cutting away any spicula that might be left after the fracture. The use of the mallet is again required to accomplish this. During the whole operation the wound should be irrigated with a weak antiseptic fluid. A one per cent. carbolic solution is preferable. If the operation is to be continued upon the brain this may at this juncture be dispensed with and pure distilled water used.

Fig. 5, introduced to show the condition of the piece of depressed bone found in the case used to demonstrate the different stages of this operation, will also illustrate the step just before proceeding with a cerebral operation or concluding the one under consideration. If the depression is not great, all that is necessary to be done is to replace the piece turned out by stitching the fresh borders of the corresponding soft parts, the expansive force of the brain when the calvarium is detached is sufficient to produce enough outward displacement to prevent any return of the compression of the brain. On the other hand, if the bone is very much depressed the piece can be broken and returned in the same manner. To secure the proper convexity of the part thus operated upon, a silver pin may be thrust through the soft parts, between the scalp and the periosteum, from one side of the flap to the other, and extending far enough through on both sides to rest on the border of the solid cranial wall. By bending the silver pin, giving it the same convexity as the natural cranium, the normal condition may be restored. It may be necessary in extreme cases to use a number of these pins; as they do not irritate, no harm can come from this source. Two are usually sufficient, introduced at right angles to each other. The operation being completed as described, the next and the last thing to be done is to arrange the dressings, which are simple, but contain the strictest observation of antiseptic precautions. The wound is first bathed with a five per cent. solution of carbolic acid, then dusted with iodoform, the powder being rubbed along the approximated borders.

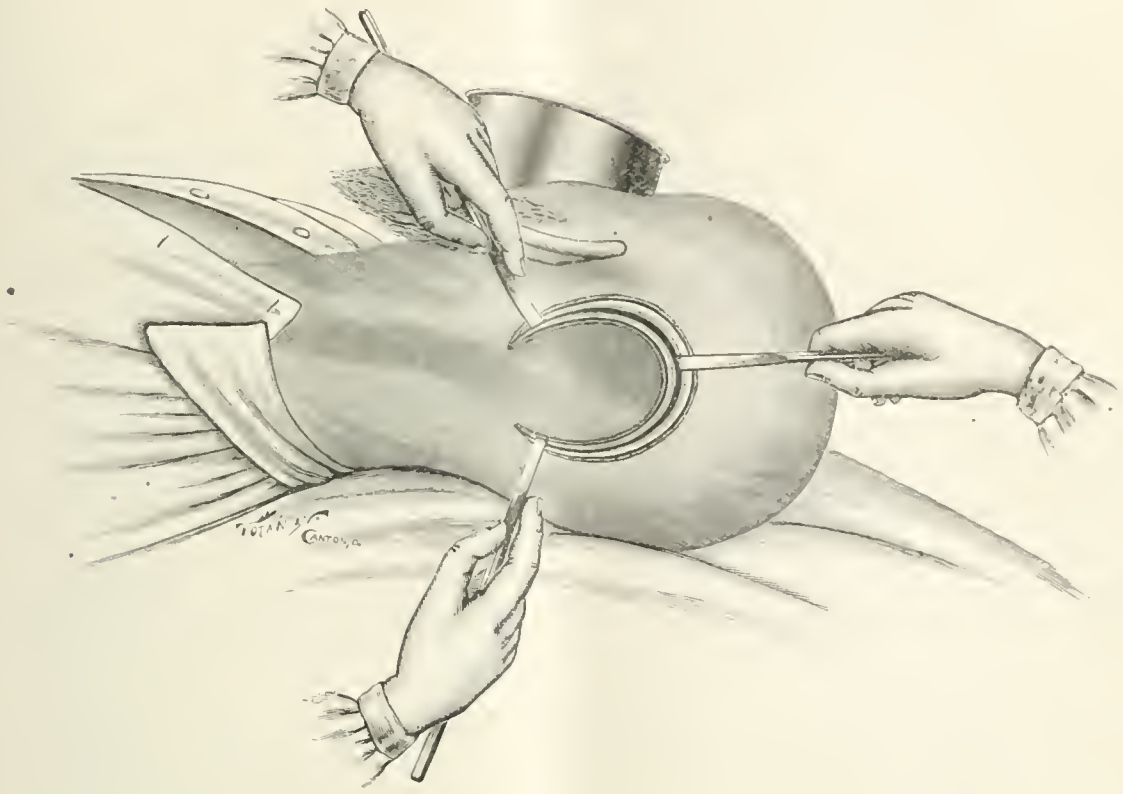


Fig. 4.

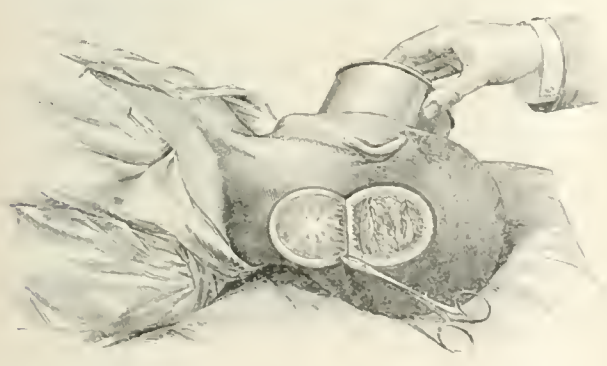


Fig. 5.

Gauze soaked in strong carbolic solution is next applied. Several layers cover the wound, extending for some distance around, so that when the dressings become saturated with blood and harden it produces an excellent splint, which affords ample protection to the underlying parts during convalescence. A layer of cotton further protects the wound, which is covered with oil-silk and the dressings made secure with rubber plaster. The stitches may be removed and the wound dressed at the end of the second week. The wound should not be opened before the expiration of this period unless occasion demands, and even at this time the dressings need not be removed unless the patient is really disturbed by them. The wound almost invariably heals very rapidly. The silver pins may be removed after the case has entirely recovered or bony union has taken place. Our case that illustrates this article was injured six years ago by a hard-rubber ball, driven by a base-ball bat, striking the head at the point of depression. Later, severe headaches with mental irritability were induced which continued to grow worse, until serious mental derangement was feared. The pain was referred to the point of depression, radiating from there to the eyeball on the same side. The operation as herein described entirely relieved the symptoms, and four months have passed without any return. The relief was immediate, and the patient expressed himself the next day as having never felt better since the accident had occurred.

68 West Tuscarawas Street.

Tuberculosis in Cattle.—The valuable blooded stock, numbering nearly a hundred head, belonging to the State Hospital for the Insane at Middletown, are affected with tuberculosis, and two-thirds have been condemned.

TREATMENT OF DEPRESSIONS IN THE SKULL OF THE NEW-BORN.[1]

By DAVID D. JENNINGS, M.D.,

NEW YORK.

ATTENDING SURGEON, BELLEVUE HOSPITAL, OUT-DOOR DEPARTMENT, ETC.

This subject has not had the consideration its importance deserves, for, while it is not a common injury it is liable to occur in the hands of any general practitioner, not only in forceps and breech cases, but also in unaided deliveries.[2] As the treatment of these cases is entirely overlooked in the text-books, I bring it to your attention with the hope that a satisfactory plan of treatment will be outlined, so that, in these days of advanced cerebral surgery more will be done than leaving them to nature, as is the treatment of to day.

By depression I refer especially to the indenting or bending in of the bone, with or without fracture, not the simple overlapping of a suture. It is most commonly found in the frontal and parietal bones, and less frequently in the temporal and occipital.

The books say that these depressions come right of themselves, due to the intra-cranial pressure and the resiliency of the bone, and give the remarkable case of Duges[3] as an example. He gives an instance of great depression in one of the parietal bones, not followed by any serious consequences. The child was delivered by the feet, through a pelvis of which the conjugate diameter was estimated at three and a quarter inches. Powerful traction upon the shoulders and upon the lower jaw was necessary to bring the head past the obstruction, and the parietal bone, which was in relation with the sacro-vertebral angle, presented a depression half an inch in depth and two inches in width. The infant was resuscitated with difficulty, then had convulsions, but in a few days was quite well, and in fifteen days the depression had entirely disappeared.

The fortunate outcome of this case would in these days be no excuse for allowing a child to lie in convulsions for days, when we have a means of prompt relief at our command. It is unreasonable to expect this favorable outcome in the majority of these cases, and, when we consider the serious consequences of these early convulsions, we are justified in removing the cause.

These cases do not always come right of themselves, and, from the cases that have come under my observation, I would say that frontal depressions rarely do. Cases of marked depression in each of the cranial bones are on record,[4] and serious consequences have followed.

Dr. Wharton Sinkler[5] says: "A few days ago I saw a child with right hemiplegia, and the mother stated that the child had been delivered by forceps, and that, immediately after birth, there was a deep depression behind the left ear. I found upon examination of the child, who was now sixteen months old, that the depression still existed in the left mastoid process. There was right hemiplegia present. The right leg was spastic, and the movements of the arm limited and inco ordinate."

Mr. Charles Mercier[6] reports a case of hemiplegia, from injury to the cranium by forceps during delivery: "Mary Ann B——, aged thirty-seven, has right hemiplegia. The arm is quite incapable of voluntary movement, is smaller in all its dimensions than the opposite limb, and is severely contracted, so much so that the palm and palmar surfaces of the extended fingers lie in contact with the front of the forearm. The right leg is paralyzed and contracted, but to a less degree than the arm; the right foot is smaller than the left, and owing to the contractions of the calf-muscles, she is unable to put her heel to the ground.

"On the left side of her head is a deep curved groove, beginning vertically over, and one inch above, the ear, and running forward for about an inch. It then curves upward with a bold sweep, and, becoming shallower, finally runs backward and is lost between the vertex and the parietal eminence. The groove is about half an inch wide, the concave edge steep, the convex edge bevelled. Over the anterior inferior angle of the parietal bone, where the groove is most marked, it is about an eighth of an inch deep; but the tension of the skin serves partially to obliterate the depth, which is found by the touch to be greater than appears. Over this portion of the groove is a considerable cicatrix. The patient has been hemiplegic from birth, and has had the groove on her head also all her life. The mother had often told her that 'instruments' were used at her birth."

After giving this history he makes the following remarks: "There can be no doubt about the obstetric origin of this deformity and paralysis; and, having regard to the high elasticity of the new born skull, and the deep indentations often visible on the heads of children delivered by the forceps, indentations not only in the caput succedaneum, but actually involving the bones, it is questionable how far this extreme case is a representative of others in which, the violence being less excessive, the external traces do not persist, but the damage to the brain remains irretrievable. Cases of congenital hemiplegia are common, and in two cases I have been able to prove that the arteries supplying the atrophied convolutions were pervious."

Lusk,[1] when called upon to settle a dispute which had arisen between two practitioners as to the advisability of trephining the frontal bone for a depression, says: "I am not sure that this might not be good practice in some instances, but so far we have had no experience as regards results."

I have the pleasure of reporting a successful trephining for this condition, which I did, at the urgent solicitation of the father, on an infant forty hours old. On February 26, 1893, I was called to see an infant who had just been delivered by the forceps. The left frontal bone was deeply depressed, presenting a concave instead of the usual convex surface. The depression, smooth and cup-shaped, was more than half an inch below the surface, and was so disfiguring that the father wished something to be done at once for its relief. In the absence of symptoms I advised delay to give nature a chance.

Forty hours after birth, the head having assumed its normal outline, with no improvement in the depression, I operated, with the aid of Dr. Philip Scheu, after suction with a cupping-glass, as recommended by Paré and Hildanus in fractures in young children, and practised successfully by Larkin[2] in a similar depression, had failed.

The scalp having been thoroughly cleansed, a Y-shaped incision was made over the centre of the depression, the periosteum incised and stripped back sufficiently to apply a small trephine (half an inch in diameter). A button of bone of considerable thickness was removed, and the surrounding bone lifted into position with an elevator. After cleansing the wound with a weak carbolic solution the button was replaced, and the wound closed with catgut sutures, using a few strands of catgut for drainage. Antiseptic dressings were applied, and the infant was soon quietly nursing at its mother's side.

The operation was simple, and apparently without shock. No anæsthetic was employed, and it was not necessary to tie a vessel. The catgut drainage was removed on the following day. The wound healed by primary union. The child slept and nursed well, and made an uneventful recovery.

Gross,[3] in speaking of the operation of trephining in early childhood says: "The utmost caution is required,

[1] Read at the annual meeting of the Medical Society of the State of New York, February 6, 1894

[2] Bul Soc. de Chirurgie, p. 278. Paris, 1857. Ibid., 2d series, p. 159. Paris, 1562; and H. W. Larkin: London Lancet, 1872, vol. ii., p. 490.

[3] Quoted by Jacquemier, Manuel des Accouchements. Paris, 1846.

[4] Dr. Arnold: Boston Medical and Surgical Journal, vol. lxxxvi., p. 352. Charles Mercier: British Medical Journal, 1881, vol. i., p. 847.

[5] Medical and Surgical Reporter, 1887, p. 675.

[6] Charles Mercier: British Medical Journal, 1881, vol. i., p. 847.

[1] Medical and Surgical Reporter, 1887, p. 673.

[2] Larkin: London Lancet, 1872.

[3] Gross's System of Surgery, 1882, vol. ii., p. 88.

otherwise, as the skull is very thin and destitute of diploë, there will be great danger of injuring the membranes of the brain, the more especially as the dura mater adheres with extraordinary firmness to the inner surface of the cranium."

In my case I did not experience any difficulty in removing the button after it was separated, and, in the cases I am about to refer to, the dura mater must have been separated from the bone for as much as an inch without any injurious result. While this is the first trephining, it is not the first operation performed for this condition.

Dr. Tracy [1] raised a depression in the frontal bone by making an incision just forward of the fontanel, and passing in a small pair of curved scissors (which he used as an elevator) between the bone and the dura to the centre of the depression. After two or three unsuccessful attempts, he succeeded in snapping the bone into place. The child was well years afterward.

Dr. Sinclair [2] reported a deeply indented frontal bone occurring in a forceps delivery, but not due to the instruments, as the forceps' marks were on other parts of the head, and says: "The disfigurement was so marked that the child's father declared he would rather it should die than grow up with such a mark." "As no external pressure produced any effect an incision was made near the anterior fontanel, into which an elevator was introduced and passed through the frontal suture, between the dura mater and frontal bone, to the point of depression. After three ineffectual attempts the depressed bone was raised to its normal position. Water-dressings were applied, and the child recovered perfectly."

Dr. Irving W. Smith [3] reported last year two cases of depression due to instruments. The first infant had a fronto-parietal depression, and developed obscure symptoms from which it died after about twelve days. In the second case the depression occupied the right frontal bone, and was three inches long, two wide, and half an inch deep. The child was constantly crying, and nursing and sleeping little. Profiting by his experience in the former case, he operated on the fourth day, raising the depression, after dividing the bone with a Hey's saw transversely to the axis of the depression, with an elevator applied successively on either side of the saw-track. A slender, long spicule was removed. The operation under anæsthesia was without shock, and the child slept and nursed normally from the hour of the operation.

These four cases are all I have been able to find where an operation has been performed. They were successful, and, if serious consequences do follow as a result of these depressions, these infants have escaped.

I believe you will all agree with me that, if symptoms accompany the depression, it is our duty to operate at once; but how shall we treat that equally large class of cases where there are no immediate symptoms? Here there are two indications: 1. To prevent subsequent brain trouble. 2. To relieve the deformity.

The first indication is the only one to be seriously considered, as the growth of hair would hide the disfigurement in any region but the frontal.

Fritsch regards these cases as generally fatal, for, even if the child cries lustily after birth, in a few hours it becomes drowsy, and dies from stupor.

Schroeder [4] collected 65 cases of spoon-shaped depression. Of these 32 were fatal and 33 survived. Of the fatal, 22 were born dead, and 10 died shortly after birth.

As we have no collected testimony as to the results of these depressions in infants, we are compelled to make a comparison with the same class of cases in older children and adults. This will not be entirely satisfactory, as in infants we have the presence of fontanels and sutures to allow of some compensation. We have, however, the cases of Sinkler and Mercier, previously quoted, to show that permanent injury does sometimes follow these depressions, and it is a question how many cases of hemiplegia are due to the results of these injuries after the depression itself has disappeared.

It has been, and still is, a disputed point as to whether a simple depression in the adult head does cause symptoms, and also whether an operation for its relief is justifiable. The latest text-books advise us, and it is the practice in our large hospitals, to operate for the relief of simple depression, and so avoid the subsequent dangers, *i.e.*, insanity, epilepsy, persistent headache, etc.

Dr. Agnew [1] recently writes: "The doctrine that depressed fractures of the skull without symptoms required no operative interference, a doctrine, which in the past has been so deeply rooted in the professional mind, I hold to be responsible for many, very many, of the unfortunate sequels of head injuries. However small may be the depression which follows a fracture of the cranium, save in one or two localities, it will encroach enough upon the dural nerves to cause more or less irritation, which, though insignificant at first, and not at all recognizable to the consciousness of the patient, yet eventually that irritation will be propagated to the meninges, and later on to the cortex and brain ganglia, until finally the paroxysmal explosion occurs, and then, even when the initial lesion is removed, the slowly established habit, created by years of excitation, will remain as an ineradicable legacy. No amount of foresight can determine what happens to the inside of the skull, after the reception of an injury, by the inspection of its external surface, the physical properties of the two being so very unlike. Whenever, therefore, in my judgment, the profession can accept the doctrine that all depressed fractures of the cranium, however slight may be the depression, and entirely irrespective of pressure symptoms, are proper subjects for trephining, then will traumatic epilepsy largely disappear from the list of surgical diseases."

Some claim that you must have a spicule of bone irritating the brain; a laceration of, or hemorrhage, causing pressure on the brain to produce symptoms; but a case that came under my observation while interne at Bellevue Hospital inclines me to side with those who believe that depressed bone alone will cause irritation. A child, three years of age, was carried into the hospital in his mother's arms to have a scalp wound dressed. While waiting his turn the boy had convulsive twitchings of eyelid and upper and lower extremities of the left side. Right side motionless. He had fallen from a truck upon the top of his head, and received a compound depressed fracture of the right parietal eminence. After the cup-shaped depression was raised by trephining just outside of fracture, the symptoms of compression were immediately relieved, and the boy felt so well on the following day that we kept him in bed with difficulty. There was no evidence of injury to the brain or membranes, and the symptoms appeared to be due entirely to the depression.

It is also a fact that the simple removal of depressed bone has cured cases of epilepsy,[2] paralysis,[3] and headache that have lasted for years.

If, then, in the adult, where the cortex is alive to the least irritation, it is unwise to allow a depression without symptoms to remain untreated, is it not also unwise to wait for symptoms in infantile depressions, when it is a fact that very great damage may be done to an infant's brain, because the cortex is undeveloped, without producing a cerebral symptom? In Dr. West's [4] case, the child did not present a symptom of injury to the head, with the exception of a hæmatoma of the scalp, until the twenty-third day after birth, when it became drowsy and had convulsive twitchings of the face. On the twenty-sixth day it developed general convulsions and died.

[1] Boston Medical and Surgical Journal, vol. lxxxv., p. 179.
[2] Ibid., p. 122.
[3] American Journal of Obstetrics, 1893, p. 179.
[4] Fritsch: Klinik der Geburtschülflichen Operat., Aufl. ii., p. 305.

[1] Universal Medical Magazine, 1891-92, p. 18.
[2] Briggs: Nashville Medical and Surgical Journal, 1866, new series, vol. ii., p. 35.
[3] Pease: Transactions of Medical Society of State of New York, 1875, p. 247.
[4] Transactions of London Medico-Chirurgical Society, 1845, p. 397.

At the autopsy a fissured fracture of the parietal bone was found, with an effusion of blood more than half an inch in thickness, occupying the entire fossa of the parietal bone, all firmly coagulated and not of recent date. The right hemisphere was pale, bloodless, and very soft. There was no fluid in the ventricles, and but little blood in the sinuses. In this case "no symptom of affection of the brain appeared till the twenty-third day, and death took place on the twenty-sixth."

E. Barrie[1] reports the case of an infant, one month old, who at birth presented a deep lozenge-shaped depression occupying the space between the anterior fontanel and the bos frontis, who died suddenly, the only sign of sickness being a convulsion ten days previous, after which the infant was as well as ever. At the autopsy the organs were found normal, and there was no alteration in the brain with the exception of an excavation to allow the depressed bone to rest in.

When shall we operate?

Immediately, if there are symptoms.

If there are no symptoms we may wait a few weeks to give nature a chance. If she is to succeed she will do most of her work in the first few days. Whatever improvement takes place after that time is more apparent than real, as it is very probable that the concavity is partially filled with new tissue. I say this because at some of the autopsies the bone was unnaturally red, and the periosteum very much thickened. As some French writer puts it, the periosteum was "recovered."

How shall we operate?

By trephining, as it is applicable in all situations; is safer than using the Hey's saw, and besides giving a better opportunity to work, it allows of the inspection of the underlying parts.

Conclusions.—1. Use pneumatic traction. If this fails, trephining is the best operative procedure.

2. Trephining, *per se*, is not a dangerous operation.

3. The removed button of bone can be replaced with good prospect of its union, on account of the vascularity of the bones at this age.

4. Frontal depressions rarely right themselves.

5. Operate at once if there are symptoms.

6. If the depression is still exaggerated at the end of two weeks, operate to prevent subsequent brain trouble, and relieve the deformity.

333 East Twentieth Street.

Clinical Records.—A writer in a journal narrates the following experience: "I was called out one morning at three to see a lady who was 'very ill.' Upon arriving at the house I was shown into a room where a lady was sitting in a composed attitude. I at once asked her where I was to find my patient. She replied with calm deliberation, 'I am your patient.' 'Indeed. What is the matter?' 'If you will take a chair,' said the lady, 'I will tell you. The fact is that I fear I have taken to drinking.' 'I am very sorry to hear it. When did you make the mistake?' 'I am not quite confident as to dates, but as well as I can remember it was in the year 1866—early in 1866.' 'But do you consider it was necessary to knock me up at 3 A.M., in 1893, to see you because you took to bad habits in 1866?' I thought that was the wisest course to pursue."

Continental Vivisectors.—A memorial has been presented to the British Home Secretary by the Victoria Street Anti-vivisection Society, signed by 15,727 persons, requesting the Home Secretary to withhold licenses for vivisection from applicants of foreign birth or extraction. The memorialists state that it is the prevailing opinion that foreign vivisectors are less humane than Englishmen, and that being so they note with alarm that in the inspector's annual reports a considerable number of names of licensees obviously not English. The Home Secretary is scarcely likely to accede to such an application.

[1] Bul. de la Soc. Anat., vol. xlviii., p. 426. Paris, 1873.

PANCREATIC CYST—URETERO-VAGINAL FISTULA, THE RESULT OF VAGINAL HYSTERECTOMY—SUCCESSFUL REIMPLANTATION OF URETER INTO THE BLADDER.

By W. J. MAYO, M.D.,

ROCHESTER, MINN.

SURGEON TO ST. MARY'S HOSPITAL; PRESIDENT OF MINNESOTA STATE MEDICAL SOCIETY; MEMBER OF STATE BOARD OF HEALTH.

1. Pancreatic Cyst.—The pathology of this rare affection has advanced but little since Dr. Senn wrote his classical paper upon the "Surgery of the Pancreas," in 1885; but workers in many fields are reporting cases and making comments upon the prominent features which characterize the disease; and out of the growing material at our disposal more exact pancreatic surgery will evolve. For the purpose of adding to the literature of the subject, I report the following typical case:

Mrs. J. S——, Minneota, Minn., Icelander, aged twenty-eight; married; mother of one child aged eighteen months. Admitted to St. Mary's Hospital September 30, 1893, with the following history:

One month after the birth of her child she first noticed a tumor just to the left of the middle line between the umbilicus and the margin of the left costal cartilage. The enlargement gradually increased in size, giving rise to a feeling of pressure and weight; during the past four months it has grown rapidly, is more painful, and colics or cœliac neuralgias are of frequent occurrence.

There is marked digestive disturbance, partly due no doubt to the fact that she is two and one half months pregnant at the present time. Her general health is failing, and she has lost fifteen pounds in weight. Physical examination reveals a smooth, rounded, and somewhat elastic tumor in the left hypochondriac region, the size of a child's head, slightly movable in a direction toward the umbilicus. Tumor of the spleen was easily excluded, as there was intestinal percussion-note to be obtained anterior and external to the enlargement, showing it to be retro-peritoneal in origin. Renal cyst from the upper part of left kidney was ruled out with more difficulty. The urine was normal and there was no indication of urinary disturbance whatever. Insufflation of the colon with air by the rectum showed that the descending colon passed external to the tumor, between it and the loin, and that the transverse colon lay just below it, while the stomach percussion-note was immediately above. A diagnosis of pancreatic cyst was made by exclusion, admitting, however, of a possibility of cyst of the upper part of the mesentery or hydatid. On October 3, 1893, with the assistance of Dr. C. H. Mayo, and in the presence of Drs. Stinchfield, Witherstine, and Dugan, an incision was made in the median line above the umbilicus. The tumor was found to lay between the stomach and the colon, under the omentum, but too far to the left to be fixed in the opening; a second incision was made in the left semilunar line from the ninth costal cartilage downward, the gastro-colic omentum under which the tumor presented was stitched to the parietal peritoneum and to the tumor wall, and the cyst opened and drained of about one quart of straw-colored pancreatic fluid of the consistency of sirup. Tubular drainage was established, with definite healing in five weeks. The course of the pregnancy was uninterrupted.

2. Uretero-vaginal Fistula, the Result of Vaginal Hysterectomy—Successful Reimplantation of Ureter into the Bladder.—Certain post-operative conditions occur with sufficient frequency to deserve special consideration, as in ventral hernia. In the newer fields of surgery untoward results, necessitated by pathological conditions of like unpleasant character, occur, and among these none are more distressing than urethral fistula. Surgery of the ureter in the upper part of its course has been most ably worked out by Christian Fenger, Weller van Hook, Howard A. Kelly, and others, and the possibility of its complete obliteration with atrophy of the corresponding kidney proved by the experimental work of F. B. Robin-

son. Uretero-vaginal fistula will occasionally occur as a result of vaginal hysterectomy, and more than forty cases have been reported; half of these were, however, due to parturient injuries. The literature of this particular form of accident is very scanty, and those interested in the subject will find a review of a case reported by L. Picqua, and of a paper by M. Bazy, both of Paris, in the *Annals of Surgery* for November, 1893; also a review of a paper by L. H. Dunning. This latter excellent paper can be found in full in the *Annals of Gynecology* for August, 1893. The following case is reported:

Mrs. A. B——, American, aged thirty-six, Winona, Minn. On July 6, 1893, at St. John's Hospital, Winona, Minn., with the assistance of Drs. J. B. McGaughey, C. H. Mayo, and D. Pritchard, I removed by vaginal hysterectomy a large carcinomatous uterus. The operation was rendered very difficult by reason of old inflammatory adhesions to the right and posterior as high as the fundus of the uterus, Douglas's pouch being obliterated. The operation was done by ligatures excepting the upper part of the right broad ligament, when the nature of the tissues rendered clamps necessary. In three weeks she was able to be around, but recovery was retarded by a constant flow of urine from the vagina. By injecting the bladder this viscus was found competent, and by collecting the amount of urine flowing from the vagina, it was found to be equal in amount to that expelled from the bladder, and normal in other respects. A probe introduced into the fistula at the apex of the vagina passed to the right, making it evident that the right ureter was severed in the infiltrated tissues at a point about one inch from its cystic termination. On September 10, 1893, she came to St. Mary's Hospital, Rochester, Minn., and by means of a plastic operation on September 12th, the end of the ureter was freed; a short channel lined with mucous membrane of the vagina was formed, connecting the ureter end with the bladder. Union was perfect so far as the channel was concerned, but failed at the bladder end, and the opening into the bladder promptly healed, leaving the fistula at a new point against its posterior wall. Three weeks later, October 3d, she was again etherized, a flap of vaginal mucous membrane was raised just below and behind the fistula, forming a collar to its lower lip. A curved incision was now made into the bladder, just above and in front of the fistula. A long piece of one-eighth inch rubber tube was carried through the urethra, bladder, and out the cystotomy opening; its upper end was cut obliquely and several lateral openings were made along the upper three inches; this end of the tube was now passed up into the channel previously formed about one inch, and against the ureter end, and secured in this position by a catgut suture. The collar of mucous membrane behind and below the fistula was now turned forward and sutured by buried catgut to the mucous membrane of the bladder, and the posterior lower edge of the cut bladder wall firmly secured to the denuded surface below and behind the fistula by silkworm sutures. The rubber tube carried the urine from the end of the ureter through the bladder, and by its openings in the bladder drained that viscus and prevented tension, its external end passing through the urethra and into a bottle. The bladder was washed with boracic acid solution through the tube daily, and boracic acid given internally to keep the urine acid. By softening of the catgut sutures which held its upper end in position the tube was easily removed on the eighth day, and was not incrusted. No leakage by the vagina took place at any time, and the silkworm sutures were removed in sixteen days. There was but little vesical irritability after the first two weeks and the patient was discharged in three weeks, with a vagina but little shortened from its normal length.

Rheumatism in Past Ages. — Some very ancient Egyptian mummies have recently been unearthed, the bones of which present evidences of chronic rheumatism.

ON THE TREATMENT OF COMPOUND FRACTURES.[1]

By GEORGE W. CRILE, A.M., M.D.,

CLEVELAND, O.

PROFESSOR OF PHYSIOLOGY, AND LECTURER ON MINOR SURGERY, MEDICAL DEPARTMENT UNIVERSITY OF WOOSTER, CLEVELAND, O

Indications for Amputation.—If the blood vessels be injured to such an extent that a sufficient nutrition, direct or collateral, is impossible, amputation is clearly indicated. In any case, *if in doubt, wait.*

Injury to the Nerves.—Laceration of great nerve-trunks takes the *rôle* of a serious complication, but in itself is not a sufficient indication for amputation. The injury to the bone is practically never a sufficient indication in itself for amputation; although the bone may be comminuted, the fragments displaced, even detached, repair will, by appropriate treatment, usually follow.

Indications for amputation in cases of compound fractures are based upon complications, the loss of blood-supply, and the destruction of the nerve-trunks; if in doubt, revise the wound by cutting off the shreds of tissue that will probably suffer molecular death, cleanse the parts, provide free drainage, and place the limb in a moist, warm antiseptic dressing, keep at the temperature of the body, the part somewhat elevated, and you can safely wait the clearing up of indications. In these cases in which the limb is placed on probation the treatment should be the same as if there was no doubt that the limb could be saved. In this manner I have kept for a week a limb that had suffered molecular death in a compound dislocation without a rise in temperature, without pain; and when the time came for an amputation the field of operation was aseptic, and recovery was rapid. If the wound be kept aseptic, the risk to life in waiting is not great. When amputation is not indicated each case must be a law unto itself, and yet there are certain principles which underlie all compound fractures.

Treatment of the Bone.—Cases in which the fragments can be reduced and held in apposition by the ordinary resources—position, splinting, and extension—present no greater difficulty in treatment, if the wound be aseptic, than simple fractures.

If reduction cannot be perfectly made, enlarge the opening in the soft parts, and place the fragments in their proper position. In any case, if necessary, administer an anæsthetic. Reduction of fragments must be made as perfectly as possible. If there is marked over-riding of the fragments, and it is apparent that retention in apposition cannot be maintained by the ordinary methods, then the surgeon should resort to some method of direct fixation to accomplish this end. I have found ligatures of silk very satisfactory. If aseptic, they may be cut off closely and buried in the wound, and not removed.

In order to insure against the slipping of the ligature I have resorted to making a small groove with a saw in each fragment. The ligature placed in this groove cannot slip. As an illustration the following case is given:

A boy, twelve years of age, sustained a multiple fracture of the humerus. The bone was fractured at three places; the middle segment, about two inches long, was also split longitudinally. One of these fragments projected through the wound. The lower fragment was also split longitudinally into the elbow-joint. The upper fragment was comminuted at its junction with the middle fracture, some parts of which were completely detached. The opening in the soft part was enlarged, the bone exposed, and the fragments adjusted, grooves sawed in the ends at the point of application of the ligature, the fragments were closely tied together in four places with strong silk. The wound was partially closed, free drainage provided, and lateral splints applied. After these fragments had been tied together like a bundle of sticks the bone would easily support itself, and when the arm was lifted

[1] Read before the Northwestern District Medical Society, December 7, 1893.

by the elbow the contour was not altered. Splints seemed superfluous, as the bones united, leaving the humerus inappreciably shortened. If this case had been treated by means of a bone ferule, owing to the peculiarity and number of the fractures, the application would have necessitated almost complete detachment of the bones from the soft part; not only this, but it would have been necessary to have applied three or four ferules, which I am sure would have very much reduced, by reason of the destruction of the soft parts and the presence of so much foreign matter in the tissue, the chances for a good result. The advantage I have found in using silk ligatures is that their application is simple with a blunt needle or pedicle needle, and if these are not at hand a curved needle with its point directed close to the periosteum of the bone may be used. There is a minimum mechanical interference. It is unnecessary, then, to turn the bones out from the soft parts, and a further destruction of the blood supply is avoided. In a number of cases in which I have used it, it has always proved a sufficient means of fixation.

In simple oblique fractures with great displacement the ligatures, I believe, might be applied with great advantage. The bone lesion in compound fractures is treated on the same principle as that of simple fractures, lateral displacement and rotation being prevented by suitable splinting.

Treatment of the Soft Parts.—The tissues should be carefully revised by snipping off shreds and particles whose vitality has been destroyed. Muscles may be trimmed off and brought together, tendons sutured, and care should be taken to place the tissues in their normal relation. Above all, as long as there exists a doubt as to the infection of the wound, provide free drainage, and if the natural opening does not present dependent drainage, the establishment of a counter opening should be considered. After forty-eight hours, if the wound proves to be aseptic, drainage may be removed, and the wound closed; if not, the wound and soft part should be treated in exactly the same manner as if no fracture existed. The skin at the opening of the wound, unless perfectly clean, should have the margin continuously removed. Nerve-trunks, if severed, should be immediately sutured by the direct method, end to end, or indirectly, by fixing each end of the nerve-trunk in hollow, perforated, decalcified bone. Ordinarily I prefer to make for each fracture a splint from bass-wood. With cotton, adhesive plaster, bass-wood, and a sharp knife, a splint may be made for almost any possible fracture. There are splints of excellent devices on the market, but the objection to their indiscriminate use is that very few of the models will fit the limb under consideration, and the contour of the limb will adjust itself to the idea of the manufacturer, instead of the idea of the manufacturer the contour of the limb. In using a plain piece of bass-wood the contour of the limb may be duplicated by padding of the splint, thus applying a greater pressure here and a lesser pressure there. Selective padding, judiciously made, will safely accomplish these ends. If the splint is to be concave, shallow longitudinal incisions in bass-wood, then covered with adhesive plaster, will yield to allow of the bending of the splint to almost any degree of concavity. After the question of the wound has been decided by the lapse of a few days, and reaction has reached its height, the application of a plaster-bandage may be made. At first dressing, unless the case be in a hospital under constant observation, the plaster-bandage does not commend itself. If necrosis of the fragment take place, keep up free drainage and wait for its detachment. Operative measures against dead bone, while it still remains fixed, have not been satisfactory, and, again, waiting is conservatism. Only the outer portion of the bone is finally cast off, oftentimes only a thin shell; thus, by waiting, the deposits of bone under this shell become thicker and thicker, and when, finally, the shell is cast off, a firm callus has taken its place. Passive motion may be begun as soon as it can be done without disturbing the fracture. Massage, tonics, exercises, cold and hot affusions—all may be employed to restore the function. In reviewing the notes of fifty-three cases of compound fractures I have treated, there has been no case of non-union, and none of any marked disturbance of contour. There has been one death from pulmonary embolism.

In conclusion, in order to bring the subject before this Society for discussion, I would submit the following:

1. The indications for amputation in cases of compound fractures rest upon the complications; the injury of bone itself is not sufficient grounds for amputation.
2. The fragments should be thoroughly reduced, and, if necessary, held in place by means of some mechanical appliance, preferably strong silk ligatures.
3. The silk ligature may be fixed in the groove made by a saw, cut off close, and allowed to remain buried in the wound.
4. The fracture should be treated on the same principle as a simple fracture.
5. In case of infection provide for ample dependent drainage. In case of doubt treat the case as if it were known to be infected.
6. Restore the normal relations of the soft parts, if necessary, by means of buried sutures.
7. If there are ragged edges, the wound should be revised by trimming off the crushed tissues, and if the opening in the skin be soiled, continuous excision of the margin should be practised.
8. If necrosis of the bone follow, maintain free drainage and wait for a complete separation.
9. Unless under continuous observation, plaster-of-Paris bandage should not be applied until the acute symptoms have subsided and the condition of the wound has declared itself.
10. In restoring the normal function persistent treatment by massage, baths, tonics, and, possibly, electricity, are important.
11. The bone should be treated as if there was no injury to soft parts; the soft parts as if there was no injury to the bone.

380 Pearl Street, Cleveland, O.

An Epidemic of Priapism.—Dr. Meynier, a French army surgeon, has recently published a curious bit of medical experience. A company of troops *en route* having halted for some time at El Hacaiba, the men were nearly all seized with priapism and prolonged and painful erections. Considering that an absence for some time from a garrison town might be the cause, the surgeon ordered light diet and flaxseed tea. The condition, however, became steadily worse. The erections continued throughout the company, and the men began to complain of great lassitude and dryness in the throat. Finally many had marked hæmaturia. Careful investigation disclosed the real cause of the trouble. During their leisure the men had been hunting frogs at a neighboring stream. The poplar and willow trees along the banks were found to be thickly covered with coleoptera of the family of cantharides, *meloe*. Chilled in the early morning they fell by thousands into the water, where they were gladly and greedily devoured by the frogs—which later gave similar pleasure to the soldiers. The taste of the flesh was in no way injured, but its effect upon the genito-urinary system of the divers was disastrous. The removal of frogs' legs from the bill of fare put an end to the curious epidemic in a few days.—*The Boston Medical and Surgical Journal.*

Vaccination: A Study in Black and White.—A physician in Boston who has been vaccinating the employees of some of the large hotels, reports that he was able to vaccinate forty eight white persons an hour, but only thirty-eight negroes in the same time. As all the other conditions were the same, the greater thickness of the black man's skin suggested itself as the explanation.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street.

New York, February 10, 1894.

THE NEW STATE LUNACY BILL.

THE discussion of the State Care Act for the Insane, and its autocratic interpretation by the Lunacy Commission, have cumulated in the presentation of a new bill for the abolition of the Commission, and the creation in its stead of a Committee on Lunacy, to be appointed and controlled by the State Board of Charities. This bill contains the following sensible and practical provisions:

Within ten days after the passage of this Act, the State Board of Charities shall, at a meeting called for that purpose, elect by ballot three members of its own body, who shall serve without compensation, and who shall constitute the "State Committee" of said board thereafter. At each annual meeting said board shall elect three members of said committee for the ensuing year. Said State Board of Charities shall appoint a Secretary of said Committee who shall be known and designated as the "State Commissioner in Lunacy," and who shall be a reputable physician, a citizen of this State, and a graduate of a legally chartered medical college, having been in the actual practice of his profession at least ten years, and who has competent knowledge of the treatment of the insane and the management of institutions for their care and custody; he shall receive a salary of five thousand dollars per annum, and one thousand dollars in lieu of travelling and other incidental expenses. The said committee shall elect its own chairman.

"The said Committee in Lunacy is empowered and required to execute, through itself or its secretary, all the provisions of this Act which pertain to its office, and shall direct its secretary accordingly; and shall also, with the consent of the Board, make such other rules and regulations for its own government, and that of its secretary, as are not inconsistent with the provisions of this Act; but said committee shall, at all times, be subject to the authority and control of the State Board of Charities.

"All the powers and duties conferred upon, and exercised by, the State Commission in Lunacy, in conformity with Chap. 273, Laws of 1890, and Chap. 214, Laws of 1893; or acts amendatory thereof, or by any other act not specially mentioned, or enumerated herein, are hereby transferred to, and conferred upon, the State Committee in Lunacy and its secretary, created by the first section of this Act, and the State Commission in Lunacy is hereby abolished.

"It shall be the duty of the State Commission in Lunacy to transfer to the State Committee in Lunacy, on the written request of the chairman of said Committee, all records, papers, books, office furniture, and other property of whatever name or nature, belonging to the State and in its possession.

"The said Committee shall be provided by the proper authorities with suitable accommodations in the State Capitol for its office, where it shall hold its meetings as often as once in three months, the time for such meetings being fixed by the Committee; additional meetings may be held at other times and places as the exigencies of the service may require. The Committee is authorized to employ such number of clerks as it may deem necessary, but the total cost of such service shall not exceed four thousand dollars in any one year."

This bill is the outcome of a free interchange of opinion by all those who are interested in the success of the State Care Act, and whose practical experience in the treatment of the insane in our State hospitals entitles their conclusions to respect and their recommendations to confidence.

Notwithstanding efforts on the part of such as still believe in County care to prove that the present law is a failure, and that a return must be made to the old system, the convictions of those who have given the subject careful study are firmer than ever, as to the great advantages of State care for both acute and chronic insane. The only fault has been in the objectionable and perverse methods of its administration by the Lunacy Commission as now constituted. In fact the time has come for a change, not only in the personnel of the Commission, but in such curtailment of its powers as shall make appeal from its judgment in all times and under all circumstances a possible measure.

While willing to give the Commission due credit for its efforts to carry out the law, we must admit that it has signally failed in so doing. At best the present construction of the law can only prove the danger, even to conscientiously inclined public officers, of having extraordinary power given them, and the temptation to enforce it oftentimes against the dictates of common sense or ordinary reason.

It will be seen that the proposed law has several features which are improvements on the one now in force. It is a transfer of the duties of the Commission to a Committee of the State Board of Charities, which latter has always had a supervisory control of all State charities. It consolidates functions which are now uselessly separated, thus simplifying machinery, conserving common interests, and restricting expenditure. The present Lunacy Commission costs the State nearly thirty thousand a year, while the new committee can do its work more efficiently, more harmoniously, and more consistently, for one-third of that sum. Moreover, the effectiveness of the proposed law has already been amply demonstrated in Pennsylvania, which, after a varied experience in lunacy legislation, has settled upon it as incomparably the best. While there is no intention in the new bill to alter the essential features of State control of expenditures, the advocates of the new measure are content to try the experiment of continuing the principle of such supervision under a more distributive method of its administration, and one in which there is more division of responsibility and consequently less oppor-

tunity for error by individual judgment. But above all, it very properly removes the supervision of our great State hospitals from the domain of politics, by vesting all responsibility in the State Board of Charities, composed of independent and representative citizens who make and control appointments, and whose only accountability is to the public through their reports to the Legislature. The profession throughout this State should be particularly interested in this new bill, and should use its influence in every direction to secure its passage.

A STUDY OF DREAMS.

It is a curious fact that the phenomena of dreaming, which form so interesting and conspicuous a portion of every human life, have been but little investigated in the strictly scientific and experimental method. There are plenty of dream-books and folk-lore; medical writers all allude to dreams as factors in disturbed sleep; and some curious attempts have been made to associate the character of the dreams with the pathological condition. But, after all, even the traditional association of nightmare and a heavy meal does not stand on very sound scientific footing. Miss Mary Whiton Calkins, in the *American Journal of Psychology*, has contributed something toward the filling of the lacuna in our knowledge of dreamland.

The subjects experimented upon were two in number, a man of thirty-two, and a woman of twenty-eight. The investigation was carried on for eight weeks, during which time the man had one hundred and seventy, and the woman two hundred and five dreams! They had not previously supposed themselves to be great dreamers, and the large number is accounted for by the fact that pencil and paper were kept at hand and every transient dream was at once recorded on awaking. The first point investigated was the time at which the dreams occurred. It was found that most dreams took place in the morning hours. In one case, 73.2 per cent. occurred after 4 A.M., very few on falling to sleep or before midnight. The next inquiry covered the question of the relation of the character of the dreams to the thoughts of waking life. It was found that in about fifty per cent. the character of the dream was distinctly connected with some waking thought or suggestion, while in forty per cent. some slight or vague suggestion existed.

As to the vividness of dreams, it was found that about one-half could be classed as very vivid or decidedly vivid, so that details could be recalled and a good story written. The most vivid dreams occurred after four o'clock.

A careful analysis of the dreams shows that during this condition the mind may exercise fairly normal activity. That is to say, the dreamer may remember correctly, imagine clearly, and think connectedly. The latter phenomenon, however, is rare. The statistics show that in the great majority of cases the dreams are associated with familiar persons and places. The subject-matter of the dreams was generally trivial, and the writer concludes that one seldom dreams of the serious problems and emotions that confront him while awake. In times of bereavement one seldom dreams of the dead. Miss Calkins considers it very improbable that the train of thought in dreams is swifter than in waking life. If she is right it destroys the credibility of a good many interesting anecdotes. Thus Napoleon is said to have dreamed of a journey, a siege, and a cannonading, and awoke while some explosion was still reverberating.

Curiously enough, some attention is given to the subject of prophetic dreams and of telepathy. While viewing the subject with commendable scepticism, the writer cites several dreams which appear to have a certain previsual or telepathic character. The relationship of certain diseases to dreams is a matter of especial interest to the physician; but here he must himself take up the subject and carry out investigations. We trust that Miss Calkins's article may suggest further work in more strictly medical lines.

THE MODERN EYE.

An enormous amount of statistics is accumulating regarding the modern eye and its relation to disease. It has been abundantly proven that under the influences of civilization this organ is undergoing decided change, and that often it is not at all equal to the work which it is called upon to perform. Referring only to the subject of refraction and accommodation, Roosa and Emerson have shown that only about one person in ten has an emmetropic eye; the remaining nine being hyperopic or myopic. Among the school children of Antwerp, Mets found that 2.13 per cent. were short-sighted, the percentage increasing with age and being greater in girls. In London, Stephenson found that among 1,149 children, 1.97 per cent. of the Christian, and 10.63 per cent. of the Jewish, pupils were myopic. In the German gymnasia the percentage ranges from 22 to 58. In New York the percentage ranges from 3.55 among young children to 26.8 among the adults (Loring and Derby). In Philadelphia schools the general average was 13.7 (Risley). In Chicago the myopia ranged from 4 09 to 27.08 (Smith). In our colleges the percentage ranges from 35 in the Freshman to 47 in the Senior year. Among classes whose occupation does not tax the eyes the percentage of myopia is only two or three, and the average for a civilized community may be taken to be about eight per cent. Thus it seems that the population of a civilized country starts naturally with only about two per cent. of short-sightedness, and that this increases until among some classes every other man is myopic.

The exact frequency of hyperopia is less well determined. Tscherning estimated the percentage of this error in excess of one diopter to be from two to five. Of late years much more stress has been laid upon the slight degrees of hyperopia. The frequency and importance of astigmatism are subjects which have also received especial attention of late, and it is to some statistics bearing on these points that we wish to call attention now. In an article entitled "The Modern Eye," published by Dr. W. F. Southard, of San Francisco, in the *Pacific Medical Journal*, the results of the examination of thirteen hundred eyes for hyperopia and astigmatism are given. The cases, as we understand the author, do not represent the general population, but are based upon the records of his own practice, and therefore include only persons who apply to an oculist for some refractive trouble. The figures show, therefore, the relative percentages among this class.

It appears, first of all, that the greatest amount of suf-

fering occurs between the ages of fifteen and twenty-five, when 55.23 per cent. of the whole number applied for treatment. The female sex suffers more than twice as much as the male. Among the thirteen hundred, about three-fourths had hyperopia, with or without astigmatism, while one-fourth had myopia, there being much more astigmatism with the latter condition. These figures correspond to a considerable degree with those of Dr. Gould. A further analysis shows that the most frequent refractive trouble is simple hyperopia, fifty-eight per cent.; next, astigmatism of all kinds, thirty-three per cent.; and last of all, myopia, eight per cent.

Thus, although so much more attention in the past has been devoted to myopia, it is, after all, hyperopia, with or without its attendant astigmatism, which most pesters and threatens the modern race. Myopia can be usually endured, if not cured; but hyperopia makes trouble.

THE EFFECT OF CASTRATION UPON THE SEXUAL INSTINCT.

Some years ago we excited considerable discussion over a statement, which was made editorially, to the effect that the castration of women led to a gradual extinction of their sexual feelings, and did in a sense unsex the woman. This view at the time was strongly combated by many authorities learned in oöphorectomy, and experienced in the conditions which follow it. The laws of life generally, however, are not, as we believed, different with women than with lower animals; and a longer experience has confirmed this opinion. In an article on the subject by Dr. William Goodell, a change of opinion on the part of gynecologists is indicated. In Dr. Goodell's earlier teachings he maintained that oöphorectomy after puberty did not completely unsex a woman; her capability of being impregnated was lost, but her sexual feelings remained much the same. "In this," says the *New York Medical Journal*, "he agreed with Koeberlé, who held that it caused no marked change in the condition of those that had been operated on; they were women that had abruptly reached the climacteric, but their instincts and affections remained the same, and their sexual organs continued to be excitable. A riper experience has forced Dr. Goodell to the conclusion that, in the majority of women that have been 'castrated,' the sexual impulse soon abates in intensity, much sooner than after the natural menopause, and that in many cases it wholly disappears. This corroborates the report of the special committee appointed to investigate Imlach's cases of 'castration' at the Woman's Hospital in Liverpool; they found 'a distinct loss of sexual feeling to such an extent as to cause serious domestic unhappiness in not a few instances.' Otherwise Goodell finds no marked physical or psychical change. The affections remain the same, the breasts do not flatten or wither, obesity does not ensue, neither facial nor corporeal hirsuties follow, and the tone and quality of the voice are unchanged; in other words, there is no tendency toward any characteristics of the male type."

Dr. Paul Diday, the distinguished French surgeon, died on January 9th, aged eighty-three. He was one of the founders and the first editor of the *Lyon Médical*.

THE INCOMES OF PROFESSIONAL MEN.

A writer in *The Forum* discusses the question of incomes of the professional classes in England, and comes to the conclusion that the very successful are overpaid, while the average man is meagrely paid. He gives the average income of the clergy as $600 a year, that of a barrister $1,200, and that of a medical man $1,200. A successful lawyer gets $65,000, while the income of Sir Andrew Clark is estimated at $75,000 or $100,000. This great difference between the incomes of mediocrity and that of success, he thinks is characteristic of the English social system.

There is not any American physician who earns $100,000 a year, and we doubt if $1,200 is not higher than the average medical income. Such figures, however, mean little. The average medical income, for example, varies enormously according as the figures used include the first five years in practice or not. Again, incomes vary enormously in different parts of the country, according to whether one estimates what the doctor charges and what he collects. There is said to be a margin of twenty-five or thirty per cent. between these two sums in this neighborhood. All one can say is that the industrious and God-fearing physician is seldom in want, and never in affluence.

News of the Week.

The Nurses' Bureau of the Academy of Medicine was opened on Monday, February 5, 1894. The hours are from 8 A.M. to 10 P.M. Each nurse who registers will be charged a fee of $2 a year for registry, and will be required to have an endorsement by two reputable physicians, who will be written to minutely as to their knowledge of her character and capacity as a nurse. Each time that a nurse is taken out by a patient, the patient will pay a fee of $2 to the bureau for this privilege. When a nurse leaves a case, the physician for whom she has been nursing the case will be written to for minute details as to her management of it, and in many instances the friends of the patient will also be written to. In this way the record of each nurse grows up by accretion, and if a nurse notably fails to perform her duties, she will not be permitted to have the privileges of the school. For a time it is proposed to have the rooms open from eight to ten o'clock in the morning, and certain lists of names will be left with someone in the building over night. As soon as the bureau is running fairly well, it will be kept open day and night. A telephone will be put in for the use of the bureau, and the superintendent will be a trained nurse.

Examinations for Marine Hospital Service.—A board of medical officers will meet Monday, April 16, 1894, in Washington, D. C., for the purpose of examining candidates for appointment to the grade of Assistant Surgeon, in the Marine Hospital Service. For further information address, The Supervising Surgeon-General, U. S. Marine Hospital Service, Washington, D. C.

Death of Horatio N. Buckley, M.D., of Delhi, N. Y.—Dr. Horatio N. Buckley died at Delhi, N. Y., January 23, 1894, from a complication of diseases, at the age of seventy-four. He was born at Unadilla, Otsego County,

N. Y., studied medicine at Franklin, Delaware County, graduated at the University of New York, 1845, commenced and continued the practice of his profession until his last sickness, nearly fifty years. He held all the important positions in the gift of his town and county during his life; also the posts of postmaster for sixteen years, and the position of examining surgeon for pensions for twenty years. He always enjoyed a large practice, especially in obstetrics, his attendance in such reaching very nearly 4,000. His consultation practice was large and extended. He was always faithful and constant; very seldom was he, in his long professional career, out of reach of those needing his services.

American Gynecological Society.—The next meeting of the Society will be held in Washington, on Tuesday, May 29th. According to the resolution adopted at the last meeting, the morning sessions of the first two days will be devoted to the discussion of the following subjects: 1, Extirpation of the uterus in disease of the adnexia; 2, the management of face presentations; 3, rupture of the uterus: surgical *vs.* expectant treatment. The afternoon of the third day will be devoted to a special discussion before the Congress, under the direction of the American Gynecological Society. The following topic has been assigned: "The Conservative Surgery of the Female Pelvic Organs." Referee, Dr. William M. Polk; co-referee, Dr. William Goodell. Since there will be time for only twelve or fifteen papers in addition to the above discussions, those gentlemen who desire to contribute are requested to send the titles of their papers to the Secretary on or before April 1st, as he will be compelled to limit the number to the first fifteen which he receives. The Fellows are reminded of the By-law: "All papers that may be read before the Society, and accepted for publication, shall become the property of the Society, and their publication shall be under the control of the Council. Such papers may be published in full in medical journals, provided that they are also printed in the 'Transactions.'" There are eleven vacancies in the list of Fellows.—Henry C. Coe, *Secretary.*

Hospital Quarrels.—There has been trouble in the Brooklyn Homœopathic Hospital for some time. It reached its climax recently; the visiting staff resigned, and new members were promptly appointed. There has also been a quarrel between the staff of the Eastern District Homœopathic Hospital and the managers. This ended in the same way, by the resignation of the visiting physicians.

The Prevalence of Measles.—There has been an unusual prevalence of measles in this city during the past month. The number of cases has amounted to almost one hundred daily.

The Elmira Reformatory.—The managers of this Reformatory have formally expressed their confidence in the work and policy of the superintendent, Mr. Brockway, and have placed him again in charge. They have, however, *Resolved*, That in consideration of a false sentiment just now prevalent toward the Reformatory, the disciplinary measure known as spanking, which has been suspended during the incumbency of the acting General Superintendent, be only resumed upon the formal order of the Board of Managers.

A Georgia Physician Found Guilty of Murder.—Dr. J. B. Hinkle, of Americus, Ga., who for many years was Speaker Crisp's family physician, was recently found guilty of murder. A year ago the doctor and his son, who is also a physician, shot and killed a professional rival, Dr. Worsham. Between the men there had been a feud of years. The trial has been regarded as one of the most noted in Georgia. Dr. Hinkle's son will be placed on trial for the same offence.

Our State and City Charities Cost $7,468,819 annually, other benevolent institutions cost $14,939,163, making a total of over twenty millions for charitable, correctional, and reformatory purposes. The total number of the submerged class was 80,543. During the ten years between 1883 and 1893 the expenditures have doubled, showing a ratio of increase nearly four times greater than that of the State's population. The Board thinks that much of this increase in the insane, as well as the increase in pauperism, in the State, comes from the greatly increased immigration from central and southern European countries, many of them weak and defective, with tendencies to insanity. The Board urges the establishment of a colony for epileptics, and repeats its recommendation of last year that a new reformatory for men be established near New York and Brooklyn.

Reception to Surgeon-General George M. Sternberg, U. S. Army.—Mr. William H. S. Wood gave a reception on Tuesday evening, at his residence in East Sixty third Street, to Surgeon-General Sternberg, U. S. Army. A large number of prominent physicians of this and other cities were present to do honor to the occasion. Medical officers of the army and navy, as well as a full representation of distinguished citizens, also helped to swell the list of those who paid their respects to the distinguished guest. Altogether it was the largest and most successful medical reception of the season.

Physicians and the Income Tax.—Dr. W. P. Whery, of Fort Wayne, sends the following interesting letter to the *Journal of the American Medical Association.* Dr. Whery seems to think that the exemption of small incomes from taxation is not unjust; but the minimum of $4,000 is by no means small. In Germany and England the tax is carried down so low as to include domestic servants' wages. This is overdoing it. Dr. Whery says: "The determination of Congress to adopt the income tax as a source of revenue calls for some remarks on its application to practitioners of medicine. It is to be noted that there are no exemptions in the bill in favor of certain methods of earning a living, but that all incomes, no matter how created, are lumped together. Justice would seem to require a distinction to be made between certain and permanent incomes and those which are precarious. Some incomes result from investments, and require no expenditure of work or money to earn them, on the part of those by whom they are enjoyed. Others are derived through personal services rendered to employers or the public, and perhaps inadequately paid for. Some incomes are not diminished by the temporary illness or absence from duty of their earner, while others are immediately arrested when they are even for an hour off duty. The President may go fishing for a week, and his *per diem* is paid as punctually as if he were at work in his office. But a medical man takes a holiday or occupies a sick-bed

only by paying a penal fine for the privilege. Nevertheless, the bill treats both incomes alike. The exemption of small incomes from the tax is not unjust, inasmuch as a minimum living income should be exempted, and also because small incomes are generally precarious and earned by personal services. But a medical man's personal service is even more disadvantageous than that of a mechanic working for wages in a factory. The latter is sure of pay for every hour he works; the doctor has all the risk of collecting his dues. Again, if the mechanic falls ill, his wages stop; but, on recovery, he resumes his income as before his illness. The medical man falling ill loses his income during his incapacity, and further loses many patients, who used to treat with him regularly, to some other doctors. He not only suffers loss of a portion of his income for the work that he was unable to do, but breaks up his business to a certain extent also. Hence the physician is in a worse plight as a payer of income tax than even a mechanic. The bill, to be just, should make a distinction between precarious and permanent incomes; and a special exemption should be granted medical practitioners on account of the risks that their earnings are subject to, beyond those of any other members of the community. Certainly, in returning an estimate of income a physician should be entitled to deduct so many days for necessary recuperation and illness; he should make another deduction for the difficulty of collecting his fees, which all State laws seem to increase; and he should make a further deduction for the extra cost over lawyers, ministers, office-holders, clerks, and mechanics which he has to incur in carrying on his business. It is a well-known fact that doctors who seem very prosperous have to expend almost up to the margin of their earnings to keep up their business. This is a subject for the county societies to discuss, and, if possible, take action upon."

A Bill to Establish a Department of Public Health.—Dr. C. E. Comegys, Chairman of the Committee of the American Medical Association, reports a bill recommended by the Committee. It provides "That there shall be established a Department of Public Health. There shall be appointed by the President from the medical profession, by, and with the advice and consent of the Senate, a Secretary of Public Health, who shall be intrusted with the management of the department herein established. He shall be paid an annual salary of $8,000. There shall be appointed by the President, with the approval of the Senate, an Assistant Secretary of Public Health, at an annual salary of $5,000. The Secretary of Public Health shall, with the approval of the President, provide suitable offices for the department, and shall employ such assistants and clerks as may be necessary. The rest of the bill provides for collecting and investigating sanitary questions of all kinds, and making weekly and annual reports. No executive authority is conferred in matters of quarantine. The department would have ample power to investigate public health problems.

Proposed Changes at Jefferson Medical College.—At a recent annual meeting of the Philadelphia Alumni of Jefferson College, a resolution was unanimously adopted requesting the Board of Trustees to appoint a member of the Faculty, Provost of the institution, so as to give it a responsible chief executive officer. Reorganization was also advocated by abolishing the present fee-system of the chairs, and substituting therefor a fixed salary to each member of the Faculty.

Legislation to Prevent Blindness.—At the last meeting of the American Medical Association, the Section on Ophthalmology passed the following resolution:

Whereas, There are in the United States several thousand persons who have become blind because of ophthalmia neonatorum, and,

Whereas, This unfortunate result is largely preventable, being due to the neglect of nurses and midwives, Therefore,

Resolved, That it is the sense of this section of the American Medical Association, that a committee of five be appointed by the chair to urge in all parts of the country, by personal application, by circulars to physicians and legislators, and by blank forms of a desirable law, such legislation as will tend to lessen the blindness caused by this disease.

A committee, consisting of Drs. Lucien Howe, Henry Gradle, George M. Gould, James L. Thompson and G. C. Savage was appointed, and are working to interest the profession in securing the passage of the following law:

"The people of the State of.....represented in Senate and Assembly, do enact as follows:

"*Section* I. Should one or both eyes of an infant become inflamed, or swollen, or reddened at any time within two weeks after its birth, it shall be the duty of the midwife or nurse having charge of such infant, to report in writing, within six hours, to the health officer, or some legally qualified practitioner of the city, town, or district in which the parents of the infant reside, the fact that such inflammation, or swelling, or redness of the eyes exists.

"*Section* II. Any failure to comply with the provisions of this act shall be punished by a fine not to exceed two hundred dollars, or imprisonment not to exceed six months, or both.

"*Section* III. This act shall take effect on the..... day of.....eighteen hundred and ninety....."

Fighting a Telephone Monopoly.—The Kings County Medical Society and the Brooklyn druggists are fighting the New York and New Jersey Telephone Company. The telephone company recently called the attention of the physicians and druggists to a clause of their contracts prohibiting any person except a subscriber using the telephone, unless a fee of ten cents is paid for every message. A patient cannot call up his physician unless he pays the customary fee. Druggists, physicians, and patrons are indignant at this action of the telephone company.

The Effects of Medical Legislation.—At the last meeting of the State Board of Medical Examiners of the State of Washington, held in Seattle, there were twenty two applications for a license to practise, of whom twelve failed to pass the required examination and were rejected. The Board now requires a general average of seventy-five per cent. on all branches, a rise from its former standard, and soon the standard will be raised to eighty per cent.

Heubner, of Leipzig, has been elected the successor of Henoch in the chair of pediatry at Berlin.

Medical Senators.—The recent elections to the French Senate have resulted in the return of several members of the medical profession, among whom are Professor Cornil, Dr. Velten (Bouches du Rhône), Dr. Dellestable (formerly deputy for la Corrèze), Dr. Pitti-Ferrandi (President of the Syndicate of Bastia), and Dr. Gérente (Algiers).

"The Grand Old Man" of Medicine.—The *Medical Press and Circular* gives a new title to the Autocrat of the Breakfast Table in the following bit of news. It would lead its readers, however, to infer by analogy that Sir Spencer Wells had written the poems of Thomas Hood. "The 'Grand Old Man' of Medicine seems to be Dr. Oliver Wendell Holmes. The College Club, of Boston, recently gave a reception in his honor, and about five hundred persons were presented to him. He received them as he sat 'in a laurel-decorated chair under a bower of palms.' During the course of the proceedings Dr. Holmes recited 'The Last Leaf,' 'Dorothy Q.,' and 'The Chambered Nautilus,' all of which must have been intently listened to. Truly, we have no one in this country, of similar standing belonging to the profession, who could perform such a feat. Fancy Sir Spencer Wells, for example, reciting 'The Dream of Eugene Aram' at the *conversazione* of the Medical Society!"

Vaccination in Vermont.—The State Board of Health of Vermont, at its meeting in Burlington last week, voted to recommend a general vaccination throughout the State, in consequence of the prevalence of small-pox in Boston and New York, and the signs of scattered infection in other New England places.

The Testimony of the Physician Regarding his Patient.—The policy of the law is to make the relation of physician and patient confidential and sacred. Only the patient himself, or, in case of his death, his legal representative, may waive the seal of secrecy and confidence. Thus holds the Supreme Court of Indiana, in the case of Gurley *v.* Park, decided November 23, 1893. The application given to this doctrine here is to the effect that in a case where there is no legal representative, as administrator or executor of a deceased person to make waiver, the physician who attended her cannot testify in an action to set aside her will as to her mental condition at the time she made the will, he being present in his professional capacity. The law, this court says, forbids the physician from disclosing what he learns in the sick room, no matter by what method he acquires his knowledge.—*Journal of the American Medical Association.*

Mother's Milk not Sterile.—Few things can be regarded as being quite pure and untainted nowadays, and our readers will not be surprised to hear that mother's milk must be numbered with the majority. Honigmann finds that human milk obtained with all antiseptic precautions from seventy-three breasts of sixty-four nursing women was only sterile when duly cultivated in four cases. In the remainder staphylococcus albus was present, and in forty-four cases the staphylococcus aureus; while in three instances other bacteria, a bacillus, and a sarcina were found. The number of germs varied from one to upward of 9,000 in a cubic millimetre. These observations are of interest in reference to the occurrence of thrush in children, to the origin of which they may furnish a clew, and also to the liability that children while still suckling present to suppuration after wounds accidentally or intentionally inflicted.—*The Lancet.*

Dr. Pascal.—M. Zola is a great artist, no doubt, but he doesn't know science, or, least of all, medicine. His Dr. Pascal is a quack, a humbug, a ridiculous thing. He utters no original thought, and his wonderful scientific investigations are not science but silly nightmares. M. Zola should try romance. He has a genius for literary expression, but no capacity to appreciate the character and work of a true *savant*. This is what a physician feels who reads his book.

Quarantine Hospitals for Dogs.—The *Medical Review* advocates the establishment of quarantine hospitals for dogs suspected of hydrophobia. The Health Department might easily arrange for such a place. But who will be the official dog-catchers for suspected mad dogs?

Obituary.

PROFESSOR THEODORE BILLROTH,

VIENNA, AUSTRIA.

Professor Theodore Billroth, the famous German surgeon, died February 6th, of heart disease, aged sixty-five, at Abbazia, a well-known Austrian winter resort, where he had gone to recruit his failing health.

He was born at Bergen, Rugen Island, April 26, 1829, and studied medicine in the Universities of Gottingen, of Berlin, and of Vienna. He became an assistant at the surgical clinic of the University of Berlin, and privatdocent in 1856. In 1859 he was professor of surgery and chief of clinic, at Zurich. In 1867 he fulfilled the same functions at Vienna. In 1870 he was a director of the military hospitals on the Rhine. In 1881 he successfully performed his first operation of pylorectomy for cancer of the stomach.

This feat gave him a world-wide reputation as a skilful surgeon, and enabled him to take a leading position as a daring and successful operator. Indeed, for many years past he has been considered the first surgeon in Europe. His clinics became famous throughout the scientific world for the number and character of the operations performed by him, and students from all parts of the world were eager witnesses to his wonderful surgical dexterity. His counsel was eagerly sought in the different capitals of Europe and Asia, and even in Egypt, and he worthily represented the advanced thought and practice of his day and art. Although called everywhere in consultation, he seemed to have an aversion for handling comparatively unimportant cases simply for the sake of money-making.

Nor did he care for such honors as were coveted by many of his *confrères*. Ten years ago, Emperor Francis Joseph made him a member of the highest legislative body. He also had decorations almost without end—Turkish, Russian, German, Austrian, and others.

Of his family he preferred the companionship of his eldest daughter, who was unmarried. It used to be remarked in Vienna, that they seemed to be more like brother and sister than like father and daughter. He left a widow and three daughters.

In appearance he was a little above the medium height and of rather heavy build. He had a pensive look as he walked, stooping slightly and with head bent forward. He had small blue eyes, and was of an easy-going disposition.

During the last months of his life he suffered from debility due to his heart trouble, but death finally came to him suddenly and peacefully.

Society Reports.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Eighty-eighth Annual Meeting, held at Albany, February 6, 7, and 8, 1894.

HERMAN BENDELL, M.D., PRESIDENT, IN THE CHAIR.

FIRST DAY, TUESDAY, FEBRUARY 6TH—MORNING SESSION.

President's Inaugural Address.—DR. BENDELL, in his inaugural address, mentioned the fact that under the influence of the recent laws the number of illegal practitioners was constantly on the decrease, and the standard of usefulness of the profession had constantly risen. The work of the Society was being appreciated by the people. The membership of the Society was proportioned from districts according to the number of members of the Assembly, and under the new apportionment some districts had a decreased membership. The President, therefore, suggested that presidents of county societies be made, during their terms of office, *ex-officio* members of the State Society, without, however, the right to become permanent members.

During the year 327 candidates had appeared before the State Board of Examiners; 267 were successful; 17 were homœopaths, 6 eclectics, and 244 regulars. It had been suggested that the examinations be divided and that the first be for primary branches and occur during the college year.

Mention was made of the success of the Pan-American Medical Congress; donations were requested for the State Medical Library; the advisability of holding alternate or third meetings of the State Medical Society at some other place than Albany was suggested, and approval of the Public Health Bill proposed by the New York Academy of Medicine was recommended. The list of deaths for the year had been considerable. Special regrets were expressed for the loss of Dr. Laurence Johnson.

On motion the address was referred to a special committee. DR. BENDELL appointed Drs. W. W. Potter, L. S. Pilcher, Heaton, and Brush as such committee.

Communication from the Board of the Regents.—Acting on suggestions from physicians of prominence, the State Board of Regents had voted that hereafter it was inexpedient for the Board to confer the honorary degree on persons nominated by different State societies, as had been the custom.

Resolution to Nominate in Open Meeting Withdrawn.—DR. A. JACOBI, who had given notice at the last meeting that he would offer an amendment, to make nominations for president and vice-president in open meeting, said he had done so to draw out what arguments might exist in favor of or against such a change. The arguments offered had been almost altogether against, the two principal ones being that too much time would be taken from the scientific work, and that the large number of delegates from Brooklyn and New York would have practically control of the election. He therefore wished to withdraw the proposed amendment. No objection was made.

Against Central Management of Institutions for the Insane.—DR. EUGENE BEACH, of Gloversville, offered the following, which was adopted:

Whereas, The institutions established by the State for the care and treatment of the insane are an abiding evidence of the progress of medicine and of the medical profession's enlightened conception of the needs of the insane; and,

Whereas, They are distinctly medical institutions which should remain in the future, as in the past, under immediate medical direction and control; therefore,

Resolved, That recent attempts to place the State Hospitals for the Insane under centralized management constitute a distinct menace to the interests of the insane, and that this Society deprecates and deplores any policy that is calculated to inject into the great charitable institutions of the State the dangerous element of politics—always subversive of the scientific welfare of such institutions, and that it recommends that the Legislature take such action during its present session as will emphasize the medical character of the State institutions for the insane, and tend to the restoration of local medical control, subject to proper State supervision, as against the assumption of all executive authority by a centralized power.

Resolved, That the Committee on Legislation be requested to take such action as they may deem necessary in obtaining legislation in conformity with the desiderata herewith declared.

Coroner Resolutions of Academy of Medicine.—DR. A. JACOBI read the resolutions which had been adopted by the New York Academy of Medicine, relating to a change in the coroner system, and on motion the Society approved of the same.

Committee to Name State Examiners.—The President named as special committee to nominate candidates for State Medical Examiners, to be selected from the Board of Regents, Drs. Roosa, Jacobi, Vander Veer, Suiter, and Sherman.

DR. L. S. PILCHER moved that the nomination of this committee be placed in the hands of the Nominating Committee.

The PRESIDENT said he had made the nominations under a standing rule.

DR. PILCHER appealed from the ruling, claiming that a previous session could not make rules governing the present one except through a by-law. After some discussion Dr. Pilcher was permitted to withdraw his appeal from the President's ruling.

DR. SAMUEL WARD, of Albany, moved as an amendment to the by-laws, that the appointing of this committee be placed in the hands of the President of the Society. In referring the proposed amendment, as usual, to the Committee on By-laws, the committee was instructed to report at the present session.

The committee appointed, however, stands for the present year.

Incidentally the question was raised whether the committee appointed to recommend members for the State Board of Examiners should submit their report to the Society, and the President ruled that the report should be made to the Society, and that the Society had the power to amend or approve the report entire.

Hemorrhagic Serous Effusion of the Pleura, with Report of a Unique Case.—DR. W. S. CHEESMAN, of Auburn, read the paper. The case reported occurred in a woman without hemorrhagic diathesis or known cause. There were, however, uterine fibroids. From January to July, 1891, he aspirated the right pleural cavity over a dozen times for hemorrhagic effusion. There was no evidence of adhesive inflammation. As the patient was also having hemorrhages from the uterus every two weeks, she became anæmic, and he carried out the idea of injecting an agent which would excite adhesive inflammation in the pleura. Iodine was employed, and, after two or more repetitions, succeeded, and the patient ceased to have further trouble on the right side. Later, however, hemorrhages occurred for the first time in the left pleural cavity, and the same treatment was carried out here, with like successful result. Now the patient was having similar recurrences of hemorrhage into the peritoneal cavity. The only like case and treatment, as far as he knew, had been reported by Dr. J. G. Heineman.

Manifestly an inflammatory effusion would not account for the condition.

DR. ELY, of Rochester, who had seen the patient before Dr. Cheesman, had made an unfavorable prognosis on the supposition that the hemorrhage was from cancerous growth in the pleura. In all he had made forty-nine aspirations, thirty-six of the pleura, thirteen of the

peritoneum. Aspirations of the peritoneum may have to go on indefinitely. In general the patient's health is good.

Dr. Ford thought the explanation of the hemorrhages was from pressure of the uterine fibroids. He knew of one case of hemorrhage into the peritoneum, and of one into the pleura, cured by removal of uterine fibroids.

Dr. Cheesman said Mr. Tait had reported two cases; in one there was hemorrhage into the peritoneum followed by hemorrhage into the pleura, in a patient having uterine fibroids.

Dr Ely could not understand how uterine fibroids could cause hemorrhage into the pleura, whatever they might do by the peritoneum.

Researches on the Eliminating Power of Diseases, and the Relation between Vaccine and Enteric Fever.—Dr William Finder, of Troy, read the paper. It was generally supposed that an attack of variola protected for life. His experience had taught him that this was true only where the person subsequently remained free from enteric and malarial fever. Enteric fever, particularly after variola, eliminated the protective power against variola. He had known patients to have variola a second time, after enteric fever following the first attack; that vaccination usually was successful after enteric fever, both in persons who had had variola and those who had been previously vaccinated. Of the latter he had had one hundred and three cases.

Dr. Seymour had had an attack of small-pox, subsequently an attack of enteric fever, but vaccination would not take in his case; nor had he had a second attack of variola, although frequently exposed.

Pneumonia in the Aged.—Dr. John H. Pryor, of Buffalo, read this paper. The distinguishing characteristics of pneumonia in the aged were its latent development, obscurity of symptoms, and its course. The temperature should be taken in the rectum, and thus taken, had, in his experience, always been elevated, usually not above 103° F. Characteristic sputa were seldom present, they never became purulent in the stage of resolution. Pleurisy was absent. The mental faculties were almost always perturbed. Recovery was marked by somewhat lengthened crisis. Physical examination was not simple in these cases for the young practitioner. The physical signs offered little information until the exudate had filled the lung to a considerable extent. Rectal temperature was never absent, and at times was the only indication of acute disease in the aged. The diseases which simulated pneumonia in the aged were hypostatic congestion, simple congestion, œdema, pleurisy, and tubercular infiltration.

The paper was discussed by Drs. Jacobi, Ely, and Elsner, who, it seemed, had seen cases run an afebrile or almost afebrile course.

Diagnosis and Nomenclature of Fevers.—Dr. Nelson G. Richmond, of Fredonia, read his second paper on this subject. The class of cases described by the author had been variously classed as remittent fever, typhoid fever, bilious fever, etc. The question of importance was to determine whether they were or were not typhoid, and whether they were or were not malarial He believed they were neither, that they were due to disturbance in the duodenum attended by toxic absorption. He had seen nearly forty cases, all recovering. The condition had lasted twenty-one to thirty-five days. The temperature had risen gradually, seldom went above 103°, and gradually went away. There was preceding constipation. The patient took matters easily, regarding the disease as an easy one. There was no sordes, no rose-colored spots, little abdominal tenderness, seldom diarrhœa; the skin was usually in color, sometimes jaundiced; the patient became emaciated as in typhoid.

The discussion was participated in by Drs. Mallory and Jacobi, who thought, before excluding typhoid or malaria, one should make bacteriological examination of the passages, of the blood, and use Ehrich's test. The mild course of the disease would not exclude typhoid.

Dr. Richmond said bacteriological examinations had not been made.

The Therapeutics of Oxygen.—Dr. Arnold W. Catlin, of Brooklyn, read this paper. His purpose was to show from experience that oxygen was a distinctly remedial agent, that it had definite work to do, and that when employed with the same judgment as other remedies, it would give the most gratifying results. Oxygen was the most satisfactory stimulant, but it was more than a stimulant, it was a food. In profound shock or hemorrhage it helped tide over life until there was time for vital repair, which latter it also promoted. Heretofore its effects upon the lungs alone had been considered, but this was a narrow view of its action and beneficial results. Oxygen was a nourisher and promoter of power to appropriate material to rebuilding the system. The author made special mention of oxygen inhalation in pneumonia and bronchitis, advocating its early and continued use. He insisted that in all conditions of the lungs in which oxygen was indicated at all, its prompt use was called for.

Discussion on Diphtheria.—This discussion had been arranged by Dr. Suiter.

The Pathology of Diphtheria—Status Præsens.—Dr. T. E. Satterthwaite, of New York, opened the discussion on diphtheria with a paper bearing the above title. In this country, pathology is understood to include pathological anatomy and pathogenesis, while the latter includes the causation of disease. Fortunately the pathological anatomy of diphtheria forms little ground for difference of opinion, it has been well studied. But the pathogeny, and with it the etiology, is still under discussion. Dr. Satterthwaite premised by saying that the evidence at hand is to the effect that the bacillus known as the Loeffler bacillus is the cause of true, genuine, or primary diphtheria. There is also a false diphtheria, to which he gave the name of diphtheroid, in which the diseased tissues have a bacillus similar in appearance, though without the pathogenetic qualities of the Loeffler bacilli. Diphtheria is therefore a contagious disease, the bacilli retaining their virulence in a remarkable manner. They generate also a soluble material which has virulent properties; while finally another soluble substance, known as anti-toxine, can be extracted from the blood of convalescents and immune animals, which may be regarded not only as protective, but also as a curative agent.

With reference to pathological anatomy, he said the presence of membrane did not indicate diphtheria, for a pathogenic diphtheritic inflammation might attack a mucous surface—the conjunctiva, for example—but still the patient have no diphtheria. The terms diphtheritic and croupous, as used by the Germans, were conventional terms, having reference mostly to the depth to which the membrane was attacked. While the membrane was characteristic, it was not an essential characteristic. The exudation was usually fibrous.

In reference to pathogeny, he reviewed the subject from his own studies in 1874–75, stating that the disease was at first thought to be due to a spherical microphyte. About ten years ago Loeffler called attention to his bacillus. This was described in the paper. Practical bacteriologists differed as to the importance of the three tests. Earlier investigations did not confirm Loeffler's statements, latterly they have done so. The bacillus had been found by different men in from thirty-four to ninety-five per cent. of cases of diphtheria. It was at first held that it did not penetrate the tissues, but during the past year this view had been overthrown. Howard, of Baltimore, had found it in great numbers in a case of ulcerative endocarditis which was diphtheritic.

Other microphytes were connected with diphtheria, especially the pyogenic streptococci and staphylococci, and there was an impression in some quarters that they alone, or in conjunction with attenuated bacilli, would produce a virulent form of diphtheria.

As to the non-pathogenic bacillus, abroad this had been found very frequently. French observers had found it in from thirty-three to fifty nine per cent. of appar-

ently healthy cases, and in seventy-one per cent. of cases of measles. American observers, however, have not confirmed these experiences, so that in this country at least it is not a disturbing factor in diagnosis. When cultivated, this bacillus differed in degree rather than in kind, but in inoculations on animals produced no result unless there is admixture of other pathogenic organisms.

Regarding tox-albumin, its toxic power was slight when the culture was acid, virulent when alkaline. The next step was that made by Behring, assistant in Koch's laboratory, who, in 1891–92, found in immune animals a something non-bacterial which neutralized the toxic products of the Loeffler bacillus. What was it? Behring believed it was the blood serum. Efforts were now being made by Behring to concentrate this serum.

There was diversity of opinion as to whether physicians should make cultures or inoculate animals for the purpose of diagnosis. Among bacteriologists it was thought this work should be done by experienced men in order to be of value. Boards of health should not attempt to make such experiments compulsory on the physician. He advocated giving every opportunity to have these researches carried out, but argued that if we were to have the best results in the shortest time we should see that the material only fell into competent hands.

Observations on the Diagnosis and Some Sanitary Aspects of Diphtheria.—Dr. A. Walter Suiter read this paper, which contained the following deductions: 1, That the Loeffler bacillus has been established beyond controversy as the pathogenic germ of true diphtheria; 2, that this had led to the classification, diphtheria and pseudo-diphtheria; 3, that it could be readily demonstrated that at least fifty per cent. of all cases clinically diagnosticated as diphtheria were not the true disease; 4, that a certain diagnosis could not be made microscopically or clinically, a bacteriological and microscopical examination being required; 5, that it was practically impossible for the general practitioner to diagnosticate the disease without laboratory facilities; 6, in view of the latter fact, where there were no facilities through local boards of health, the State Board of Health should undertake the diagnosis in all cases of slightest doubt; 7, that district laboratories should be maintained in various parts of the State, located with special regard to convenience of transportation and telegraphic and telephonic communication, so that the general practitioner might, through them, have a diagnosis within twenty-four hours. The Legislature at present was appropriating a ridiculously small amount to the State Board of Health, so that such an undertaking, of course, was beyond possibility, but a movement should be organized to have that appropriation increased.

Croup and Diphtheria — Unity or Quality.—Dr. William H. Daly, of Pittsburg, Pa., expressed belief in a paper in a single cause for diphtheria and croup, the chemical action of that cause, however, being modified by the varying powers of resistance on the part of the tissues affected. It was a toxic or albuminous development in the history of the Loeffler bacillus and presence of staphylococcus and streptococcus. Calomel and various other antiseptics now in successful use were recommended, but especially the former.

The Comparative Status of Intubation of the Larynx.—Dr. Joseph O'Dwyer, of New York, sent the paper. Conclusions from limited experience were the basis on which this procedure had been overestimated by some, and hastily condemned by others. Croup claimed more than half its victims. The word meant more than obstruction to the larynx, a fact which made treatment not at all simple. Extension of the disease to the bronchial tubes was the cause of the great mortality in spite of surgery. This was especially the explanation of the small number of recoveries after tracheotomy secondary to intubation. The percentage of recoveries in Europe had been considerably larger after intubation than in this country, a fact partly to be explained by another one, namely, that in Europe nearly all cases were treated with hospital facilities, in this country without, or in private practice. The life saving value of intubation as compared with tracheotomy was to be determined, not as much by the intrinsic worth of the two methods as by the fact that the former was permitted by all classes with little if any protest, while very few would consent to the cutting procedure, and then later in the disease. This point had been very strongly brought out as showing the far greater life-saving value of intubation in Brooklyn.

Complicated Intubation of the Larynx.—Dr. William Hailer, of Albany, read an interesting case of this kind in which the patient recovered.

Afternoon Session.

Nominating Committee.—The Nominating Committee was announced by districts in the following order: Drs. W. J. Morton, Hasbrook, O'Leary, J. E. Verdit, J. H. Glass, H. D. Wey, A. L. Bien, W. S. Ely, W. S. Zimmer; Member at large, Dr. W. H. Bailey, of Albany. Later, Dr. W. F. Cheesman was announced as member from the seventh district.

The discussion on diphtheria was then continued.

The Local Treatment of Diphtheria.—Dr. A. Jacobi read a paper on local treatment in which he strongly deprecated any local application through the mouth which would cause the child to struggle, as in more than one instance it had caused the death of the little patient, whose system had been overwhelmed and exhausted by the poison. Any injury done the mucous membrane in attempts to apply caustics or other agents would also start a new focus of diphtheritic deposit. Gargles did little good except keep the mouth clean, as they did not reach back farther than the pillars of the fauces.

Certain medicines given frequently in small doses would come in contact with the membrane and act upon it, such as mild dilution of tincture of chloride of iron, lime-water, boracic acid, or bichloride of mercury. The latter was much employed by him, 1 to 6,000 or 1 to 8,000. Disinfection of the nostrils was especially indicated, and fluid introduced by a spoon would also come in contact with the pharynx. The nasal spray was of little value. The injections should be made in the recumbent posture. Do not take the child out of bed or it might die of heart-failure. He preferred bichloride again, 1 to 10,000. Dr. Jacobi also mentioned such indications for treatment as sepsis, heart-failure, paralysis of muscles, etc.

The General Treatment of Diphtheria.—Dr. E. H. Brush, of Mount Vernon, in discussing the general treatment, expressed the opinion that many methods which had prevailed from time to time, had done actual harm, especially when carried out in a heroic manner, as was too often done. He believed the reckless and injudicious use of bichloride of mercury had actually increased the mortality, or, at most, had not diminished it. In looking over the list of recent drugs one would suppose the only indication was for antiseptics.

Dr. Brush thought the first indication was to empty the intestinal canal, which he would do by a full dose of calomel, afterward a copious injection of water might be made. The latter would also reduce the temperature if anything would. Another indication was to keep up nutrition, which called for careful attention to food. Among medicinal remedies Dr. Brush advocated free use of tincture of chloride of iron, the efficacy of which was increased by combining with it a small amount of chlorate of potash. In toxæmia, alcohol should be given freely, and if it were rejected in all forms, turpentine might be substituted. Avoid new and loudly heralded remedies.

The Use of Tartar Emetic in Diphtheria.—Dr. H. De V. Pratt, of Elmira, had had under former methods of treatment of diphtheria a mortality of thirty-five per cent., only about four per cent. under that by tartar emetic.

His plan was to give during the first twenty-four hours

one-thirtieth of a grain of tartar emetic, in frequent divided doses, the next twenty-four hours one fifteenth of a grain, afterward one tenth of a grain daily. A little opium might be added. The tartar emetic did not depress the heart or vital forces, did not interfere with appetite or digestion. The day after commencing this treatment the membrane ceased to spread, then gradually disappeared, toxic symptoms diminished; no paralysis had been seen after this treatment.

Dr. Pratt had treated forty seven cases of true diphtheria by the tartar-emetic method, the cases having been of all grades of severity. Only two had died.

Dr. A. Jacobi emphasized the value of small and frequent doses of bichloride in spite of the criticisms of Dr. Brush. He also said Dr. Pratt's explanation of the action of tartar emetic, its special action upon the mucous membrane of the throat, was that which had been claimed some years ago for the pilocarpine treatment, but the latter had been discarded.

Dr. Wood spoke of the value of peroxide of hydrogen, Dr. H. R. Hopkins of the introduction of alcohol per rectum in those who could not swallow, Dr. Seymour hoped the Society would take no action on the suggestion made by Dr. Suiter to have the State Board of Health establish district laboratories. Some further discussion took place.

Treatment of Depressions in the Skull of the Newborn.—Dr. D. D. Jennings, of New York, read the paper (see p. 166).

It was discussed by Drs. Currier, Cole, and Phelps, of New York, and Hailer, of Albany.

Senile Endometritis.—Dr. A. J. C. Skene sent the paper, which was read by Dr. Buckmaster. It was generally supposed that endometritis ceased at the turn of life. Dr. Skeene had found this not true in a number of cases, and that in other cases endometritis developed after the menopause. It was quite different from the endometritis of earlier life. It might be limited to the cervix alone, but, as a rule, involved the entire mucosa. The discharge was usually suppurative, there was atrophy of the muscular structure, which led to inversion of the mucous membrane, and gave it a peculiar appearance. Laceration of the cervix frequently accompanied the condition, and in treatment by rapid dilatation was liable to occur if it had not been present. Stricture of the cervix was frequently present, and in that event there was liable to be alternate accumulation and discharge.

Inattention to cleanliness was an important cause. A chief feature in the treatment was cleanliness, drainage, and disinfection. Iodoform was one of the most valuable agents. Among other agents, peroxide of hydrogen was mentioned. Simpler measures failing, especially where there was prolapsus, hysterectomy was to be considered.

Treatment of Endometritis.—Dr. Herman E. Hayd, of Buffalo, read the paper. In brief, the author advocated cleansing out the uterus by curettement and drainage.

Discussion on the papers was participated in by Drs. Willis E. Ford, Hayd, and Buckmaster. The latter thought hysterectomy would come to be an indication in the treatment of senile endometritis with prolapsus.

Discussion on Menstruation and Its Abnormalities.—This discussion had been arranged by Dr. A. F. Currier, of New York, who read a paper on the normal function. At its conclusion he pointed out as the duty of the family physician to instruct women with regard to care before, during, and after the period, and to see that many errors committed by girls and women should not continue without protest.

Dysmenorrhœa, its Causes and Treatment.—Dr. Howard Kelly, of Baltimore, read a paper with this title. Names often hindered arrival at knowledge of the true condition. Many physicians having made the diagnosis of dysmenorrhœa, treated it as an entity, when a knowledge of the pathology of the case might have led to removal of the cause, and saving of life. Dysmenorrhœa was nothing but a pelvic pain associated with menstrual congestion and flow, and was a concomitant of a wide variety of diseases of the uterus, tubes, and ovaries. It was merely an awkward name for a symptom of many common diseases, and should never be entered upon the history-sheet as the diagnosis of the case. In an analysis of 400 cases in which he had opened the abdomen for pelvic disease, of the 400, 291 suffered from dysmenorrhœa, 109 had none. Out of 238 of the number having minor pelvic disease 168 had dysmenorrhœa, 70 had not. Many of these women had been treated for months or years for dysmenorrhœa.

The use of morphia for dysmenorrhœa was strongly condemned. It was only justified where there was gross pelvic condition, and the patient was undergoing preparation for operation to remove the cause. Beware of beginning local treatment in young women. Try hip-baths, etc. If the dysmenorrhœa persist in any case, make thorough examination, in the unmarried per rectum.

Profuse Menstruation.—Dr. Charles P. Noble, of Philadelphia, read the paper. There were two classes of cases, those due to general or constitutional causes and local causes. Menorrhagia in young girls was usually functional, with disturbance of the vaso-motor nervous system or relaxation of tissues accompanying rapid growth. It was usually curable by general treatment. Menorrhagia arising from parturition, retained products, displacements, subinvolution, inflammation of the tubes, usually could be cured by local treatment. Menorrhagia in women approaching the menopause was usually due to gross disease of the uterus, such as fibroids, polypi, or malignant disease. An operation was called for.

Scanty Menstruation.—Dr. Franklin Townsend, of Albany, read the paper. The common cause of scanty menstruation was chloranæmia. Important influences were confinement in school, not sufficient physical liberty, mal nutrition. The treatment need only be directed intelligently and persistently.

Irregular Menstruation.—Dr. E. W. Cushing, of Boston, Mass., read this paper. As the subject was limited in such a way that he could not treat of profuse or of scanty menstruation the writer was confined to the diagnosis between irregular menstrual flow and other vaginal bloody discharges usually supposed to be menstrual. He laid especial emphasis on the necessity of making an accurate diagnosis in all cases, and went over the various diseases which might cause hemorrhages at the menstrual period or at other times. These included extrauterine pregnancy, inflammatory affections of the tubes and ovaries, fungous endometritis, polyps, subinvolution, fibroma uteri, ovarian tumors, uterine adenoma, carcinoma, etc.

The writer also called attention to the various general diseases which may disarrange the menstruation, such as sorrow, homesickness, phthisis, and other wasting diseases on the one hand, and heart disease, violent emotions, sexual excitement, etc., on the other.

Again, in conclusion, the writer insisted that decided irregularities implied something serious and required a diagnosis, when that is made the appropriate treatment could easily be applied.

The Menopause, Natural and Artificial.—Dr. Arthur W. Johnstone, of Cincinnati, read this paper. He attached a good deal of importance to Stevenson's wave, as explaining many of the normal and abnormal peculiarities in the history of the menstrual function. Dr. Johnstone expressed the belief, based on observation, that the ovaries had nothing to do with menstruation; that menstruation was dependent upon a small nerve which, in order to check the flow, he tied on the under-surface of the broad ligament just before its entrance into the uterus.

Evening Session.

The Practical Workings of the Law for the State Care of the Insane.—Dr. Carlos F. McDonald read the paper. He reviewed the difficulties which had been experienced in overcoming opposition to the introduc-

tion of the new law and then of enforcing it, especially in removing patients from county institutions and poor houses into the State Asylums. The advantages which had come from the new law had been essentially those which it had been expected to bring about. Expenses had been less than under the old method, while the conditions of the patients had been improved; better opportunity had been afforded for scientific study and treatment, careful records were being kept, physicians were being given opportunity to study insanity; laboratory researches were to be made, especially with regard to brain pathology; there was to be a training-school for medical officers, these were appointed after a competitive examination; women attendants for female patients; many abuses had been corrected. The death-rate had been reduced from 11.73 per cent. in 1883 to 6.35 per cent. in 1893.

Dr. McDonald had reached that portion of his paper in which he was justifying the action of the commissioners in relation to the Poughkeepsie Asylum when his time expired.

Urethral Carunculæ.—Dr. Edward N. Liell, of New York, read the paper. The term includes vascular growths or excrescences of a soft spongy texture, arising from the mucous membrane, consisting of hypertrophied papillæ, extremely vascular, and containing nerve filaments of slow growth and exquisitely sensitive. When small they are generally sessile. From one to three, or even a dozen may be present, situated either along the borders of, or within, the meatus, or within the canal. They occur mostly in married and middle-aged women, and are accompanied almost inevitably by affections of the genital organs.

The symptoms mainly are the characteristic agonizing or excruciating pain, occurring toward the closing act of micturition; frequent micturition accompanied by more or less tenesmus; an aching or pressure about the lower pelvis and vulva, increased upon motion or contact. Patient is nervous, irritable, and depressed, added to which is a general weakness due to insomnia. Small and sessile growths the most sensitive and give rise to greater pain and distress. Urethral canal should always be dilated to arrive at a correct diagnosis and the situation of these growths, and the necessity for treatment being directed to the true indications presented.

The methods of treatment advocated are those of torsion—twisting them off, and excision—dissecting them out completely. Even after apparent removal many seem to defy our efforts, temporarily, toward a successful treatment; cocaine anæsthesia resorted to; occasionally general anæsthesia. Hemorrhage generally inconsiderable. Applications of ʒ j. to ℥ j. solution argent. nitras, gradually reduced to gr. x. to ℥ j., made immediately after operation, and each alternate day, with gentle dilatation, for a considerable length of time. In one case was obliged to perform an artificial vesico-vaginal fistula, which was closed by operation two years later, in order to give complete rest to the urethra during the interval.

The Physical Causes of Sexual Debility in the Male as Distinguished from Pyschical Causes.—Dr. F. R. Sturgis read the paper. Psychical causes were still usually regarded as the basis of sexual debility. Dr. Sturgis thought this an error, that a local cause could usually be found.

The chief symptoms driving the patient to the physician were imperfect erection, sometimes entire absence, premature emission followed by subsidence of the organ. There might be entire absence of emission, or slight amount, or imperfectly endowed with spermatozoa. Since the perfection of the endoscope we had a valuable means of diagnosis of local causes and of their treatment. Some said masturbation was a frequent cause of stricture. Dr. Sturgis doubted this, but thought it caused spasmodic stricture, which, however, could be overcome. The most common local causes were urethral hyperæsthesia, prostatic hyperesthesia, stricture, varicocele, neuralgic testicle, tubercle, syphilis, gonorrhœa. Stricture was apt to be found at two and a half, and five or six inches from the meatus. At the lower point one was apt to find granular material. A valuable internal urethral remedial agent was a solution of nitrate of silver, even as strong as from thirty to forty per cent. It was to be applied with the aid of the urethroscope.

Artificial Immunity.—Dr. H. R. Hopkins, of Buffalo, read the paper. After a general review of the subject and of its importance, he said experiments bearing on bacteriological intoxication seemed to have established the following facts: That there resided in the blood-serum a chemical substance, called by some anti-toxin, which substance possessed the power of rendering inert and harmless the ptomaïnes and tox-albumins, the disease-producing agents in all cases of bacteriological intoxication. The immense value of a method of rendering inert such poisons might be illustrated by reference to the extensive mortality caused by tuberculosis.

The Fable of the Egg.—Dr. W. S. Ely, of Rochester, in a paper with this title, described the astonishing number of eggs which patients could take with a variety of diseases, and with benefit. The number of eggs taken in some of his cases was 15, 25, and even 35 in the twenty-four hours, continued through an acute disease, or months and more than a year in chronic cases, especially those with nervous exhaustion, mental disturbance, neurasthenic conditions. One patient took 3,000 eggs in one year, another 5,475, or 15 eggs every day. Will-force was required to induce the patients to persist in the treatment.

The egg was best taken at regular intervals, say, every hour; best dropped into a tumbler and swallowed down without breaking, or other form, if preferred. Some remarkable results had been obtained, but the method was not regarded as a cure-all. Other food was not excluded, especially milk. The method had been applied also in typhoid fever, pneumonia, etc.

Spinal Supports and Braces, the Indications for Their Use, History, and Modern Perfection.—Dr. A. M. Phelps, of New York, demonstrated this subject with forty lantern slides. He showed that all of our modern methods of treating Pott's disease and lateral curvature had been understood and applied two hundred years ago. All that could be claimed for the present epoch was perfection of apparatus and methods. Dr. Phelps showed some light jackets, especially one made of aluminum, with perforations, which was very light.

Histology and Pathology of the Spinal Cord.—Dr. W. C. Krauss, of Buffalo, demonstrated this subject with lantern slides.

Diagnostic Features of Cutaneous Syphilis.—Dr. G. H. Fox demonstrated this subject with lantern slides of cases.

Lunatics in Public Places.—Dr. Wallace J. Herriman, of Rochester, in this paper referred to instances of fatal results from allowing paranoiacs or cranks to go at large.

So called harmless cranks and those entertaining any delusion, ought not to be at large; they ought to be under supervision. Would it not be well to have a paid county official, an examiner in lunacy, to whom physicians could report such cases, and who should make examination and send the patient to an institution?

Second Day, Wednesday—February 7th—Morning Session.

Secretary's Minutes Disputed.—Dr. Beach called attention to the fact that in the minutes of the previous day's session by the Secretary the motion offered by him concerning the management of institutions for the insane was only accepted and referred to the Committee on Legislation. He had understood that the motion had been adopted, and that the Committee on Legislation had been requested to act before the Legislature accordingly.

The PRESIDENT thought the Secretary's report was correct.

DR. PILCHER called for the notes of the official stenographer. These were read and stated that Dr. Beach's motion had been not only received, but adopted.

DR. SAMUEL WARD did not believe the motion had been adopted, nor that the Society would in this way reflect upon the President of the Lunacy Commission who was an honorable member of the Society.

DR. PILCHER said he felt no personal interest in this matter, but believed the stenographer's notes were correct, and moved that the Secretary be requested to correct his notes to correspond therewith.

DR. A. JACOBI moved as an amendment, that the stenographer be directed to correct his notes to correspond with the Secretary's.

The amendment was adopted, 40 voting in the affirmative, 25 in the negative.

Report of State Board of Medical Examiners.—This report was read by Dr. Morris J. Lewi. The number applying for examination had been 326, of whom only 296 elected to appear before the board, the remainder not having shown proper credentials. The board had conducted its work very economically, yet there was a bill before the Legislature to cut down the fees demanded of applicants from $25 to $5, the object evidently being to interfere with the usefulness of the board. It was hoped the Society would take action through its Committee on Legislation to prevent the passage of the bill. The report was adopted.

Dr. Porter's report as Treasurer showed a balance of $1,258.

Report of Committee on Legislation.—DR. ROOSA, chairman of the committee, read the report. It referred to work done in preventing legislation intended to render nugatory the bill which had brought into existence the Medical Examiners' Board, condemned the bill before the house reducing fees for examination to five dollars, approved the resolution adopted by the Medical Society of the County of New York asking legislation calling for examination of widwives.

The report with its recommendations was adopted.

Report of the Committee on Hygiene.—This was read by Dr. Bruce, of New York. It referred at some length to the beneficial workings of the law providing for State care of the insane and supervision by the commission in lunacy, and to the reports and action of the Health Board of New York with relation to tuberculosis as a contagious disease, and recommended more hospitals or stations in New York for such contagious diseases as diphtheria, scarlet fever, and measles. The common use among school children of the same books and pencils should be stopped, as thereby infectious diseases were spread.

Medical Examining Board, Members Recommended.—DR. ROOSA, chairman of the special committee appointed by the President, said the committee had reported for members of the State Board of Medical Examiners the following, from which the Board of Regents would select three: Drs. W. W. Potter, W. S. Ely, M. J. Lewi (present members); J. West Roosevelt, Eugene Van Sheik, of Albany, and George C. Seymour. On motion of Dr. Pilcher the report was approved.

Amendment to the By-laws.—DR. H. D. WEY read the report of the Committee on By-laws with regard to the amendment offered Tuesday by Dr. Ward. It read: Candidates for State Board of Medical Examiners shall be selected by a committee of five, to be appointed by the President. The committee recommended its adoption.

DR. LOUIS S. PILCHER moved, as a substitute, that the matter of nomination of candidates for the State Board of Medical Examiners be referred to the Nominating Committee of the Society, to be reported by them with other names at the usual time.

DRS. ROOSA, VANDERVEER, SHERMAN, A. JACOBI, and S. B. WARD spoke against the substitute, believing that the Nominating Committee would not have time to give the matter due consideration, and that there would be more direct responsibility if the President appointed a special nominating committee.

DR. PILCHER spoke for the substitute, believing that the wishes of the Society could best be expressed through the Nominating Committee.

The substitute was lost, the original motion was adopted.

President's Anniversary Address.—DR. HERMAN BENDELL read his address to a mixed audience in the Senate Chamber, Wednesday evening, taking for his subject, "The Physician of Sacred History." To speak of the Bible before the medical profession, which of all professions contained the most doubters, from whose midst had sprung innumerable philosophers whose iconoclastic views had branded the Bible as erroneous and even ridiculous—to speak to such a body would seem at the outset a thankless work. He hoped, however, to throw a little light on a neglected subject.

There was scarcely a great thought which had not been touched upon in some portion of the Bible, whether it related to law, medicine, or any other department of knowledge, life, or action. While various passages showed that there were plenty of physicians in Bible times, yet it seemed strange that no one name shone forth as the great healer, and that the Samaritan alone, a collective term, posed as the doctor of Holy Writ. That there were doctors in those days is evident; men were human and committed the same indiscretions as to-day, and suffered the same consequences.

The priests, having little to do, became doctors. They claimed to be expert in leprosy. If they had any knowledge of anatomy they must have gained it clandestinely. The word pestilence was used frequently, but meant several things. The glandular plague was very common, and it seems strange, therefore, that the Mosaic law did not suggest some manner to prevent its spread. It seemed scientific research was directed to lesser channels, and that the people were too much fatalistic to attempt interference with the plague or pestilence. There was a mysterious belief in forty days. A surgeon of the household was as much a necessity in those days as a mortgage on a Western farm is to-day. The Mosaic law encouraged the practice of medicine as shown by the command that he who wounded his fellow man should have him cured, which was in direct opposition to the custom of the heathen. The quack also existed in those days.

Elisha was a great physician, but mixed with his art some prophetic warnings, which, if made correctly to-day, would give the doctor great fame. His skill tended to make medicine popular, but later the art declined, and by the time of the Babylonian captivity, had, like poetry and learning generally, practically ceased to be. A new advent was then again ushered in with Ezra. Mohammed was mentioned as an epileptic, and while looked upon as a prophet, he recognized his own infirmity and became a student of the human body. The Mohammetans gave especial attention to the alimentary canal. They forbade wine, while the Jews drank it freely, as people did to-day, to make joy and to drown sorrow. The last part of the address made mention of the great teacher Buddha.

A vote of thanks was tendered Dr. Bendell for his chaste and interesting address.

(To be continued.)

Aluminum for Surgical Instruments.—A physician who got rid of some of his steel instruments and bought others made of aluminum says that he is sorry that he changed. The aluminum probes, sounds, tongue-depressors, and that sort of thing do not oxidize, to be sure, but he finds that they are deficient in elasticity and stay bent after pressure. He declares, moreover, that he likes to feel as if he had a hold on something when he uses an instrument, and aluminum is so light that it makes him feel as if he could put no trust in it.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

DR. THORNE THORNE ON DIPHTHERIA.

LONDON, January 14, 1894.

AN interesting and important lecture was delivered on January 10th, at the Sanitary Institute, on "The Etiology, Spread, and Prevention of Diphtheria," by Dr. Thorne Thorne, C.B., F.R.S., the learned medical officer of the Local Government Board of England. The lecturer illustrated the incidence of the disease by a map carefully shaded. The dark portion of the map lies in the main down the eastern coast of England, and the next large patch of black covers the principality of Wales; the great midland centres being to a great extent free from the disease. This, said the lecturer, favors the view that the occurrence of diphtheria is favored by cold and wet; and he continued as follows: The east coast is the most wet and the coldest part of the country. Wales, on the other hand, comprises both high lands and low-lying valleys. The higher parts are cold, but in Wales it is probably more damp than cold that encourages diphtheria. The absence of diphtheria down the centre of England is the more remarkable, seeing that the area comprises the valleys of several of our largest rivers, where there is necessarily much moisture; running water is a very different thing, so far as disease production is concerned, to permanent and stagnant wetness of the soil. We have several allusions in the Bible to "living waters," meaning, of course, "running waters." These have health giving properties which the other does not possess. Diphtheria has considerably increased among us since it was first recognized in the forties, when it was first imported among us from France under the name of "Boulogne sore-throat." It was at first an essentially rural disease. It spread mostly in the hamlets and the sparsely populated districts. By and by there came a change in the incidence of the disease. At the present moment it is raging in our large urban communities. There is still an excess in the rural districts, taking the population as a whole, but cities which were formerly almost free from the disease now suffer in a steadily increasing degree, and diphtheria bids fair to become one of the diseases of urban centres. Recently we have had a very exceptional amount in London. The Registrar-General's returns for a series of weeks show that the deaths from diphtheria have ranged from 80 to 90 per 100,000, amounting during one week to 103. Such a thing has never happened before since the disease made its appearance in the metropolis. It has now abated to some extent, for diphtheria has its seasons. The diphtheria season commences about the middle of September, and goes on to the end of November. It decreases during December, and continues to do so until March or April, when there is another elevation, though much less in amount, the so-called spring incidence, and in summer there is less than at any other time of the year.

Age affects the death-rate from diphtheria in a very remarkable manner. Taking the proportion of deaths per 100,000, under ten years of age, they vary from 15 to 70. The moment you pass fifteen years of age, up to twenty or twenty-five, the deaths drop suddenly, and after twenty-five years of age diphtheria ceases to be very fatal in this country. Moreover, the deaths from diphtheria over that age occur principally among those who are brought in close contact with those suffering from it, such as nurses and medical men. The greatest age incidence, then, is between three and ten years of age.

Sex appears to have some slight influence in determining liability to it, though this is not well marked. More females die from it than males, but this may arise from their being more exposed to it than males. Little girls when they are sick are not nursed by boys, but little boys who are ill are often nursed by girls, and the same holds good in adult life.

As to the effect of unfavorable sanitary surroundings, some observers think with me that their influence has been greatly exaggerated; others hold that too much importance cannot be attached to insanitary conditions in its causation. One eminent medical man said "he had never gone over a house in which a case of diphtheria had occurred without finding some defect in the sanitary management;" but I doubt if I could visit any house except my own that did not present defects of that sort. I have not taken up a position antagonistic to the view that the sanitary condition of a dwelling may influence the disease, but I do maintain that this influence is overwhelmed by other and more important conditions.

To make this clearer, let us consider some facts in relation to the mortality from typhoid fever, in the country, in London, and, for a shorter period, in some of our large towns. Typhoid fever is essentially a disease associated with bad sanitary circumstances, and it responds more than any disease to improvements in sanitary arrangements. The saving of life in this country, owing to this diminution in the enteric fever death rate, has gone hand in hand with the improvements in sanitary legislation. There has been a great drop from 37 per 100,000 in the seventies, to 19 in 1893. This period of twenty years has been characterized by enormous progress in sanitary administration. If, therefore, diphtheria be due to faulty sanitation, we ought to be wiping it out, whereas, on the contrary, it has gone up by leaps and bounds. In 1872 the mortality was 9 per 100,000, while in 1890 it was 18, that is to say, just double. In London it began by killing 9 in 100,000, then 12, 14, 17, 22, 23, and finally 39 and 33, and it has been even higher than this during the last two years; in fact, it has nearly trebled, and this during the very period that sanitary circumstances have been undergoing every kind of improvement. I was asked before a Royal Commission, not long since, what I thought as to the influence of water in spreading the disease, and was told that a certain eminent physician had been to a house where diphtheria had broken out; he had found something wrong in the well, and he had pointed to the defect in the well and the disease as cause and effect. I am confident that there is no direct relationship between polluted water and diphtheria. As a matter of fact, the diphtheritic organism finds it very difficult to live in water. It can indeed only live in very polluted water, and average water is to a large extent destructive of its vitality.

Putting water infection on one side, much more interest attaches to the possible influence of imperfect drains and sewers. The period over which our statistics extend is the period during which our sewerage system has been amended and improved to an extraordinary extent. Millions have been spent in bringing them up to date, yet diphtheria has not lessened; on the contrary, it has gone on increasing. Again, it has been especially in our large towns that these improvements in sewerage have taken place. Early in the seventies, however, before they were commenced, there was not much diphtheria in our towns. It is since these improvements have taken place that diphtheria has made its appearance in our cities on a large scale. It is evident, therefore, that there can be no direct connection between bad sewerage and diphtheria.

Now, diphtheria is essentially an infectious disease. The emanations from the throat and mouth are intensely infectious. By expectoration and otherwise the poison gets into the sewers and cesspools, and in that way I dare say they may become contaminated by diphtheria, and so the disease may be caused by emanations from a diphtheria-infected drain. Just in the same way as the sewers, the soil itself may be contaminated. I am convinced that there is some relationship between the influence of soil and diphtheria, and this influence appears to vary with movements in the level of the subsoil water. In river valleys especially, there are constant oscillations of

the subsoil water. When the water-level rises the diphtheritic and other organisms in contaminated soil are washed up and their emanations are expelled, and so diphtheria may be possibly caused. The possibility of such a sequence of events may therefore be conceded. We hear sometimes of what is called "drain-throat." I do not know exactly what this may be, but it seems certain that people who inhale effluvia from drains (and the better the house, the more pipes are there to convey the noxious vapors into the interior) do get a form of sore throat, just as medical students and nurses in hospitals get what is called "hospital sore-throat." There are thus two ways in which the sore-throat caused by sewer emanations may lead to diphtheria. I have a strong impression that diphtheria never attacks a healthy throat. I will not undertake to say what constitutes a healthy throat, but from the moment you get an inflamed and denuded sore-throat there is nothing the diphtheritic organism likes so much as to fasten upon it. Drain emanations, therefore, do not cause diphtheria, but they prepare the soil for the development of the specific organism of the disease.

I am credited with having a diphtheria theory of my own. One can never be sure of the amount of originality that can be fairly claimed in such a matter; but in making some investigations in certain parts of the country I have had my attention called to circumstances also observed by others. Take, for example, the Welsh valleys. There we find the houses built on the slope of a hill, built right into the hill, so that the walls are always wet and the floor is always mud. During the cold weather the people all get sore throats, and if you look into their throats you will almost always find traces of ulceration due to past attacks of inflammation of the tonsils. The sore-throat—an ordinary sore-throat, so far—is passed from one to the other (for all forms of sore throat are apparently infectious), and by and by—as I have observed over and over again—it gets worse and worse, until it culminates in an outbreak of diphtheria. The explanation that occurred to me, in respect of these circumstances, is a progressive increase in the infectiousness of the organism which produces diphtheria. There is nothing irrational in such a view, although certain distinguished bacteriologists did not take kindly to the idea. They hold that just as cats, cows, and dogs always produce cats, cows, and dogs, so the various microorganisms must also breed true. To some extent, and in respect of certain organisms, this may be so. If you go to a house where there is measles you do not expect to catch whooping-cough; or scarlet fever where a patient is suffering from typhoid; but it seems to me that some diseases are probably more stable than others, and I think diphtheria is among the unstable, and that it is capable of acquiring disease-producing properties which it did not previously possess. This is the property of progressive infectiousness to which I have alluded. We know that if you take a wild plant from the heath where it has been kept alive with great difficulty, and place it in a hot-house under specially favorable circumstances of temperature, soil, etc., it will in a few generations develop properties vastly different from those it originally possessed while growing on the heath; and if relegated to the heath once more, after a time it gradually loses these properties and returns to its original conditions. If we apply this train of reasoning to the organism of diphtheria it will be seen how, under favorable conditions of environment and soil, it may develop properties which it did not possess in the first instance.

A thing more difficult to deal with is the manure nuisance. Certain it is, by coincidence or otherwise, that outbreaks of diphtheria have occurred at places along the Thames where London manure is deposited, and it is quite possible that the manure may have been the vehicle of transmission of the poison, especially since it has become so general in our midst.

A definite relationship has been alleged to exist between scarlet fever and diphtheria. Now, I have never seen or heard of a case in which scarlet fever followed diphtheria, while there are hundreds of instances in which the patient convalescing from scarlet fever has contracted diphtheria. This, I maintain, is only another example of the tendency of the diphtheria organism to attack sore-throats generally. The scarlatinal sore-throat affords the organism the gate of entry, where it can fix itself and develop under favorable circumstances.

Diphtheria is a disease specially prone to attack children between the ages of three and ten, or five and twelve, but it is very difficult to determine for certain how far it is simply a question of age. It is at the age of five or six that children begin to go to school, and five to fifteen may be regarded as the "school incidence," though plenty of children go to infant schools even before that age. In a village in Essex in which upward of 1,400 persons were attacked, I found there were 272 cases under three years of age, but between three and twelve, the special age incidence, the number was 928, and between twelve and fifteen, covering the remainder of the period, the number was 210. This shows the special incidence affecting children between the age of three and twelve But, of course, the majority went to school at that age, so separating those who went to school from those who did not, I found that, while among those who were known to go to school the proportion was fifty-nine per cent., the proportion being 0 and 3 (before the school age) was only one per cent., and only five per cent. among those aged between three and twelve, who for any reason did not go to school. Mr. Power, whom I consider to be the greatest etiologist of the day, has succeeded in showing that not only is the incidence greater among those who go to school, but that by the mere aggregation of children in school it is easy to manufacture a marked degree of malignancy. He investigated an outbreak in a district in which it was possible to know every child, and to follow their movements. The schools were in working order, and taking the age incidence between three and twelve, he found that 16.6 per cent. of those attending school had contracted diphtheria, as compared with 3.8 per cent. among those who did not go to school. Children who contract diphtheria at school may easily carry the infection to others who remain at home, so that this proportion of 3.8 per cent. is possibly susceptible of a reduction. The schools were closed for many weeks, and when reopened 4.8 per cent. of the scholars contracted diphtheria, whereas none of those who stayed at home caught the disease. Again, the schools were closed and greater precautions were ordered. When reopened this time, the proportion attained 7.1 per cent. among those who went to school, while only 2.5 per cent. of those who did not go were attacked. After closing again, on the fourth reopening 4.1 per cent. of the children contracted the disease. Between these periods there was not a single case of sore-throat known to exist anywhere. This seems very remarkable, and the events show clearly the influence which school life exercises on the spread of the disease.

School brings together the most susceptible members of the community, under circumstances which are peculiarly favorable to infection. The children are close to each other, and in saying or singing their lessons they have every facility for breathing into the faces and mouths of their near neighbors. Consequently a child with a trace of diphtheria can easily infect the others. The Education Department requires so much wall-space and floor-space, but the available floor space is largely monopolized by the teachers, while the children are piled up at one end, so that the object of giving so much floor-space is frustrated. The greater the want of ventilation, the greater the risk. Then, too, children of young age are very fond of passing on sweets from mouth to mouth, and of drinking out of the same unwashed cup, thereby offering greater opportunity for serial infection.

I am afraid the school attendance officers are largely responsible for spreading the disease. They stimulate attendance without inquiring whether or not the child

had been kept at home on account of sore-throat. And in the rural districts, the parsons have worried every child into attending school. It was years before the increase was seen in London, but some change has evidently come to pass in our great cities; and this change, in my opinion, is compulsory education, acting by causing the aggregation of the most susceptible members of the community, under conditions favorable to the spread of diphtheria. Of course we cannot stop elementary education, but it may be possible to modify the circumstances which I have shown to be potent factors in spreading the disease.

The next question is the possibility of infection by milk. A large number of outbreaks have been distinctly traced to milk, and many of the most obscure outbreaks in former years would have been easily explained had this method of infection then been recognized. The milk may be infected by a person suffering from the disease, for if the germ falls upon the milk, this affords it an excellent medium for growth and development; but I do not think that this is often the case. A far more frequent cause in my opinion is the existence of a disease in the cow itself. In inquiries into certain outbreaks it has been shown that the disease followed particular "milk walks," that is to say, the *clientèle* of particular dairymen. It has even been traced to particular sheds, and finally to particular cows. Of course you must allow for secondary infections, so your inquiries must bear on the first cases only. Of course a considerable number of the persons who drink the milk escape, but this cannot excite any surprise. It is a common experience. It was, however, noticed that children who were habitual milk consumers suffered the most, whereas those who took little milk, and that little either boiled or only in tea, etc., escaped. Again, those who took cream suffered more than those who did not, an observation I had already made in respect of typhoid infection. I took this merely to be the mechanical effect of the oil-globules in rising, taking with them the germs to the surface. With regard to diphtheria, however, Mr. Power has shown that this is not the case. He finds that those who take fresh milk suffer less than those who take skimmed milk or cream, and the point with him is the keeping the milk too long. If you partake of an infected milk while it is yet fresh, you only take a certain, probably a small, dose of the poison, because the germs have not had time to multiply to any great extent. If, on the other hand, you take milk that has been standing twenty-four hours, the germs have had plenty of time to develop and multiply, and the dose of poison is proportionately greater. The lesson to be learned is to leave off drinking raw milk altogether, and you will escape many diseases—diphtheria among the number. I believe we are almost the only nation addicted to drinking raw milk. Some tribes in India would no more think of drinking raw milk than of eating raw flesh; but whether they rejoice in any immunity from diphtheria from this cause, I cannot say.

Many of the lower animals have been suspected of constituting a danger in regard to diphtheria—cats, for example. The question may, of course, be asked whether it is the cat that gives the diphtheria to the child, or the child to the cat. One thing is certain; viz., that the cat can be inoculated with human diphtheria, and suffers from definite, well-marked, and specific symptoms typical of this particular disease, and that the diphtheria organism can be found in its dejections. Although I have little doubt as to the possibility of a diphtheritic cat passing on the malady to the child, I do not think much diphtheria is contracted in that way. But there is the cow! When these outbreaks were traced back to particular sheds, there was always the possibility of finding cows suffering from some disease. Now our knowledge of the cow is vague; but one frequently finds that the cows have been suffering from a disease associated with a rise of temperature and the formation of vesicles and pustules upon the udder, the animal being evidently out of health. You can often trace the disease actually to the particular cow, and the cow was always affected in this way. An objection that is frequently urged in such cases is that there was someone on the farm who was suffering from diphtheria, and who might have contaminated the milk. But there is nothing extraordinary in some of the persons on the farm being affected. It would indeed be extraordinary were it otherwise, for they are naturally the first to be exposed to the infection. If you take diphtheritic matter from a sick child and inoculate a milch cow—it is essential that it should be a milch cow—Dr. Klein has found that the animal develops a disease which, he says, he is absolutely unable to distinguish from that found in the cow living in the sheds to which the milk had been traced. On the fifth day vesicles, pustules, and ulcerations make their appearance, and material from the vesicles contains the typical organism as found in the human subject. He inoculated a cat with it, and the cat developed diphtheria. Still further, some of the milk from this diseased cow was accidentally given to a cat, and the cat developed typical diphtheria. I think a large number—if not, indeed, the great majority of our specific diseases come to us through the lower animals, or have come from them in the past. I have just said that diphtheria is not a stable disease like certain others, but for this very reason I think we ought to lose no time in taking the necessary measures to diminish its incidence before it has had time to become stable.

Diphtheria is essentially an infectious disease, and the most frequent source of infection in this country is infection from one person to another. It is, therefore, necessary to isolate patients, and in most cases this can only be done by isolation in hospital. Those who have paid a visit to isolation hospitals on a large scale will admit that the system is not altogether satisfactory. The mortality, moreover, is terrible, without one being able to say why. This may be due in part to the fact that probably only the severer cases reach the hospital, but I am convinced that the principle of aggregating patients suffering from infectious diseases in hospital is altogether wrong. On the other hand, the advantages to such infectious patients of special care, nursing, feeding, and medical attendance may more than compensate for the enhanced risk.

What we require is a large amount of air space, but that means money in construction, land, management, etc. What we really want is linear space, and I care nothing for mere cubical measurement. A hospital may be as lofty as you please, but if the patients are packed closely together on the floor, the ventilation will be deficient, and the place will be unhealthy. Efficient ventilation, which means a large amount of wall space, is the only way to avoid the evils of aggregation.

Where sore-throat ends and diphtheria begins I cannot say, but no child who is suffering from any form of sore-throat should be allowed at school, nor even anyone from the house in which that child resides. In regard to the closing of schools, the education department makes some allowance when the school is closed by order of the medical officer of health, so that the grant may not be lost on the ground of diminished attendance. It may not be always desirable or necessary to close the schools altogether in some districts. There is a central village in which the church and school are situated together, with several outlying hamlets, A, B, C, and D. An outbreak of diphtheria may occur at C, no children from that hamlet ought to attend school, but it would be a mistake to close the school altogether, because then the other children would have time and opportunity to frequent C and catch the disease. While they are at school, at any rate, they are protected against this particular source of infection. Unfortunately the education department makes no provision for this contingency, and the school suffers in grant by reason of the non-attendance of the scholars from C. This is a discrepancy which ought to, and probably will, receive immediate attention at the hands of the department.

DOES EATING VEGETABLES MAKE THE BIG MAN?

To the Editor of the Medical Record.

Sir: In your issue of January 20th Mark I. Knapp contributes an interesting communication upon the physiological and pathological influence of vegetables upon man. The first part of the article shows scientific soundness and much care, and the statement that "both vegetables and meat are of like importance to sustain our equilibrium of health and life" is, I believe, for the *fin-de-siècle* individual, generally accepted.

After laying a very good scientific foundation upon food in general, the writer makes a very bold statement, calling Paolo Riccardi to the rescue, who, in substance, has said that vegetables bring forth tall men, while animal diet produces short people. The writer follows this up and settles the matter, as he believes, so conclusively that one might be led to feel that Darwin, Herbert Spencer, Huxley, and Wallace had wasted much time trying to fathom a subject so easy to understand. "It's not climate," says the writer, "no, nor hill, nor valley, nor heredity that makes the big man big and the little man little, but diet only. It is vegetables that produce height in animals and man."

In animals we are told the proof is easy, and we have but to contrast the vegetarian elephant and ox with the flesh-eating lion and fox, to be convinced at once that it is diet alone which determines the size of these quadrupeds. Our attention is further called to the fact that the herbivora are proportionately built, the height equalling the length of the body, while the carnivora are destitute of all proportion, having short legs. The writer here must have been thinking of the carnivorous greyhound, or dreaming of the fine proportions of the herbivorous rhinoceros or giraffe. When he tells us the herbivora are larger, and larger on account of food only, he may have been dwelling upon our ancient friend the ichthyosaurus, or on our more modern type of carnivorous brevity and compactness — the balæna mysticetus or whale-bone whale.

Regarding the latter, however, he may wish to limit his remarks to terrestrial carnivora. He may even wish to think with those of our zoölogists who question a place for these monsters among carnivora at all, notwithstanding the fact that our balæna mysticetus devours immense quantities of crustaceans and pteropods, and in modern times has never been known to hunt a watermelon patch or tread down a cornfield.

Having settled the point that the size of animals is due to diet alone, by contrasting the big herbivorous elephant with the little carnivorous fox, we are led a step further and told that "the ethnography of man proves with certainty and positiveness the same thing." We are invited to study primitive people who have not been civilized by the railroad and telephone. "Look," says the writer, "at the Esquimaux and Lapps of the North and the Patagonians and Polynesians of the South What a difference of diet in those extremes!" While telling us that the Esquimaux eat animal food and are small, he leads us to infer that the Patagonians are large because they are vegetarians. That the latter are large is correct —they are very large. While the older voyagers exaggerated somewhat when they used to say that when a Patagonian stood with his legs apart an ordinary man could walk between them without stooping, nevertheless they are known to compare in stature favorably with picked English life-guards.

But, alas! these same Patagonians are not vegetarians. On the contrary, they subsist almost entirely upon the guanaco, one of the llama tribe. This is the creature they spend their time in hunting. This is the creature that supplies the big Patagonian with food, clothes, and dwelling. Our writer must also have lost sight of our North American Indian, in his wanderings for short-legged and primitive animal feeders.

It is a fact that the majority of primitive men were small, notwithstanding the fact that the majority of them were vegetarians. The mass of evidence shows some connection between barbarism and inferiority of size, *e.g.*—

South American races: Guiana Indian is mostly below 5 feet 5 inches; Arawâks seldom more than 5 feet 4 inches; Guaranis rarely 5 feet.

Northern Asia: Kirghiz, average 5 feet 3 inches.

Southern Asia: Tamulian aborigines of India are described as smaller than the Hindus; Puttooas do not exceed 5 feet 2 inches; Lepchas average about 5 feet; Juángs less than 5 feet.

Many Fuegian tribes are not more than 5 feet; Andamenese men vary from 4 feet to 5 feet; common height of the Veddah is 4 feet 9 inches; the ordinary height of the Bushman is 4 feet 5 inches. This diminutive stature, too, in spite of the fact of a diet of nuts and fruit, or, like the Fuegians, subsisting mostly upon fish and mollusks.

Why then look no further than to connect the small size of the Esquimau and Laplander with the animal diet? Does not the severe climate entail physiological cost? Is it not as unreasonable to attribute the small size of the Esquimau and Lapp to their animal diet as it would be to attribute the small size of the Shetland pony to a vegetable diet?

The Bushman, on the other hand, had to face a barren and arid territory, scarcely inhabitable by any class of human beings—a lower standard of growth is the natural outcome.

Mr. Knapp also directs our attention to the short legs of the carnivora and primitive flesh-eating tribes like the Samoyedes, Obongos, Kenkobs.

We may state that this shortness of legs is by no means peculiar to flesh-eating tribes. It is an established scientific fact that small lower limbs characterize early types of humanity irrespective of diet, *e.g.*, Ostyaks, Kamschadales, Kookies among the Hill tribes of India; Chinooks and Guaranis among the American races. So, too, we find "short bandy legs in the Fuegians, Akkas," etc. Relatively short legs predominated in our Simian ancestors, and still persist in early man.

Again in primitive man we find large jaws and teeth and a large digestive apparatus. This is clearly put forth by such authors as Barrow, Schweinfurth, Tennent, Galton, Dr. Hooker. Ancient British skulls show large massive jaws. The big jaws and stomachs clearly point to the true vegetarian diet of these early people, and plainly tell us that they ate coarse food, "filling their bellies with the husks that the swine did eat;" or, like Nebuchadnezzar of old, eating the grass of the field. In spite of so many vegetables they remained short, bandy-legged individuals of primitive times.

Must we not then seek for other factors than food to explain stature, else why does the famous English black horse continue to tower in size over the "ganon" of the Scottish Highlands be they fed with the same food for many years in the midland counties of England, or graze together on the moors of the Cheviot Hills?

If food alone determines size, why such disparity between the famous short-horns of England, the Jerseys, and diminutive Shetlands—the latter scarcely exceeding in size a long-wooled wether—and this disparity in size remaining if our tiny Shetlands are imported into the lowlands, eat the same herbage, and tread the same pastures with their short-horned companions? Again, why does the progeny of these two widely separate groups approximate in bulk to their sires? If food only, why do the Pembrokes and Anglesea cattle, both mountain types, display such difference in size?

We are told that herbivora have large heads and large skeletons, yet the most marked feature of the famous Leicester sheep, who wallow in the rich vegetables of the lowlands of England, is the smallness of their heads, and of their bones generally, as contrasted with the weight of carcass.

There are valleys in Scotland lying almost side by side where the average heights of the men vary three or four

inches, the evident explanation here being a different clan origin.

The records of the British army show that the Goorkhas of India, living on grain and ghee, average five feet four inches, while the Afghans, who are allowed meat once a day, average five feet eight inches.

Does not, then, the *post hoc, propter hoc* reasoning attributing the size of the elephant to his vegetable diet, and that of the fox to his animal diet, point to lack of thought? One is reminded here of Lincoln's story when he was pitted against an adversary in a court of law. His adversary had talked much without, apparently, much logic, and Lincoln remarked that he did not know what to compare this random thoughtless talk with, unless to a steamboat upon which he was once going down the Mississippi. The steamboat was the possessor of a five-foot boiler and a seven-foot whistle, and whenever the whistle blew the boat stopped.

To conclude, food plays its part, and a very important part, in establishing stature; so does climate play its part, and heredity and altitude and environment. No amount of vegetable food would make the Esquimau large, or materially add to the size of the Jap under existing environment. Centuries must indeed pass by for marked changes in race to manifest themselves. The short-legged and big-bellied members of our early hunting tribes gradually gave way to longer-legged and more symmetrically shaped individuals. Those possessing the longest legs were better able to cope with powerful and swift creatures, and escape from their enemies, beast or man, and thus was gradually developed the higher stature of our hunting tribes of yesterday and to day.

Through the modern process of selection and training the dray horse is made to lose his gigantic digestive apparatus, his thorax narrows and deepens. The lung capacity is increased at the expense of the stomach, the limbs become more lithe, the form more graceful, and, gradually, the racer is evolved.

Natural selection and sexual selection are factors at work, which through countless ages have increased size when size became an advantage, or reduced size when natural advantages called for such change. Man has not escaped the working of these factors. The small man possessing greater prolific properties and hardihood to withstand the severity of certain climates has been as certainly adjusted to his place as the big man to his. This building up or tearing down goes on just the same whether man gains his chief sustenance from the blubber of our arctic regions, from the potato patches or cornfields scattered over the earth, from the animals about, or from the fruits of Brazil, "the country where the nuts come from."

GEORGE R. ELLIOTT, M.D.

48 EAST TWENTY-SIXTH STREET.

BLOODLESS AMPUTATION AT HIP-JOINT.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Whether the "Wyeth method of hip amputation" be "properly named" or not is a matter of little interest to most of our profession. It is now so widely accepted and so well established, and the facts which justify this acceptance are so simple and easy of demonstration to any person of intelligence and fairness, that a discussion of the subject has very little personal interest to the writer.

If anyone will read my operation as described in the MEDICAL RECORD of January 13th, and then read the technique given by your correspondent in the MEDICAL RECORD for January 27, 1894, it will be evident the methods are unlike. The only real point of similarity is that the lower extremity is removed at the hip-joint in both procedures. I am indebted to your correspondent for citing me to the operation advised (but never performed) by Volkmann in 1886, which had escaped my notice, and to which my first operation bears a close resemblance. Volkmann advised the elastic constrictor to be carried from the femoro-perineal fissure, or crotch, up over the pelvis "between the upper and lower iliac fossæ."

This method of controlling hemorrhage is very like and not as efficient as that devised by Jordan Lloyd in 1883 (*The Lancet*, 1883, p. 897, Vol. I.), in which "a strip of black india-rubber bandage about two yards long is to be doubled and passed between the thighs, its centre lying between the tuber ischii of the side to be operated on, and the anus. The ends of the rubber are now to be firmly and steadily drawn in a direction upward and outward, one in front and one behind to a point above the centre of the iliac crest, etc." Mr. Lloyd advises a compress to be laid over the iliac artery on which the rubber rests, and his bandage is carried only a little higher.

In my method the rubber-tube constrictor goes around the thigh a number of times at the level of the junction of the head and neck of the femur, is held absolutely and safely in this position by two steel skewers properly inserted, occludes perfectly every vessel in the field of operation, and permits the disarticulation and deligation of all vessels before the tourniquet is removed.

In the earlier operation I advised sawing the bone through below the trochanter and then enucleating afterward, but later personal experience, and that of other operators (more particularly Professors Murdoch, of Pittsburgh, and McCosh, of New York), led to a change of technique in leaving the femur undivided to aid in disarticulation.

The method of dividing the bone and enucleating, which Volkmann advised in 1886, was done, as I have already shown, by Brashear, of Kentucky, in 1806, before Volkmann was born. The surgical acumen of your correspondent, and the animus of his criticism are evident in the line which reads, "I am willing to give to Dr. Wyeth the credit of introducing the pins, and thus needlessly mutilating the thigh." Well-informed surgeons will not apprehend any serious mutilation of the thigh from the use of a clean steel skewer, three-sixteenths of an inch in diameter, which transfixes the skin and superficial tissues on the outer and inner aspects of the hip, well away from every nerve or vessel of importance, especially when there is nothing left of the thigh but a short and shrunken stump.

I have implicit faith in the spirit of fairness which prevails in our profession, and believe that whatever credit I am entitled to for devising and developing the "Bloodless Amputation at the Hip," will be accorded me.

JOHN A. WYETH, M.D.

A RULE WHICH OUGHT TO BE RESCINDED.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Some time ago a regulation was made at the New York Academy of Medicine which forbids the use of the library after six o'clock to non members. We have heard much criticism of this regulation and no defence. Its condemnation comes from the members of the Academy themselves and not from non-members. The only argument we have heard in its favor is that free admission in the evening is liable to cause crowding in the library and so restrict the rights and privileges of those who, as members, have a prior lien thereon.

We are opposed to the rule from every point of view. We have been fairly frequent attendants at the library ourselves, both day times and evenings, and have never seen over a dozen persons there at once, and rarely that number even. It cannot be that there is such a sudden and overwhelming desire for knowledge on the part of the local profession that the supply either of alcove-space or chairs fails to meet the demand.

The Academy building is not a club-house. It is, in a sense, a public institution, deriving certain corporative privileges which in turn imply certain obligations toward the public, whether medical or lay; and one of these is that the library should be managed in such a way as to invite its freest possible use. We have not heard of any

gross abuse of its facilities, and are at a loss to know why this short-sighted policy was inaugurated.

For such a policy is short-sighted to the last degree. The grand work of the Academy needs to be supplemented by liberal donations from the public in order to enable it to fulfil its true mission; but how much enthusiasm would the average citizen feel over it, if, on attempting to visit the library in the evening (the only spare time New York men have), he is faced with this rule which forbids his entrance? Would he be apt to go home and change his will in favor of the Academy? We trow not.

If it be said that the absence of all restriction gives to non members, who pay nothing, the same rights as to members who pay twenty dollars a year, we say, that, to be consistent, non-members should be excluded altogether. We have neither sympathy nor patience with that philanthropy which closes its operations at sundown.

Furthermore, the Academy will not permit a man to become a member until he has been a graduate in medicine for three years. This rule is wise, but it seems hard to shut a man out of the library in the evenings who would be glad to become a member but is debarred by an arbitrary rule of the Academy as to age in medicine—just as the latter may be.

Moreover, to many young men, just starting their professional life, the necessary expense of Academy membership is a temporary obstacle to their joining. In time they will become members if they are treated properly. To antagonize them at the outset is neither courteous nor politic.

In fact we can find no qualification for the rule whatever, unless, perhaps, some Academy magnate on entering the library found a luckless first-year student reading his favorite copy of the *Kalamazoo Speculum* or the *Archiv. für "Crank"-heiten.*

Gentlemen of the Academy, abolish this foolish rule. It is faulty in theory and puerile in practice.

BOOK-WORM.

January 29, 1894.

FREUND'S NEW OPERATION FOR PROLAPSUS UTERI ET VAGINÆ.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The *Centralblatt für Gynækologie*, No. 47, 1893, containing an article by Dr. Hermann W. Freund, "Eine neue Prolaps-operation (Vorläufige Mittheilung)," reached me just as I was about to operate for radical cure upon four cases of total procidentia of the uterus and vagina, then under my care.

As a result of the perusal of the above article the plan of operation was changed in three of the four cases, greatly to the benefit of the patients and the satisfaction of the operator. To the fourth case the new operation was inapplicable.

Indeed the hope of being instrumental in procuring the same satisfaction for some one situated just as I was when the paper reached me, but who may not have access to it or may not be able to read the article in the original, and the expectation of correspondingly benefiting his patient or patients, prompts me to indite these lines. Through your esteemed and widely distributed journal, my hope is more than likely to be realized.

Freund's new operation consists essentially in narrowing the vagina, to any extent considered desirable, by a number of interrupted, permanent, circumvaginal, buried sutures. The first suture surrounds the vagina a little below the vaginal junction. The second is placed around the vagina a little further down, and so on until the site of the hymen is reached, where the last suture is introduced. When and while all the sutures are in place, it is impossible for the uterus to come down. Freund uses the buried silver-wire suture, and appears to think it the only one applicable. I have, however, in my three cases, used the buried silkworm-gut suture, which, for reasons of flexibility and readier adaptation to the necessary movements of the parts, I consider superior to silver wire.

The operation is simplicity itself, requiring no denudation nor resection of parts. It is practically bloodless, the only bleeding possible being from the needle punctures. Anæsthesia is unnecessary, though, from my own experience, I would recommend it at least in the first few trials. The patient leaves her bed on the following day and goes about her business, if an anæsthetic be employed. When narcosis is dispensed with, she need not take to bed at all. No preparation is necessary for the operation, except where vagina or cervix are the site of erosion ulcerations. A preliminary treatment of a week, or thereabouts, will suffice to cure these, and the operation can then be performed.

With a normal uterus and appendages, and the absence of a tumor or collection of fluid in the abdomen, the only contra-indications to the operation lie in the necessity or desirability of a continuance of the sexual relations, and the possibility of a future pregnancy. Even with these limitations of indication, the operation appears to me applicable to the majority of cases of total prolapsus of the uterus and vagina as we meet them.

For the technique, as well as a graphic delineation of the operation, which makes it intelligible at a glance, I must refer the reader to the original article of Freund.

My own cases were operated upon on January 12th, 13th and 17th of this year. The ages of the patients were respectively sixty, sixty-one, and fifty-one. Five buried sutures of silkworm-gut were applied in each case. The result thus far has been perfectly satisfactory to my patients and to myself.

In conclusion I wish to predict for the new prolapsus operation, as soon as it becomes more widely known, the grateful appreciation of a vast number of physicians and women the world over. By reason of it the name of Hermann W. Freund will prove as enduring as gynecology itself.

GEORGE M. EDEBOHLS, M.D.

NEW YORK, January 28, 1894.

STERILIZATION IN CRIMINOLOGY.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The article of Dr. James Weir, Jr., in the RECORD of January 13th, on Criminal Anthropology, furnishes a strong argument against a strictly punitive treatment of confirmed, habitual, or congenital criminals, but we must not forget that, however strong a natural impulse may be, there is always a possible restraining force in a salutary fear of punishment; even the insane may be, and are, benefited by discipline. Clearly society has a right to protect itself against the criminal classes, and may avail itself of any means, not in itself cruel, which will restrain violence or crime in any form. The penalties of the law should not be looked upon as primarily punitive, but rather as restraints, and clearly any measures may, and should be, taken which may best attain this end, namely, to protect the public. Dr. W. S. Cheesman, in the RECORD of January 27th, commenting upon Dr. Weir's paper, offers castration and spaying as a means of attaining this end. Probably Dr. Cheesman has not read a book entitled "Criminals and Paupers," by Henry M. Boies, whose official position in Pennsylvania has made him familiar with the criminal and pauper classes, and who warmly advocates the same method of mitigating the disproportionate increase of the criminal classes. He points out that, while in the last decade, our population has only increased 24.5 per cent., the classes above referred to have increased 45.2 per cent., a condition certainly calling for some energetic means both of prevention and correction.

In Chapter XV. of the above-named work, the author, under the heading "Degeneration and Regeneration," elaborately and forcefully proposes sterilization of habitual criminals, as offering the most effectual and humane barrier to increase of crime. Certainly the time has

come when we must recognize the necessity of advancing on new lines, if we hope for success.

Steadily, day by day, the ever-increasing procession moves to our prisons and almshouses. It is made up largely of men and women who, after a brief stay, are let out to prey upon the community and again join the motley throng.

It is not probable that the public sentiment can be educated up to the sterilization point for many years to come; for however humane the measure may be, it will seem to most men to be cruel. A law which shall declare a man or woman who shall have committed and been convicted of crime a given number of times, an habitual criminal, and shall direct that all habitual criminals must be detained for life—quarantined one might say—where they may no longer ply their criminal pursuits, and when, with healthful food and surroundings, and humane treatment, they shall be obliged to lead industrious lives, will strike most people, I think, as equally effectual and more humane than sterilization. The conviction, however, of an habitual criminal, must be mandatory, upon evidence furnished, and there must be no pardoning power vested in a governor or other official, but a ticket of leave might be issued by a properly constituted committee upon evidence of good behavior, at the expiration of ten years of the life sentence. Necessary as some such measure as this seems, and desirable as some moral quarantine has become, it can only be attained, it is to be feared, after long agitation and effort. It seems only fair and proper that physicians, who look upon such questions from their natural and physical sides, rather than from a sentimental view, should lend their teaching and aid to the movement for a radical treatment of this condition.

S. S. Jones, M.D.

20 East Sixty-third Street.

Work as a Therapeutic Agent.—A correspondent has sent to the *Spectator* the following short letter from Sir Andrew Clark: "Dear ——: There are two things about all patients which help us to discover their maladies: what is found by the physician and what is felt by the patient. What is felt helps us very little; what is found, for the most part settles our judgment. What is felt by Mr. —— amounts to a great deal. Various disturbances of digestion, weakness, inaptitude for work, recurring faintnesses, malaise, and the feeling of getting worse and worse. What I found amounts to very little. . . . Every organ that I can reach is free from obvious structural disease; and as the patient has suffered for years in this way and nothing has come of it, it is reasonable to say that there is no structural disease. Mr. ——, therefore, is ailing, and perhaps suffering, but not, in the ordinary sense, ill; furthermore, I think that he is introspective, morbidly nervous, and occupied with himself. He cannot at present be made well; but he may reach his best by a simple regular diet, by self-effacement (dying to live), by light, regular, daily occupation, by the resolution to give a deaf ear to his trying sensations, and by a determined fighting and struggling to lose himself in outward things. . . . To do nothing would be to go backward and downward. True, he may suffer if he works; nevertheless, it is best to work. Hundreds suffer to work. I have always suffered to work, but work keeps me where I am; I have to wrestle with it, but thus my antagonist becomes my best helper. Yours sincerely, Andrew Clark."

Inordinate Zeal.—Dr. A. C. Follett, of Schenevus, N. Y., writes: "A man recently called upon me for treatment for chonic constipation. I told him he could probably cure himself without medication if he would establish the habit of going out regularly, at about the same hour each day, and making vigorous expulsive efforts to move the bowels. He said he had practised this already until he had produced double inguinal hernia, and believing '*Alia tentanda via est*,' he got some drugs and a truss."

New Instruments.

THE ANNULAR SEPTUM KNIFE

By WALTER F. CHAPPELL, M.D., M.R.C.S. Eng.,

New York.

Surgeon to the Manhattan Eye and Ear Hospital, Throat Department.

The annular septum knife, as shown in the cut, is made in two sizes, and consists of a handle, an angular shaft, and a slightly curved ring-knife. The following measurements are for the larger size: handle, three and one half inches long; shaft, two and three-fourths inches; ring one-half an inch in length and three-eighths of an inch in width. The ring is oblong and curved a scant eighth of an inch from the plane of the shaft. The anterior two-thirds of the inside of the ring is bevelled and terminates in a sharp edge which flares out sufficient to engage the tissues. To use the knife the ring is pressed against the tissues and drawn with moderate force toward the operator. The smaller ecchondromata shell out of the mucous membrane like a pea out of its pod, leaving the mucous membrane attached anteriorly, so that it can be replaced or cut off. A large ecchondroma may require several parings, which would remove it in successive layers.



This instrument may be employed for the removal of all anterior ecchondromata; localized thickenings of the septum; after saw operations, to remove the tissue which remains at the lower edge of the saw cut; also after drill operations, and for papillomata or granulation tissue growing from the septum. Growths on the posterior border of the septum and posterior hypertrophy of the inferior turbinated bodies, can also be reached in this way. The angular shaft allows a good view of the field of operation; cutting toward the operator and the smooth surface left are great advantages. With children this instrument is of special value, as it takes away the idea of a knife and can be used rapidly. The edge should be kept sharp.

22 East Forty-second Street.

AN INSTRUMENT FOR REMOVING FOREIGN BODIES FROM THE IRIS AND ANTERIOR CHAMBER OF THE EYE

By EDWARD SWASEY, M.D.,

Worcester, Mass.

Oculist and Orist to Worcester City Hospital.

The instrument here illustrated is designed to enter the anterior chamber and grasp any foreign body that may be resting on the iris or attached to it, and preserve the aqueous fluid until the instrument is partially removed. It acts on the principle of two Graefe knives back to back, and the cutting edges turned outward. As the blades increase in thickness and breadth from point to base, their form is wedge-shape, and no fluid will escape until withdrawal is commenced, or until at least the body has been grasped. It looks like an easy matter to remove a small particle of granite or steel which we see attached to the front of the iris, while yet the anterior chamber is perfect. But once let the aqueous escape, and the iris come forward against the posterior surface of the cornea, and it is then next to impossible to remove this

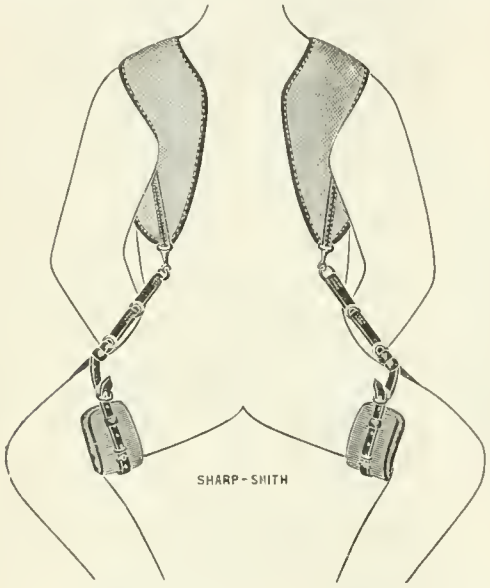


small foreign body without also drawing out a portion of the iris, and doing an iridectomy. But if we can once grasp the body before the fluid has escaped we simplify the operation. This instrument will accomplish this object. In case of steel particles we could make a magnet of the blades, and so give additional retentive power. It certainly retains the aqueous, as I have proven by a number of experiments. The cut illustrates nearly the actual size of instrument. E. B. Meyrowitz, of New York, made the instrument for me.

JACKET SUPPORT FOR LEGS IN PERINEAL OPERATIONS.[1]

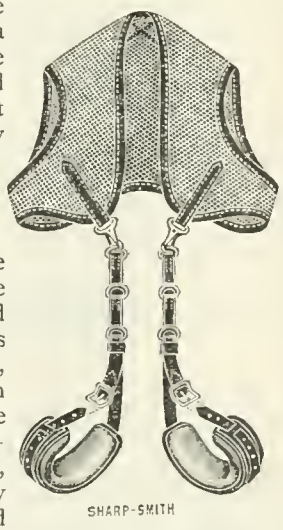
By H. W. BASSETT, M.D.,
OAK PARK, ILL.

Through the medium of this journal I would like to introduce to the profession a little device for supporting the lower extremities in perineal, rectal, and obstetrical operations. It consists of a canvas jacket cut very short



behind, and with large armholes. The front is cut square, and at the lower angles are placed two snap-hooks.

This jacket is put on before the administration of anæsthetic. When the patient is sufficiently under the influence, there is placed on the thigh, just above each knee, a pad with strap encircling the same, and the strap is fastened in the buckle, drawing it tight enough to be snug. Now catch the snap-hooks in one of the three rings on each strap, and the patient is ready for the operator.



The jacket is so cut that the tension comes as well on the back as over the shoulders and about the neck—in fact, less on the neck than elsewhere, and so does not interfere with respiration. The hooks can be unfastened and the limbs be extended in a few seconds time, should the patient behave badly under the anæsthetic. The pad that passes under the thigh being well cushioned, does not impede the circulation as would a piece of soft cloth or anything of that nature. The whole outfit can easily be carried in the obstetrical bag, and will often come in very handily in forceps operations.

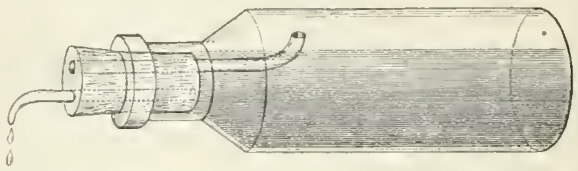
The apparatus, as shown and described, was made for the writer by Messrs. Sharp and Smith, Chicago.

[1] Shown before the Chicago Academy of Medicine, December 7, 1893.

A NEW CHLOROFORM BOTTLE.

By F. OVERHOLT, M.D.,
OMAHA, NEB.

Some people are advocates of the "drop method" of giving chloroform. I mean by the "drop method," a continuous and regular precipitation of chloroform, a drop at a time, on to a thin cotton or linen mask, either



rapidly or slowly, as the judgment of the anæsthetizer thinks proper for the case in hand.

So far as I know, it is almost impossible to get chloroform from the so-called chloroform-droppers on the market, a drop at a time. The nearest approach to a dropper that would drop that came to my notice, prior to the present invention, was an ordinary bottle, with a cork having two notches opposite to one another, and that is seldom a success.

With this dropper one can have the chloroform a drop at a time either rapidly or slowly, depending on the amount of inclination given the bottle. It is impossible to get it "squirt by squirt;" it must always come a drop at a time. The dropper consists of a three-ounce bottle and a cork with two glass tubes in it, one a flow-tube, the other a vent-tube. The flow tube begins at the inner end of the cork, passes through it, is then drawn to a point, and turned down to a right angle. The vent-tube begins at the outer end of the cork, passes through it, and is bent and of such a length as to nearly reach the inside surface of the bottle at the bulge.

Now, numerous people have used the idea of two tubes, one flow and one vent; but, so far as I am aware, no one has packed the conical point of the flow-tube with cotton to regulate the flow. Herein lies the novelty and the success of this dropper, for by this means the chloroform can be made to flow to suit any purpose. I pack it so that with the chloroform just on a level with the flow, it will drop very slowly, say once every six to ten seconds; then, by tipping the bottle up, it will drop from sixty to one hundred and twenty a minute, which in my experience is as fast as is ever needed, provided the mask be thin and not covered with mucus or sputum.

The advantages are: 1, Anyone who can draw and bend glass tubing can make one in fifteen minutes; 2, it saves chloroform; and 3, it makes possible the giving of chloroform a drop at a time, the merits of which are not under discussion.

THE AIR-PRESSURE INHALER AND EXHALER.[1]

By CHARLES DENISON, A.M., M.D.,
DENVER, COL.
PROFESSOR DISEASES OF CHEST AND OF CLIMATOLOGY, MEDICAL COLLEGE UNIVERSITY, DENVER.

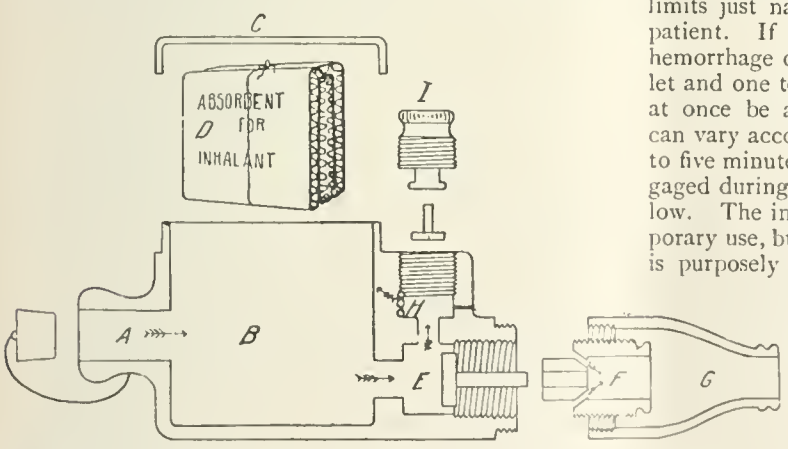
To fully describe its uses, the name of this new device should be the Adjustable Air pressure Expirator, Inspirator, and Inhaler, but a briefer title is preferred. The adjustable control of the air-pressure within the lungs is its chief merit, for both individuals and respiratory diseases are never exactly alike, and adjustability to the needs of each is a *sine qua non* of success in treatment.

The pathological changes which make different air-pressures within the lungs essential to the cure of chronic diseases, especially consumption, are very interesting, yet at the same time rather difficult to understand.

The chief element to be considered is what is called fibrosis, which is nature's means of healing, designed to

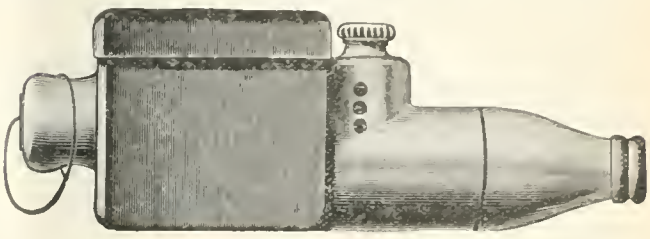
[1] Read before the Denver Medical Association, and Arapahoe County Medical Society, November, 1893.

bridge over, paste in, and protect the portions damaged by inflammation, mechanical injury, or the encroachments of tubercle bacilli or other germs. But nature, once started in her healing processes, is either too generous in her work, or, if unopposed by healthful lung exercise, overdoes the remedial part, and the fibrosis, which closes up the affected lung, becomes a most important factor of the disease. This consideration becomes a forcible argument when we recognize this fibroid process as nature's means of imprisoning, in the form of "tubercles," the germs of consumption; for it seems that only when so imprisoned, if not thrown off in the form of expectoration, are the tubercle bacilli kept from multiplication and re-infecting the system. It is quite probable that the pressure of this new fibroid growth upon these encapsuled germs renders them, for the time being, latent or unproductive of increase or further harm. But this process closes the affected lung, and starvation and poisoning of the blood must ensue from the resulting lack of oxygenation. On the other hand, when (keeping in mind the above hardening or shrinking process) we consider the mechanical conditions governing the ingress and egress of air in respiration, we are impressed with the utter uselessness of inhalations of medicines as ordinarily practised, except for diseases in the extreme upper air-tract. It is capable of demonstration that the inhaled air (which is usually thirty to ninety per cent. of saturation for the temperatures inhaled), ordinarily enters in the centre of the tubes, while the exhaled air comes out along the borders of the tubes, and that, too, from eighty-five to a hundred per cent. of saturation for the usually warmer temperature of the body. The result is that the medicaments, dust, etc., are caught by the heavier and moister out-going current, and the one tenth of the total air in the lungs—ordinarily exchanged for new air at each respiratory act—brings away more than its due proportion of the medicaments inhaled. Besides, if any medicine succeeds in passing on, it will not reach the diseased and shrunken portions, as intended, but must go with the constantly more and more diluted air containing it, to the more flexible and open healthy lung, where it is not wanted. That, then, which is desired is the thorough emptying of all the residual air possible, and then, after a full inspiration, such an increase of the tension of the contained air that the fibroid resistance will be gradually overcome, and the air inspired (only made germicidal to the extent that the healthy lung is not thereby injured), is forced into the diseased portions, especially in the out of-the way apices and protected parts. That, among other effects, is just what this little device is calculated to do and can nicely accomplish. Its mechanism is apparent from the following description, the accompanying cuts giving the actual size of the instrument, as made wholly of hard rubber by the Denver Surgical Instrument Company.



The air enters through the nozzle *A*, which is purposely made for the possible attachment of a rubber tube connected with an oxygen tank, any desired vaporizer or gas generator. Or, as is sometimes desirable with patients confined to the house, the breathing of the fresh cold out-door air can be had through a half-inch rubber tube, three or four feet long, connecting the inhaler therewith through a slightly opened window. In the box *B*, covered by the cap *C*, is some absorbent wool loosely wound, or, which is better, a coil of blotting-paper *D*, pressed like corrugated paper in form to suit, so as to be a little smaller than the inner calibre of the box. This serves as an absorbent to hold and gradually disseminate the various combinations of germicidal and healing oils, or other evaporating substances, which are intended to be used in this process.

There is an inlet valve at *E*, controlled by screw-head *F*, which can be reached by unscrewing from the instrument the mouth-piece *G*. This inlet valve closes with



expiration, so that the exhaled air goes off through the exit valve *H*, which in turn is made adjustable by screw-top *I*. This adjustable exit valve is the chief feature of this device. For ordinary use the inlet valve *E* needs to be from one-half to nine tenths open, while the exit valve *H* should only be from five tenths to one-tenth open; but there are a number of combinations which will be found to suit individual cases and diseased conditions. The tension of the air is increased at will, from an easy to a more difficult use of the instrument, according to the need and ability of the patient.

In known or suspected bacillary and fibroid disease of the lungs, *i e.*, in the various combinations of these processes which characterize the first stage of consumption, the needed thorough ventilation and cleansing (by the antiseptic inhalations) of all parts of the lungs can be accomplished by systematic practice of breathing with this instrument with the valves closed as nearly to the limits just named as can be comfortably borne by the patient. If there is pain, active inflammation, or recent hemorrhage or pleurisy, those limits (one-half for the inlet and one tenth open for the outlet valve) should not at once be attempted; and the times of practice, too, can vary according to the invalid's ability, usually three to five minutes out of each hour, when not otherwise engaged during the waking hours, being a good rule to follow. The inhaler is not intended for transient or temporary use, but for a permanent, continuous influence. It is purposely made small and compact, so as to be easily carried in the pocket, and ready for frequent inhalations and exhalations. The contracting and glueing up tendencies of affected air cells or tubes find constant and needed opposition in the proper use of this device. The medicine need not necessarily be renewed more than once a day, or it may be enlivened every little while by dropping a little alcohol on the absorbent in the box. The respirations, after emptying the lungs, should be *long, full inspirations through the inhaler, and then forcible expiration through the instrument, continued until the lungs are as nearly emptied as possible.*

When there are catarrhal softenings, excavations, or ulcerations, as well as where the use of the inhaler and expirator, as above described, causes pain, the limits named can be gradualty reached and at first the strength of the medicament lessened.

Uses in Chronic Lung Disease.—For uses in chronic lung disease, different combinations of some of the following have been experimented with and have proved very satisfactory. Menthol, phenosalyl, either the ol. pini

pumilionis, or ol. pini sylvestris, beechwood creosote (Merck's), tincture benzoin co.; oils of eucalyptus, cloves, cedar, and lupulin; mono-chlor-phenol, europhen, camphor-chloral, thymol, beta-naphthol, formalin, etc. The first three form a good basis for incorporating any of the other or like ingredients, and five to ten drops of the mixtures may be used in the inhaler once or twice each day.

For bronchitis a great variety of combinations of antispasmodics with anodynes and soothing essential oils (chloroform, ol. lupulin, ol. pini pumilionis, camphor, and acetic ether, etc.), will suggest themselves as beneficial, according to the nature and severity of the case; the probability of there being no fibroid complication rendering it less necessary to use a close exit valve. Three drops of sandal-wood oil to thirty minims of alcohol make a good inhaling mixture in some forms of bronchitis.

For asthma, in which inspiration is especially difficult, the adjustment of a free inlet and only a partly closed exit valve, with the use in the box of such antispasmodic, soothing, and relaxing agents as indicated, should be found very beneficial; while for emphysema, in which condition the relief of the over-distended air-cells is desired, a considerably closed inlet and wide open exit valve is indicated.

For angina pectoris, and allied affections, where such vaporizable substances as nitrite of amyl, etc., are indicated, it would hardly seem possible that a more convenient, economical, and suitable means of administering such remedies could be devised; for, shut up in the box, the vapors need be inhaled only so much as desired. One drop of nitrite of amyl to thirty minims of alcohol has been the strength of solution used.

The further possible uses of this new instrument, where antiseptic or germicidal vapors are needed to be held under control and inspired as indicated, are confidently left to abide the results of experiments which will probably be made as opportunities offer.

In the treatment of consumption, however, the author has found this method decidedly helpful to other means of treatment, favoring a desirable condition of asepsis in the lungs, cleansing and clearing out concealed diseased spots, increasing the ventilation of the affected lung, and augmenting, through the increased pressure produced, the process of hæmatosis.

"How is it, doctor, that I sleep so much better since the commencement of the treatment?" asked a lady with a considerable cavity and abundant fibroid protective material around it.

"Perhaps it is because you absorb so much more oxygen by using the inhaler," was the reply given.

This increased oxygenation and opening up of usable air-cells, when the instrument is properly used, is so different from the seeming closing up and suffocation effect of some other methods of treatment, especially of lately much vaunted "cures," so called, that one is compelled to conclude that any method of treatment must indeed be faulty which does not take into consideration the general fibroid contracting tendency in the healing lung. In some new cases their spirometrical and manometer records have been increased as much as twenty-five per cent. by one month's use of this inhaler.

An interesting test to show that the inhaled vapors, under forcible but impeded expiration, do reach the outermost parts of the lungs, can be tried by simply saturating the absorbent in the box with alcohol, and then freely using the inhaler as directed. One thus gets the full benefit of the stimulant diffused throughout his breathing-space. Through the operation of this forcible expiration he feels the muscular contraction of the diaphragm first, and then the restrained air in the lungs seems to be, as it undoubtedly is, driven successively into the periphery and apices. The somewhat reddened face of the experimenter indicates whether the force of the expiratory effort is sufficiently prolonged and powerful.

The hope is entertained that this little device may prove to be a valuable means of lung development in feeble-chested youths, the chief agency employed in the cure of very many chronic lung diseases and bronchial catarrhal affections, and to favor the arrest, more or less prolonged, of slowly progressing but advanced consumption.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 3, 1894.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	10	4
Scarlet fever	151	20
Cerebro-spinal meningitis	0	0
Measles	554	28
Diphtheria	197	58
Small-pox	22	4
Cholera	0	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0

A Healthy Spot.—The *Sacramento Bee*, criticising the California State Board of Health's Report, says that, according to this report, "August, 1893, was the healthiest month in the history of Los Angeles, the number of deaths being reported as '0,' with a population of 50,394. This beats the record of the world since the days of Adam. The population jumped about a little, too. From October, 1892, to and including January, 1893, the population is given at 65,000. In February there is a loss of 5,000, probably by immigration to Northern California, and in the next month, March, there is a gain of 5,000, probably of unfortunate emigrants from the East. This continues until August, when there is a loss of 14,606, the population having fallen to 50,394, but in the next month, September, the boomers got their work in and raised it to 65,000."

An Anti-coryzal Snuff.—M. Grellety recommends the following formula for a snuff to be employed against that common malady, a "cold in the head:" Betol, 2 gm., 50 ctgr.; menthol, 25 ctgr.; hydrochlorate of cocaine, 15 ctgr.; roasted coffee, 1 gm., 50 ctgr. Powder finely, and pass through a fine sieve. M. Jullien believes the best application to be vaseline associated with boric acid, and condemns all powders, which he accuses of bringing about the concretion of the muco-purulent discharge.

To Make Bed-pans Comfortable.—Make a pad of cotton cloth with any soft filling, eight inches square and one inch thick; to one side sew a piece of cotton cloth long enough to do the following: The pad should be placed on the posterior part of the pan on which the sacrum rests; then pass the cotton cloth band from the posterior edge of pan under the latter and forward to the prolongation in front, and fasten by passing the cloth over the latter, through a hole in its substance. This will hold the pad in place, while the latter contributes greatly to the patient's comfort.

What Young Girls Should Read.—A literary lady and member of Sorosis says that every young girl should read Naphey's "Physical Life of Woman," another book called "Tokology," and Cook's "Mothers and Daughters." This is dangerous advice. If we are not mistaken one of the above books is regarded as very untrustworthy and misleading. The safest way to teach girls what they should know is by personal instruction, with the help of a genuine and pure scientific text-book on anatomy and physiology.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 45, No. 7.
Whole No. 1215.

NEW YORK, FEBRUARY 17, 1894.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

THE USE OF SUGGESTION DURING HYPNOSIS OF THE FIRST DEGREE, AS A MEANS OF MODIFYING OR OF COMPLETELY ELIMINATING A FIXED IDEA.

BY RUSSELL STURGIS, M.D.,

BOSTON, MASS.

As the subject of this paper I have chosen a small field, but one of very great importance. The term "fixed idea ("idée fixe" of the French neurologists), I shall use hereafter as synonymous with "erroneous or worrying idea which has become fixed in the patient's mind, and which we intend to combat by means of suggestion." I shall endeavor to describe my idea of the mode of growth of a fixed idea, and to show, from analogy, that the idea implanted by hypnotic suggestion grows in the same manner. I shall report three cases in which hypnotism was used with success, to illustrate two methods of growth of a fixed idea, and shall mention another group of cases without reporting any one case, illustrating a third; and shall show analogous growth of the idea which was implanted with a view to modifying the effect of the fixed idea. I am convinced from experience that in this field—the use of suggestion to eliminate and modify a fixed idea—lies the future use of hypnotism in medical practice, and I am almost sure that, in cases not to be brought under the head of disturbances due to the presence of a fixed idea, the use of some other means of relief than hypnotism is advisable. To follow the probable method of growth of a fixed idea, it is necessary to imagine the thinking brain as divided into two parts, or strata: an upper, where ideas are at once recognized as the direct result of a stimulus from without, a stratum where conscious cerebration exists; a lower, or substratum (I shall use this word "substratum" to indicate this lower portion of the thinking brain when in future I refer to it), in which an idea may be implanted as the result of a stimulus from outside, without the brain being conscious of the implantation of the idea, or connecting the idea, in any way, with the stimulus from without. In the substratum, then, the idea is not recognized at the time of implantation, but after months or even years of activity in the substratum (during all this time its existence being unrecognized by the upper stratum), it obtrudes itself suddenly upon the consciousness of the upper division, growing more and more prominent until it becomes a fixed idea. I will later give my reasons for considering why the idea is constantly active, rather than dormant, during the time that it remains, though unperceived by consciousness, in the substratum. It is well to state here, that the time of implantation of a fixed idea in the substratum is, in many cases, coincident with some mental strain or shock, and that such strain or shock may be well nigh forgotten, until recalled by the intrusion of the fixed idea into the conscious upper stratum. In the well balanced mind, the fixed idea, after its entrance into the upper stratum, is held in check by other ideas, so that it does not grow at their expense; but in the unbalanced it may completely master other ideas and beliefs, until at last it stands out as the dominant idea of monomania.

The growth of the fixed idea may then start from the substratum. I shall cite Cases I. and II. as instances of this mode of growth. We all know that a comparatively trivial idea or belief, recognized at its inception as the result of a stimulus from without, may be so brooded upon and elaborated by the thinking brain, that it may become a fixed idea. This, then, is a second method of growth of the fixed idea, differing from the first in that it begins in the upper stratum. Such growth, as the result of a voluntary act on the patient's part, I will show in Case III.

On account of certain mental or physical peculiarities, inherited or not, a fixed idea may be implanted in either the substratum or the upper stratum, such idea taking the form of belief that the possessor of it has certain appetites or passions much in excess of the normal. I shall report a group of cases in support of this third theory of growth.

I will now cite various phenomena of hypnotism, to show that, as we can parallel the growth of the fixed idea through all its stages with the growth of the suggested idea through the same stages, the origin of both must be in the same part of the brain, namely, the substratum. I have never induced hypnosis beyond the first degree, that being the stage in which the patient is perfectly conscious of surroundings, and has on waking, memory of all that has taken place during the hypnotism. My reason for this is, that the suggestions made in that stage are sufficiently powerful for therapeutic use. As I have myself been hypnotized to this degree, I have personal knowledge of the subjective sensations while in that stage of hypnosis, and I am able to reassure my sometimes timid patients by giving them the result of my own experiences.

Now, let us consider the mental state of persons in the first degree of hypnosis, and let us follow the growth of a suggested idea. After the eyes are closed, the person at once, or in a very short time, passes into a state which I can no better describe than by likening it to the condition of a person who first wakes in the morning, before he is thoroughly aroused. There is a delicious sense of languor, and laziness is supreme. If it were suggested that the eyes could not be opened, the person would imagine that he could open them, but the effort to do so would appear to entail more trouble than would be worth while. No particular note of surroundings is taken, though the faintest noises are perceived. The suggestions now read from the paper, which were, in the waking state, most anxiously desired as a belief, convey little more meaning than a string of words. The person is too lazy to think seriously of anything, much less to note the implantation of the suggested idea. The part of the brain which when fully awake desired the belief, is now lethargic, or at least its power of perception is very much dulled. To what part, then, do we address the suggestion? On waking, the person says, "I heard you make the suggestion, but it produced no impression on me. Ought I to try to believe and to realize the suggestion now?" "No," I answer, "think nothing about it. Don't worry. The belief will come of itself." The person is hypnotized the next day, and perhaps on two or three successive days, the same main suggestion being made in exactly the same words, and still the person may think, even after the last sitting, that, much as he may desire, the suggested idea can never produce the belief which he seeks. In a week or more after the sittings have been discontinued, the belief begins to appear, gradually becoming more and more strong, until the

fixed idea vanishes. Here, then, is a growth analogous to the growth of a fixed idea which starts in the substratum. Step by step you can follow the analogy. Is it not more than probable that the suggested idea starts in the substratum? Constantly repeated to the patient on successive days during hypnosis; appearing in the upper stratum in a comparatively short time; are we not justified in thinking that the suggested idea, far from lying dormant, is at work all the time in the substratum, without the patient being aware of its presence there? Reasoning from analogy, therefore, we are right in assuming that a fixed idea does not lie dormant during the months or years that its activity in the substratum is unrecognized by the upper stratum.

Now, we can compare the growth of the fixed and of the suggested idea. The fixed idea is implanted in the substratum; the suggested, probably is. The suggested idea is constantly at work in the substratum, though unrecognized by the upper stratum; the same is probably true of the fixed. The fixed intrudes upon the upper stratum after months or years, and then begets a firm belief; the suggested intrudes after days or weeks, and very rapidly begets a firm belief. Can we explain the different length of time that the fixed and suggested ideas occupy the substratum, before they are recognized by the upper stratum? The fixed idea is not encouraged while in the substratum; belief in the suggested idea is ardently desired.

In cases in which the idea is implanted in the upper conscious stratum, and in which it becomes a fixed idea from the patient's constantly thinking of it, why should we hypnotize at all? Why not argue the patient out of the belief, applying our suggestion directly to the upper conscious stratum? Because, as the patient has spent many years, possibly, in fostering the growth of the fixed idea, we should have to present our suggested idea to the conscious brain for a length of time approximating that spent by the person in formulating the fixed idea, before we could make much of an impression—granting that we have the perfect confidence of our patient that our judgment is better than his. We therefore put this weary task upon the hypnotic suggestion to the substratum, well knowing that we shall get our result in a comparatively short time.

In regard to that class of cases in which the fixed idea may be the result of personal characteristics, the method of growth of the fixed idea is either that of class one, or of the class just mentioned; and the same is true of the growth of the suggested idea.

I will now give cases very briefly, reserving a more extended report for the conclusion of the paper.

Case I.—An unkind remark of a daughter to her father, followed by the death of her father the ensuing night, resulted in the realization, a year after her father's death, of the fixed idea that her father had died without forgiving her. This idea gradually grew, until it begot a remorse so strong that the woman feared for her reason, suffered from insomnia, and looked upon death as her only possible relief. The growth of the counter-suggestion can be traced, passing through exactly the same gradations of strength, until in a comparatively short space of time full realization of the belief suggested, removed the original worrying fixed idea. The suggestion was, "Your father has forgiven you," this being led up to by minor suggestions, fully reported, later.

Case II.—The fixed idea that the patient was responsible for an accident to her brother, appeared in the upper stratum *two years and a half* after the time of its probable implantation. Six months later, the idea had gained such power that the patient's general health began to suffer; nightly dreams of the accident, and optical illusions in regard to it by day, appeared.

In this case the main suggestion was, "You do not believe that you are responsible," etc. Troubles secondary to the fixed idea were the first to disappear. The main suggestion was first realized as a possible belief, five days after the first sitting, and became a firm belief at about the same time that the illusions completely vanished.

Case III.—This case is essentially different from the two preceding. The origin of the fixed idea was not in the substratum, but became one from conscious reiteration—the patient voluntarily allowing her mind to dwell on a certain idea of inferiority, as a sort of mental discipline. The ultimate result was the same in this case as in the others. The idea, under her fostering care, so grew that it became fixed, and brought as a result nothing approaching physical breakdown as in Cases I. and II., but simply acute unhappiness.

In Case III. we have a fixed idea as the result of constantly dwelling on the idea, for a given purpose. In Cases I. and II. it is probable that the idea which gave rise to the final belief was repeated over and over again in the substratum, where unconscious cerebration may exist, the person harboring the idea being unconscious even of its presence. These three cases have this trait in common: Iteration of an idea, resulting in the fixation of an idea, and establishment of a definite belief in consequence.

I have now traced a probable way in which a fixed idea may be implanted and may grow, and I have pointed out that continued presence of an idea in the substratum may be a sort of constant, though unrecognized, mental irritant, much as the constant reiteration of an idea may be. What rules are good to follow in hypnotizing, and what is a satisfactory method of framing the suggestion which is to benefit a given case?

Without going into details of the process of inducing hypnosis, let me here state, as I have stated above, that I never induce it beyond the first degree. I consider that for therapeutic use it is quite unnecessary to push the process farther. The responsibility, in all cases of hypnotism, I consider very great, and by advancing farther toward the unknown, we assume more and more unnecessary responsibility. If we can get results such as I describe, why should we not be content with the advantages that the first degree can give us? My experience goes to show that many and oft-repeated sittings are unnecessary. In Case I. but three were needed to efface remorse. In Case II. I employed seven. Fewer might have sufficed, as the suggested belief began to be realized after the fourth. In an incomplete case, now under observation, but not reported because not enough time has elapsed, three sittings have caused the belief to begin to "take." Now, as to suggestions.

1. We must find, if possible, the fixed idea, and frame a suggestion to combat it. This I call the main suggestion.

2. The suggestions should always be written out on a paper and submitted to the patient in the waking state, before he is hypnotized. This should be done that there may not be the slightest opportunity for either you or the patient to misunderstand the suggestion. You will then be sure that the suggestion will induce the belief that the patient desires. Never make a suggestion that is not on the paper, or which the patient does not thoroughly understand when in the waking state. If you desire to make a suggestion, even for the patient's good, which is not on the paper, and which he has therefore not seen with his own eyes, either wait till the next sitting or else wake the patient, write down the suggestion, show it to him, and then hypnotize him again. By closely following this rule, you run no danger that the patient will conclude that his will is not as strong as yours, a conclusion on his part which no honorable man will desire.

3. The main suggestion should be repeated over and over again, always using the same formula and words, to simulate the constant presence and iteration of the morbid fixed idea. I limit this statement to the main suggestion. Those that I call the subordinate suggestions, which are intended to remove symptoms that are the result of the fixed idea, may be varied as occasion may arise, but not unnecessarily. For instance, in Case II., in

regard to the optical illusions, the expression "which come against your will," was used after the first two sittings because the patient once, on waking, looked out of the window for the purpose of seeing whether the illusion would appear.

4. As the fixed idea is present, and as it probably was in the present tense, so to speak, when it was implanted, so the suggested idea must, if possible, be made in the present tense. Say "you believe," not "you will believe."

5. Where it is possible, I prefer not to attack the fixed idea directly. For instance, in a case that came to my notice, in which a person wanted to get rid of certain disagreeable reminiscences that worried him, the suggestion that the memories would no longer exist, probably accounted for failure. Memory probably cannot be abolished as easily as that. Make the suggestion, "the memories can no longer worry you," and the chances are that the suggestion will be received. I hypnotized a person for seasickness, which had always troubled her when going abroad, and which she expected to suffer on her next trip across the ocean, that was to be taken in a month. I suggested that she would not be seasick, but would make the most comfortable passage that she had ever made. The result was, that she apprehended no seasickness during that month, but the reality was painfully evident when the ship got well away from New York. A year or so after, some cases of the relief of seasickness were reported, in which the suggestion was made that a teaspoonful of water, taken when nausea first came on, would abort the attack. That was a good suggestion. Mine was faulty. This is a good example of what I call getting round a fixed idea, instead of trying to attack it directly.

6. Let your suggestion aim at bringing your patient to the normal. Suggest that an idea shall not worry a person any more than it would worry any normal brain. By following this rule you do not run any risk of implanting an idea that, if it should become a fixed one, could do your patient any harm.

It may well be asked how you can extract any notion of fixed idea in cases where, as in Case I., insomnia was at once relieved, and in cases which I called the third group, earlier in this paper. We all have had experience with cases of insomnia that have lasted more than a few nights. We know that the patient who comes to you for treatment is expecting to lie awake. We advise that the patient eat a light meal in the evening, go to bed at a certain time, and just before going to bed take a glass of milk. This slight change from his ordinary manner of passing the evening and going to bed, gives him a sort of expectation of sleep, and the chances are that he will get sleep that night. The idea is, "If something isn't done for me, I shall lie awake to night, just as I did last night." You suggest, during hypnosis, "You will sleep to-night," and you efface the fixed idea, which I grant is so weak that you can almost always induce sleep after a single sitting. In cases which are dependent upon mental or physical characteristics, the idea is, "I have stronger appetites or passions than most people." You implant the counter idea, "You have no more appetite or passion," or what not, "than the normal healthy man or woman," as the case may be. The result is that you can wipe out the excess, whatever it may be. I have now a case of nymphomania under observation. This woman says that she has not been so comfortable and happy for years, and she can't understand it. She was hypnotized three times only, not quite three weeks ago. This is clearly a case of suggestion tending to bring a patient to the normal.

Case I.—Woman, aged twenty-nine, single; typewriter and stenographer. Referred to me by Dr. M. H. Richardson, for insomnia. Patient was well nourished, but very nervous, with bright and restless eye. She gives a history of gradually increasing insomnia for the last five months. Has tried all the well known sedatives and hypnotics without effect. Has endeavored to tire herself out by hard work, has tried alcoholic stimulants as a means of inducing sleep, and is now convinced that she is to go insane unless she can procure relief. On inquiry I can find no cause for the insomnia. As nerve sedatives of various kinds had been tried without relief, it occurred to me that a strong nerve stimulant might be the best thing to use, and I prescribed a fairly large dose of strychnia, to be taken thrice daily, and told her to go home and to report to me the next day. Next day she reported to me that she had slept better than for a long time, having been asleep for four or five hours. She was ordered to keep on in the same way, and to report at the end of twenty-four hours. Next day she returned, and said that the insomnia was as bad as before, and insisted that something more should be done. Being convinced that the two doses of strychnia could not account for the sleep of the first night, I came to the conclusion that sleep was due to suggestion, she being aware that I intended treating her on quite different principles than any of her former advisers. I therefore proposed to hypnotize her. She consented with great reluctance, as she was afraid of what she called "an uncanny process." Thinking that there must be some mental trouble or worry causing the insomnia, I made the suggestion under hypnosis: "You will sleep to-night, and no mental worry that you may have had, can keep you awake." This was at four in the afternoon, and she remained with eyes closed till I waked her, at the end of eight minutes. I told her to go to bed at half-past nine that evening, and to report next day. She returned, and said that she had gone to sleep at ten, and had not waked till roused at half-past eight in the morning. I hypnotized her four times during the three succeeding days, with the result that sleep was induced as a habit. I saw her again at the end of a fortnight. She said that she slept very well, but that she was much troubled during the daytime. I asked her to tell me what it was that was troubling her, and with many tears she told me her story. Ten years before, her father was a wretched and very trying invalid. One night, after he had been particularly exacting, he remarked that no one seemed to care for him, and that the best thing he could do would be to die. She said that she agreed with him. He died that same night, without ever seeing her again. After his death, things went along smoothly, as far as she was concerned. About a year after his death she became suddenly aware that she had made a most unkind remark to him, and that he had died without ever having forgiven her. Gradually keen remorse followed this idea, which finally resulted in insomnia. Hypnotism had relieved the insomnia, but now the remorse was much worse during the day. She said that she could only be happy if she were dead. I asked how she expected to attain happiness if she were, and she answered that if she were dead she would see her father, and that she could explain to him how repentant she was, and that he would forgive her, which would make her happy. To determine if she were really sincere in this belief, I ridiculed the idea. I said, "Now, that is a most extraordinary belief; you can't be so foolish as to think that you will recognize him after death, or that he can recognize you after the lapse of ten years." She stuck to it that she believed it thoroughly, and begged me not to ridicule a belief which was her only source of consolation. "Well," said I, "there is only one more extraordinary belief, and that is, that your father can see into your heart, and that, knowing how repentant you are, he has forgiven you already." "Oh, doctor," said she, "if I only could believe that, I should indeed be happy." I told her I would suggest the belief during hypnosis. I hypnotized her on that day and on the two succeeding days, making the following suggestion: "You believe that your father can see into your heart, he knows your repentance, he has forgiven you, he is pleased to see you supporting your mother and sister." The belief came to her in less than three weeks. Ten months later, she writes: "I am asleep three minutes after my head

touches the pillow. Oh, doctor, I am so awfully happy!" Again she writes, later: "Life is so full of everything that is nice, and I get such pleasure out of it which a year and a half ago nothing on earth could have brought me!" To recapitulate: the fixed idea was, that her father had died without forgiving her. The corrective suggestion was in the form of a belief that her father knew of her repentance, and had therefore forgiven her.

Case II.—Woman, single, aged twenty-six. On October 19, 1889, she asked her brother to go to ride with her. The young man's horse fell with him, and the boy suffered a fracture of the base of the skull, from which he perfectly recovered in the course of time. In the spring of 1892 signs of a neurasthenic condition first developed. The young lady had digestive disturbances, amenorrhœa, neuralgias, and other symptoms of nervous derangement. Her general condition became so poor that in August she was put to bed for most of the day, and in December was put to bed entirely; being, however, removed from town in the early summer of 1893, and back again in the same fall. The attending physician spoke to me of the case in the early part of 1893. I advised him to find out, if possible, the underlying worry. In September, 1893, the lady told her physician that, synchronous with the development of nervous symptoms in the spring of 1892, there appeared the belief, which gradually became stronger and stronger, that she was directly responsible for the accident to her brother, because he would not have gone to ride had she not asked him. That she, shortly after the beginning of this belief, began to dream of the accident more and more frequently, until she dreamed of it every night, and that of late she saw her brother's bloody head between her and her book, if she attempted to read, or against the light, if she looked out of the window. The attending physician asked me, some time in November, to hypnotize the young lady. After considering the question very carefully, for I was afraid that there might be beginning mental degeneration, I told him that I would, and saw her for the first time on December 19, 1893. She lay in bed, moving restlessly, clasping and unclasping the hands, the face pale and anxious, the eyes with a peculiar expression. The nurse said that this was her usual condition, but that when she saw any of her young girl friends for a short time, as she occasionally did, she was able, by strong will power, to calm herself. I hypnotized the lady without difficulty, she being able to concentrate her mind upon the thought of sleep long enough to enable me to induce hypnosis. She remained, to the surprise of her physician and her nurse, perfectly quiet, with the exception of moving the fingers of her right hand once, till I roused her, at the end of ten minutes. I twice read from the paper these suggestions: "You believe that you are not responsible for the accident to your brother, and you will not worry about it any more." "You will not dream of the accident at night, and when you are awake you will not be troubled by visions of the accident." As soon as I aroused her, she at once looked out of the window, and I was sure that she saw a vision. She complained of a queer sensation in the head, as if she had been asleep at an odd hour of the day.

December 20th.—Had visions all the same yesterday afternoon, but the night was less disturbed by dreams. Hypnotized, and allowed to remain so for twenty minutes. When the patient was roused, she complained that she had been unable to move hand or foot.

December 21st.—Had fewer visions, but dreamed of the accident. Guard suggestions made at her request that no one but her physician can hypnotize her, and he only if she is willing. Guard suggestions as to following headache. "You will be untroubled by visions that come against your will, this afternoon and evening."

December 22d.—Dreamed of hypnotism. Says that she is very apt to dream of what is on her mind during the daytime. Saw no visions till nightfall, when, realizing that she had seen none since the morning, she saw a single one. Somewhat restless and uncomfortable yesterday afternoon on account of a cold that is coming on. Hypnosis twenty five minutes. "Perfectly comfortable and able to move." "If I were you I would not dream of hypnotism to-night."

December 23d.—Thought very little of hypnotism, and didn't dream of it at all. Has visions distinctly less than for some time hitherto. Suggestions seem to be in a fair way to "take." Has a bronchial attack which bothers her. Temperature, 101.5° F.; pulse, 110.

December 24th.—In much better bodily health to-day. More quiet and natural than she has yet appeared. No dreams of any sort last night. Visions even less distinct than yesterday. Has asked her mother to explain how it is that she is beginning to believe a statement made to her by a stranger when she is half asleep, which she has been unable to believe, though again and again repeated to her by those in whom she has confidence; showing that the first suggestion is beginning to be taken.

December 26th.—All the suggestions have taken. No dreams of the accident for five nights, nor hallucinations of vision all day yesterday. The lady's pulse having been rather high for a long time, thinking that it might perhaps be due to the nervous condition in which she has been, I decided to make this additional suggestion: "Now that you believe that you are not responsible for the accident to your brother, and as the dreams and visions have gone, your neuralgic pains dependent upon the nervous strain will disappear, and the pulse-rate, dependent upon the same cause, will become normal."

December 28th.—No dreams, very few and weak visions. Pulse down to 90 yesterday and the evening before.

December 30th.—Condition about the same. Pulse down to 80.

January 3, 1894.—Condition about the same, except that the visions are still weaker, and do not annoy her in the least. Pulse up again, perhaps due to expected menstruation, or to the fact that she walked half-way downstairs yesterday, the first time for over a year.

January 5th.—Visions almost gone. She is increasing rapidly in strength, and seems much better balanced than for a long time, though menstruation is now due.

January 7th.—Better in every way. Menstruation is overdue.

January 16th.—Not nervous as usual during menstruation, but noticeably quiet. Now goes downstairs every day to the parlor.

January 18th.—Wrote to her physician yesterday, saying that she was convinced that she had had nothing to do with the accident to her brother, and that she feels not the slightest responsibility for it. No dreams since the night of December 20th; no visions whatever now.

January 20th.—Went to see her uncle, who lives next door.

The fixed idea in this case was the sense of responsibility for the accident. There was no way to circumvent, so to speak, this idea—a contrary belief had to be implanted. This belief was implanted to bring the patient's method of thought back to the normal. The suggestion was repeated over and over again in the same words, and by reiteration it finally supplanted the morbid form of belief, and as a consequence of its implantation, probably, caused the secondary suggestions to be "taken" with great rapidity.

Case III.—Woman, single, aged twenty-seven; schoolteacher. This case had been under my care for a month or so before I ascertained the worrying fixed idea. She came to me one day, and asked me if I had had any experience with hypnotism. I told her that I had. She then asked me to hypnotize her, and to make the suggestion to her that she should cease to desire to see her own children. I naturally refused, and gave her my reasons, which were in the main, that if she should marry, that idea induced, might make her and her family very unhappy. She replied that she never could marry. Then came this history. She was early left an orphan. As she

grew up, she made up her mind that she must not be a burden to her brothers and sisters, and fitted herself for school teaching. She had been very fortunate in her chosen work, particularly among young children. She had been offered a very good position in the West, and had come to Boston to study certain subjects in which she considered herself deficient. For several years she had retired more and more into herself, and more and more had indulged herself in the morbid process of introspection and self depreciation, begun, as she said, as a mental discipline. She had been so successful in this "mental discipline," that she had fully persuaded herself that she was unattractive in person, a most erroneous idea, and that she had such a poorly equipped mind that no one could possibly care to see her, or talk to her. She considered that all her success in teaching was due to luck in getting just the right kind of children to teach. Being so unattractive, she had given up the idea that she could ever marry, though, for physiological reasons which she did not recognize, she was very anxious to have children of her own. She had doomed herself to old maidhood, and had the fear that as she grew older her love of children would leave her, thus excluding the only work that she could do, teaching. She was hypnotized on three successive days, once each day, April 1, 2 and 3, 1892.

Suggestions were made, some in the present tense, some in the future, as it seemed difficult to put them all in the present. Suggestions were as follows: "You will be happy because, 1st. You will, by associating with more people, recognize, better than in the past your own powers and attractions. 2d. You will be ambitious to make use of those gifts which in the past have made you so successful in your work. 3d. You realize that happy marriage is as likely to come to you as to any woman as young as you. 4th. Your love for children is inborn, and will last your lifetime."

April 16th.—Says that she has been to see various relatives and old friends in the neighborhood of Boston, and that their evident pleasure in seeing her has caused her to believe the first suggestion. She says that she believes the second and the fourth, but that she is as far as ever from believing the third. I have not yet ascertained at what time she began to believe the third; but she was married on July 21, 1893.

190 Marlboro' Street,
January 27, 1894.

THE OPIUM HABIT IN CHILDREN.[1]

By LOUIS FISCHER, M.D.,

NEW YORK.

INSTRUCTOR IN DISEASES OF CHILDREN NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL, PHYSICIAN TO THE MESSIAH HOME FOR CHILDREN, ATTENDING PHYSICIAN TO THE GERMAN POLIKLINIK (CHILDREN'S DEPARTMENT), BACTERIOLOGIST TO ST. MARK'S HOSPITAL, ETC.

During the last two years my attention has been directed to a series of symptoms which were in some instances obscure, and which did not justify the diagnosis made at the time. Having studied some of these cases since, I am convinced that we have more instances of children and infants addicted to the opium habit than we might otherwise suppose. As a matter of fact it is not only opium that is the cause of the mischief, but laudanum, paregoric, morphine and all the various alkaloids of gum opium. I will not mention the manner of introduction of this drug, which is so familiar to all practitioners of medicine, but would allude only to enemata of starch and opium hypodermics as the more common methods.

There is hardly a physician having experience with children who does not have to contend with ignorant mothers, stupid nurses, and careless women, who in order to get sleep at night feed their nurslings with soothing syrups, teething cordials, and other soothing liquids, not to mention the most common and also the most easily obtainable paregoric.

[1] Read before the Medical Society of the County of New York, January 22, 1894.

No one will deny that the soothing effect, and, if I may term it so, the stupefying effect, is caused by opium or its preparations. How can I prove it? Easily! Let us consider the following case:

Case I.—Child, Mary G——, three years of age, anæmic; poorly nourished as regards fatty and muscular development; no history of cough or any other previous disease. Family history excellent; no tuberculosis, lues, epilepsy, or rheumatism. Was attacked with diarrhœa on July 7, 1892, owing to faulty diet and hot weather. The child was under various treatments until July 20th, or about two weeks. When I first saw her I found that she had received a chalk mixture, a bismuth mixture, various powders, and her fourth physician gave her starch and laudanum enemata. The latter was most efficacious.

I irrigated the child's stomach with an ordinary flexible catheter attached to a fountain syringe, using the table salt solution which is so well known. I ordered barley gruel, and gave directions to discontinue all medicine. For thirst I ordered some boiled water, acidulated with dilute hydrochloric or phosphoric acid. This was done in the babies' wards of the Post-Graduate Hospital and child sent home. Case was seen next day. Diarrhœa continued. I ordered an irrigation through a rectal tube as high into the colon as possible, with plain hot water, followed by cooled water, using enough water till washings were clear. The case was seen every day for ten days, the diarrhœa continuing. The child was put on salicyl. of bismuth, gr. iij., every two hours, and did not return for twenty-two days. Its mother had meanwhile consulted her former physician, who had previously ordered gtt. x. laudanum in starch water and was told to again give this same dose, but she had to increase the quantity until gtt. xvj. were used. The child's mother assured me that the injection acted like magic, for, to quote her own words, the "appetite returned, the child slept after each injection, and the diarrhœa stopped." I was told, however, that it was necessary to give two injections daily, each containing sixteen drops of laudanum (not diluted); in the commencement she gave gtt. iij., increased the dose drop by drop until the child received ten drops for each dose. The child seemed to get flabby and fat, gained considerable weight, but required an enormous amount of sleep. The pupils were constantly contracted—at times enormously dilated; pulse slow, very full, 68 during the condition of constipation, or soon after the effect of the laudanum injections. At other times, or when the drug was withheld, diarrhœa was the most constant and prominent symptom; pulse irregular, very much accelerated, at times 146 and more; pupils widely dilated; excessive irritability, restlessness, insomnia; vomiting a frequent symptom, more especially bilious in character. Reflexes at patella and plantar surfaces were greatly exaggerated, at times *vice versa*. Skin assumed an almost icteric appearance and frequent diaphoresis was present.

The child was again lost sight of, and I was sent for about March, 1893. Found it in a semi-comatose condition, greatly emaciated and icteric; conjunctivæ deeply pigmented. Child gradually sank, and died about April 5th.

The urine was examined microscopically and no evidence of disease found, and only an excess of phosphate. No eruption nor swollen spleen to diagnose typhoid: no temperature at any time beyond 99° F. in the rectum. A peculiar point was that, although the child was in an apparently deep coma, on talking to her she could always be aroused and gave coherent answers to questions by her mother or myself.

Post-mortem examination showed a very emaciated body generally; no evidence of disease in heart or lungs. Spleen normal in size and texture. Stomach normal; contained some mucus and bile. Gall-bladder pervious, the bile-ducts somewhat occluded, liver otherwise normal. Intestines showed evidence of inflammation, congestion, no ulceration, nor visible change at Peyer's patches. No

distinct evidence of disease in gastro-intestinal tract. Brain normal; arteries showed no change. Kidneys normal; no evidence of tuberculosis. From constant tenesmus intra vitam, slight prolapsus ani et recti.

No distinct pathological change justified a positive diagnosis excepting that of opium-poisoning.

The above clinical picture will warrant, I believe, the study of our cases, for since that time I have found twenty-two such ones. One physician told me he had seen five or six cases, and being a prominent pediatrist I can fully rely on his diagnosis. One of my cases was a child whose mother was a confirmed opium-smoker, and the child, after weaning, was also addicted to its use.

In Ringer's "Therapeutics" we find (page 425, 11th edition) that the active principles of opium pass out with milk and hence a nursling can be affected thereby. If a mother is addicted to opium, nursing her offspring would be contra-indicated.

Case II.—Child, six years of age, had always been delicate, family history excellent. Three years ago was first attacked with swollen joints, evidently, from history, polyarthritis rheumatica. Since that time was infected by a child in same house with varicella, later had bronchitis, and about one year ago pertussis, which was neglected until severe gastric symptoms appeared and child expectorated blood from force of the coughing paroxysms. *Status præsens*, May 5, 1893: Child has hernia of one week's standing—not noticed before—cough, no temperature, neck emaciated, anorexia, insomnia, occasional diarrhœa. Restless, irritable, when excited seems to have fainting spells, formerly had convulsions. Mother says child is quiet, and that cough and diarrhœa subside only when paregoric is given; formerly gave two teaspoonfuls every hour; now, after one-half year of its use, gives sometimes two tablespoonfuls every hour, and even more. Child's pupils were constantly contracted and seemed dull; semicomatose most of the time. Child can always be roused although in apparent deep sleep; mother laid stress on the slowness of respiration; frequent perspiration.

I watched the child for ten days, gave a placebo; meanwhile there was a terrible diarrhœa at times; gastric irritability appeared as nausea, rarely vomiting, eructations, and persistent singultus. I ordered bromide of potassium and chloral hydrate, giving five grains of each every two hours; gave bismuth, salicylate, and resorcine, starch enemata, rice and barley diet; gave claret and port wine, and ordered a hot bath at night to induce sleep. The symptoms gradually subsided, excepting diarrhœa, insomnia, and singultus. To test my diagnosis, on May 27th, or twenty-two days after first seeing the child, I gave five drops of laudanum in water, and had almost a complete cessation of all symptoms.

It is proper to state that faradization and massage were tried, but with no apparent effect on the singultus or nausea. Child's mother was informed of the true state of affairs, and although she promised to withhold the paregoric, I found that the child's apparent improvement indicated a continuation of same. Child was very icteric, and gradually sank and died in August. No autopsy allowed.

Case III.—Abraham B——, well-nourished boy, four years of age; no previous contagious disease, had never had gastro enteric disease, was nursed about fifteen months; teeth regular, speaks clearly; no history of rheumatism, tuberculosis, nor lues. Was first taken sick in March with diarrhœa after eating some ice-cream; continued ill for over three weeks; was not attended by a physician, simply taken to a neighboring pharmacist for treatment. Child's enteritis relapsed, mother believes, because he drank some beer; this time very persistent tenesmus, and on finding the lower bowel protruding through anus consulted a physician. Child had passed considerable blood in each stool. He received careful dieting and also some suppositories, the ingredients of which I do not know. Mother says that child's diarrhœa subsided after using the second box of these suppositories. Child continued to improve, and did not again consult her physician. Through some dietetic error the child had diarrhœa at various times; she had the suppositories renewed and inserted one every four hours. Not finding any benefit from same, used one every two hours, and later one every hour, until she found that the child's bowels were so loose that she was obliged to use them all the time.

Child was brought to me in September, with a history of pre-existing diarrhœa of one-half year's standing. I found him well nourished but having diarrhœal symptoms with an occasional gastric complication.

No apparent disturbance of nervous system existed, nor was insomnia very well marked; slightly irritable; no apparent change in pupils; skin normal in texture; conjunctival mucous membrane not pigmented; no temperature; pulse, 86; respiration, about 23 to 25; no diaphoresis. Gave placebo and observed about one week. Mother reported child much worse. I ordered small doses of pulv. Doveri and calomel, and found child greatly benefited. This continued until I suddenly discontinued pulv. Doveri and gave acid. muriatic. dil. Diarrhœa at once reappeared. Gave chloral at night, hot-baths, ordered constipating diet, gave iron and cinchona, and by using argent. nitric. in suppositories gradually had symptoms subside. I ordered Tokay wine and also some claret containing tannin. The treatment was persisted in for over two months. Child was finally discharged, cured, but now (five weeks after) is still under observation.

Case IV.—Infant, eleven months old. Mother has the opium habit; has now three other children, all healthy. Child has four teeth, emaciated, looks thin, is very restless, irritable, cannot talk a single syllable; has several spots on each limb, looking like purpura hæmorrhagica, has a large nævus on its back; has been troubled with constipation since birth—mother is also constipated—vomits frequently, usually after receiving its bottle. Baby receives Robinson's patent barley, and at other times condensed milk and water in the bottle when mother is sick. No temperature. Mother has just weaned it, and finds great difficulty with its bowels. Gave baby some extract of opium, which she bought from a Chinese merchant, to control the diarrhœa. On weighing the quantity at a drug store the usual dose given was about one-half grain of extract of pure opium.

Has done this now for about two weeks—mother is not sure, possibly sixteen or seventeen days. She now tells me that unless she continues the pills the child cries, can't sleep, and has diarrhœa. On examination no distinct pathological condition can be found, no temperature, no tenderness, some tympanites, some nausea, but almost constantly ten to fifteen stools a day or in twenty-four hours. Stools are green, rather offensive, contain mucus, no blood. On giving five drops of laudanum in starch no apparent improvement is noticed, but on giving eight drops in starch enema baby is more quiet, diarrhœa less, and nausea apparently better.

Treatment.—Child was put on a stimulating diet, enemata of starch with yolk of egg, and brandy or Tokay wine alternately; beef-juice, clam-broth, chicken-broth, peptonized milk. For thirst, brandy and water and phosphoric acid, teaspoonful to a tumblerful of sweetened water, *ad libitum;* to tone up the nervous system, mild faradization, massage over spine, and a cold douche morning and evening. Bromide of potash was tried, and in every case discontinued, owing to relapse of diarrhœa from its use, at least partly so; chloral hydrate, sulphonal, chloralamid were tried, hot bath before retiring. Elix. of quinine, iron, and strychnine was used.

One important point which gave me more benefit was that my patients being all children could not of themselves secure opium or its preparations, as they were not old enough to know their ailment, and hence I attribute the cure of many of my cases to this one fact.

Again, in one case much mischief was done, because, as the mother put it, "she could not see her child suffer," and gave several doses of paregoric at night and when her child was exceedingly restless. It did not take long for

the child to have a subnormal temperature and *exitus lethalis*.

In looking over the literature of this subject I found absolutely nothing relating to children. Strümpell describes emaciation, anæmia, tremor, insomnia, as the most important symptoms, also gastro-enteric disturbances.

Dr. Houchard[1] found persistent albuminuria in ten cases, using morphine (adults), which eventually terminated in anæmia. He believes—

1. That it is caused by its specific action on the medullary centres.

2. By being consecutive to paresis of the renal vasomotor supply.

3. That anomalies of pressure are capable of producing renal disease.

Dr. Houchard asserts that morphine rapidly decreases arterial tension.

Dr. Haig[2] disagrees with the latter views about albuminuria associated with low tension pulse.

Both are apparently correct, for in diabetics who are taking large doses of opium there is increased tension of the pulse followed by decreased tension. The question to be determined is whether the albuminuria is caused by high or low tension.

Erlenmeyer says that children born of women addicted to the morphine habit are practically morphine-eaters at birth.

During the first few days of life, unless morphine is given to them, they are apt to suffer collapse, and their condition may end in death, the child being too weak to withstand the violent symptoms, which are similar to those which follow the sudden withdrawal of the drug in adult opium *habituées*.

In the beginning of my paper I referred to nurses who, in order to sleep, do not care to be troubled by a child, and who in most instances administer anything to quiet it. Since then I have found a very good woman who never retired without a bottle of whiskey under her pillow, to soothe the child if it awoke. In the same manner paregoric was occasionally administered, not to do harm but to do good.

To recapitulate the drugs which served me best in the sudden and gradual weaning from opium I found sulphonal to promote sleep, overcome restlessness, monobromide of camphor (from 0.2 to 0.5 gm.) followed by (0.5 to 1.0) gm. of sulphonal, and sodium and bromide of potassium and chloral. Hot baths at night. Lupuline at night.

Chloralamid 0.5 to 1.0 gm. at night. Nutrient enemata, consisting of starch, wine, egg, and beef-tea and brandy. In all twenty-two cases were seen and attended, nineteen of which recovered. Several of these are still under observation, but show absolutely no symptoms excepting irritability and nervous twitchings resembling chorea minor, and in one there is persistent albuminuria.

Three cases proved fatal, and these were very carefully attended and nursed. No means were spared to save life. In some the same treatment was pursued, being guided by the urgency of the symptoms demanding the most immediate relief.

There is no doubt in my mind that a great many cases which die, more especially in summer, and which are treated and diagnosed as cases of marasmus, atrophy, athrepsia, and general debility are possibly cases of opium-poisoning simulating the latter diseases, and simulating more especially that most common summer complaint or gastro enteritis catarrhalis acuta et chronica.

To sum up, the symptoms which were noticed as almost constant were :

1. Diarrhœa, very severe at times, which was watery, foul-smelling, rarely containing blood excepting where severe tenesmus existed. In one of my cases prolapsus ani and recti occurred.

2. Vomiting occasionally, not a constant factor.

3. Anorexia in all cases.

4. Insomnia in all cases.

5. Urine scanty, in some very concentrated, containing excess of phosphates.

6. Skin in beginning normal ; occasionally diaphoresis ; rarely pigmented.

7. Late in the course of the disease always icterus.

8. Reflexes very much exaggerated at times ; no reaction at other times.

9. Constant irritability, nervousness, and restlessness.

10. Pulse usually full, slow, regular, later in the disease very much accelerated and irregular.

11. Heart's action corresponded with the pulse ; heart-sounds distinct at all times.

12. Pulse in the commencement of the disease varied from 68 to 79, in the later stages of the disease as much as 140 to 146 per minute.

13. Respiration, deep, slow, at times 18 to 24 per minute in beginning, 28 to 62 and more in later stages of the disease.

14. Stupor almost constant, at times deep coma ; patient could be easily aroused and spoke coherently.

15. Incontinence of urine—enuresis nocturna et diurna.

16. Itching, or a condition of formication, must exist, judging by the continued scratching and the small eczematous eruption found over most of the body, more especially the arms and legs.

17. Urine usually high-colored, frequently albuminous and very scanty.

If I have succeeded in directing attention to a very common disorder, which is not referred to in a single text-book on the diseases of children, then I will have accomplished the object of this paper.

187 Second Avenue.

[1] Soc. Méd. des Hôpiteaux. [2] The Lancet, 1890.

Bibliography.

Strümpell : Specielle Pathologie und Therapie, Band II., s. 313. 1890.
Dr. J. C. Wilson : Paper read before the American Academy of Medicine, 1888 ; Medical Record, vol. xxxiv., 1888, p. 745.
Sir Robert Christison, Edinburgh.
Dr. T. D. Crothers, Hartford, Conn.
Dr. J. B. Mattison, Brooklyn.
Papers in Medical Record from 1876 to date.
Dr. Mattison : Therapeutic Gazette.
Naphey's Modern Therapeutics, Year-Book of Treatment for 1891. Lea Brothers.
Wynne Foot : Dublin Journal of Medical Science, 1889.
Lanphear : Journal of the American Medical Association, 1890, p. 648.

A Word for the Sleepless.—Dr. J. E. Huxley, of Maidstone, Eng., thinks he has hit upon the natural remedy for sleeplessness. It is in brief to curl under the clothes like a kitten, or put the head under the wing like a hen. His detailed description of the technique is given in a letter to the *Medical Press and Circular*, when he says : "This insomnia seems to be now a universal affliction. We live wrongly ; sit up late and overwork the brain, and then go to bed in an excited condition. No one seems to have hit upon the natural remedy. I think I have. People take chloral and the like at their peril, and the fatal consequence not seldom ensues. It is all wrong, for you cannot control the dose required for the exact circumstances. But try Nature's plan instead—lower the supply of oxygen to the blood—produce a little asphyxia, limit the quantity of air to the lungs, and the heart and circulation becoming quicker, the brain loses its stimulant, and sleep follows. When you find yourself 'in' for a sleepless night, cover your head with the bed-clothes and breathe and rebreathe only the respired air. Thus you may reduce the stimulating oxygen and fall asleep. There is no danger. When asleep you are sure to disturb the coverings and get as much fresh air as you require, or, when once drowsiness has been produced, it is easy to go on sleeping, though the air be fresh. What do the cat and dog when they prepare to sleep? They turn round (generally three times) and lastly bury their noses in some soft hollow in their hair or fur, and 'off' they go. They are in no danger, although it might look as if they were from the closeness with which they embed their noses."

PERMANGANATE OF POTASSIUM AS AN ANTIDOTE FOR MORPHINE.

By WILLIAM MOOR, M.D.,

PHYSICIAN TO THE WEST SIDE GERMAN CLINIC; MEMBER OF THE NEW YORK COUNTY MEDICAL ASSOCIATION.

In offering to the profession a new antidote for morphine it is not my desire to speak of a new, heretofore unknown or unused chemical body; on the contrary, the substance which forms the subject of these lines is one with which every physician and pharmacist is familiar. The term "new antidote" simply relates to the fact that the substance in question had not previously been used for the purpose of antagonizing or, rather, destroying morphine, for I don't know of a single instance in which permanganate of potassium—$Mn_2O_8K_2$—has been used as an antidote for morphine.

I have paid a good deal of attention to the therapeutics of permanganate of potassium during the past year, thinking that such a powerful destroyer of organic matter should be more utilized in the treatment of certain gastric disorders that are associated with putrid fermentation of the ingesta, also in cases of cancer of the stomach to suppress the fœtor of the breath, which renders patients a burden to their surroundings, and came to the conclusion that its mode of administration was at fault, inasmuch as no one likes to drink a purple, "poisonous" looking liquid, and, on the other hand, if given in pill form, it would act as a caustic upon a very small part of the glandular lining of the stomach, thus causing distress without any beneficial result. After some trials I found that the best way of administering it was to have it made up in pills with cacao butter and talcum or kaolin, and to direct the patient to drink very slowly a glassful of water just one minute after taking the pill, for the latter begins to disintegrate in one minute at the temperature of the body. By using this method I successfully combated the extremely disagreeable odor in a case of cancer of the stomach. About that time I treated a well-known actor suffering from acute pleurisy. This gentleman was addicted to morphine, and as I had taken much interest in him I earnestly sought the best plan to break his habit. The idea occurred to me that perhaps permanganate of potash might decompose morphine, the latter being an organic substance, and that by making use of a certain method I could eventually break his habit without restricting him from taking his morphine. My patient, however, started on a professional tour just when I began to put my idea to a test. This circumstance did not prevent me from continuing my researches as to the effect of permanganate of potassium on morphine, and to day I am permitted to offer to the profession what I consider to be the antidote "par excellence" for morphine.

In the following remarks I shall give a brief outline of the experiments that led me to this conviction. Pouring a solution of one grain (0.06 gramme) of $Mn_2O_8K_2$ to one ounce of water (31 c.c.) into a solution of one grain of sulphate of morphine to one ounce of water, I noticed that this mixture did not for an instant assume the purple color of a $Mn_2O_8K_2$ solution, but at once formed a greenish liquid; and that after a few moments a dark precipitate would sink to the bottom of the test-tube, leaving an almost colorless, tasteless liquid, in which the presence of morphine could not be detected. Knowing my great susceptibility to even very small doses of morphine, I could easily ascertain whether or not this colorless, tasteless liquid possessed any narcotic qualities. The road of safety being the best way, I began by taking a mixture of one sixth of a grain of sulphate of morphine and one ounce of a 1 to 2,000 $Mn_2O_8K_2$ solution. Under ordinary circumstances one-sixth of a grain of morphine has a profound narcotic effect on me, lasting for several hours; I, therefore, rarely have taken for analgesic purposes more than one-eighth of a grain. The above-mentioned mixture of one-sixth of a grain of sulphate of morphine and one ounce of a 1 to 2,000 $Mn_2O_8K_2$ solution produced no effect whatever on me. Gradually I increased the amount of morphine, and correspondingly the amount of permanganate of potassium, until I took two grains of the sulphate of morphine in one dose with the same amount of permanganate of potassium in solution. The results of these experiments, however, did not demonstrate that permanganate of potassium was an antidote to morphine, as it was quite possible that it might be deoxidized by the organic matter of the buccal cavity, œsophagus, and stomach, chiefly by the contents of the stomach, before it could act on the morphine. To gain certitude on this point I conducted a series of experiments, a synopsis of which is as follows:

1. A 1 to 2,000 solution of permanganate of potassium in water was held in the mouth for fully five minutes, when it still had a dark red appearance, approaching the characteristic deep purple color of a $Mn_2O_8K_2$ solution, although the tongue and the gums have become brown.

2. If we dissolve one drachm (4 c.c.) of the white of egg in one ounce (31 c.c.) of water and to this add one drachm of a 1 to 250 solution of permanganate of potassium in water (one-fourth grain of $Mn_2O_8K_2$), the mixture will for a moment have a purplish color, and after stirring it for one minute will be of a reddish-brown color, and have a distinct taste of permanganate of potassium. After five minutes, on filling two test-tubes with this mixture and adding to one of them a small quantity of sulphate of morphine—this latter being an energetic deoxidizer of $Mn_2O_8K_2$—but adding nothing to the mixture in the other test tube, the former mixture will at once become of a much lighter color (light amber) than the one without morphine. Even after thirty minutes this differentiation can be effected. Thus we see that it takes one drachm of the white of egg at least thirty minutes to completely deoxidize one quarter of a grain of the permanganate. Now, I found that one-quarter of a grain of permanganate will be deoxidized by exactly the same amount of sulphate of morphine in one second—for the sake of convenient calculation one moment may be considered as one second—therefore one drachm of sulphate of morphine deoxidizes one-quarter of a grain of the permanganate at least seventy-two thousand times quicker than a drachm of albumen would do it, assuming that the latter could accomplish it in five minutes. But as we saw that the deoxidization was not complete after the elapse of half an hour, we are justified in saying that the chemical reaction between the permanganate and the salt of morphine is infinitely more rapid than the one between the former and the white of egg.

3. By substituting for the albumin one drachm of peptone, in the experiment just related, we find that one grain of $Mn_2O_8K_2$ is not completely deoxidized by one drachm of peptone in five minutes. Calculating in the same manner as before we come to the conclusion that the rapidity of reaction between the permanganate and the salt of morphine is at least eighteen thousand times greater than the one between the former and pepton.

Having gained the knowledge of these facts it is not surprising that I could swallow with impunity toxic doses of sulphate of morphine followed in a few moments by a corresponding amount of the chemical body which I was justified to consider the antidote par excellence for morphine. Thus, on one occasion, four hours after a full dinner, at a time when the stomach must have contained a great amount of soluble peptones and other organic matter, I took two grains of the sulphate of morphine in about half of an ounce of water, followed in one minute by three grains of its antidote—for safety's sake one grain more than necessary—dissolved in four ounces of water. In another instance, on January 9th of this year, three hours after a light supper, I took, in the presence of several colleagues belonging to the staff of the West Side German Clinic of this city, three grains of sulphate of morphine, followed in about thirty seconds by four grains of permanganate of potassium, both in aqueous solution. I was perfectly confident that the antidote possessed such a wonderful affinity for the morphine that it would select it instantaneously from among the contents of the stomach,

and thus render harmless what might have easily been a fatal quantity to one so susceptible as I am to even very small doses of this alkaloid. A striking demonstration of the astonishing selective faculty of $Mn_2O_5K_2$ for morphine can be shown by mixing two hundred and fifty grains of the white of egg with one ounce of water, dissolving in this mixture one grain of sulphate of morphine and adding to the whole just one grain of the permanganate dissolved in one ounce of water. After thoroughly mixing not a trace of morphine can be detected; which conclusively proves that the molecules of the antidote instantaneously selected the molecules of morphine without being interfered with by the albumin, though the quantity of the latter so greatly exceeded the quantity of morphine.

The question arises, What becomes of $Mn_2O_5K_2$ and $C_{17}H_{19}NO_2 + H_2O$ (morphine) after they have reacted upon each other? While it is easy to determine that the permanganate is deoxidized by the morphine with formation of manganese binoxide—MnO_2—manganate of potassium—$MnKO_4$—and potassium hydroxide—KHO—thus leaving O_2 for the oxidation of morphine, this latter undergoes changes, the nature of which I have not yet been able to determine, but hope to be able to do so in the near future.

In case of poisoning by any of the salts of morphia, ten or fifteen grains of the antidote dissolved in six or eight ounces of water should be administered at once and repeated at intervals of thirty minutes three or four times, or even more often. Permanganate of potassium, as well as the salts of manganese, are comparatively harmless even if given in large quantities. I have poured into the stomach of a rabbit weighing four pounds a solution of five grains of $Mn_2O_5K_2$ in two ounces of water, and one hour later two grains more dissolved in one ounce of water, without noticing any toxic effects whatever. One ounce of the sulphate of manganous oxide has caused only brisk catharsis (Dr. Thompson).

In cases of poisoning by the alkaloid itself or by tincture of opium (laudanum), also by opium, it is advisable to acidulate the antidotal solution with diluted sulphuric acid, or in the absence of this with some white vinegar (not red vinegar), by which the insoluble morphia will be at once converted into the soluble sulphate or acetate.

I have strong reason to believe that the administration of permanganate will be of beneficial effect even after absorption of the morphine has taken place. This statement I base on the following:

Professor Edward Hitzig,[1] of Halle, two years ago, proved beyond a doubt that morphine which was injected subcutaneously into dogs was secreted by the glandular lining of the stomach. Hitzig succeeded, by washing out the stomachs of animals that had received morphine subcutaneously, in obtaining fully one-half of the injected amount during the first hour after the injection. It is therefore a logical necessity that an antidote which acts instantaneously must destroy in the stomach a certain amount of poison that got into the circulation either through hypodermatic injection or through absorption by the stomach, for it is evident that the same circulation which conveys a poison from the peripheral parts of the body to the stomach, must also bring back to the latter a part of the poison which previously was absorbed by it. I intend to carry out a series of experiments upon animals to prove this conclusion; for the present I just state that some experiments for this purpose upon rabbits have been highly encouraging. As to the effect of permanganate of potassium upon other alkaloids, I shall briefly enumerate the results I have obtained.

Atropine.—One grain of sulphate of atropine dissolved in one ounce of water added to one grain of permanganate of potassium in half an ounce of water. Color, purple, as if the solution contained only permanganate of potassium. After four hours, color still purple, no change from original permanganate color; one drop instilled into a person's eyes widely dilates the pupils in a few moments; midriasis lasting over twenty-four hours. After eight hours, color dark red, taste intensely bitter; addition of sulphate of morphine gives the characteristic reaction (dark precipitate, colorless liquid above it). After twenty hours, color dark brown, taste intensely bitter; addition of morphine gives the characteristic reaction. Thus permanganate of potassium has practically no effect upon atropine.

Cocaine.—One grain of cocaine muriat. to one ounce of water added to one grain of permanganate of potassium in half an ounce of water. Color, purple, as if the solution contained only $Mn_2O_5K_2$.

Four hours later, color dark red, taste intensely bitter; one drop instilled into a person's eye causes decided midriasis lasting half an hour; addition of morphine gives the characteristic reaction. Eight hours later, color grayish red, taste bitter; applied to the pharynx distinct difficulty in swallowing noticeable; dark precipitate on the addition of morphine.

Practically no effect on cocaine.

Veratrine.—Two grains of veratrine muriat. to half an ounce of water added to two grains of permanganate of potassium in one ounce of water. Color, purple. Ten minutes later, purplish red. Fifteen minutes later, dark brown; precipitate on addition of acetate of morphine. Thirty-five minutes later, precipitate with brownish liquid above, the latter turning light on the addition of acetate of morphine, and if applied to the nasal mucous membrane causing violent sneezing (one of the characteristics of veratrine). Useless in veratrine poisoning.

Pilocarpine.—Two grains of pilocarpine muriat. to two ounces of water added to two grains of permanganate of potassium in one ounce of water. Color, purple; after five minutes, still purple; after forty minutes, carmine.

After seventy minutes, color carmine; one drachm injected subcutaneously into a rabbit causes lachrymation, salivation, profuse perspiration, irregular rapid breathing (160), three or four copious watery discharges.

After three hours, color still red; addition of morphine gives the usual reaction. Practically without effect on pilocarpine.

Aconitia.—Two grains of aconitine to two ounces of water + two grains of permanganate of potassium to one ounce of water. Color, purple. After stirring for two minutes, same color.

After two hours, color unchanged; half a drachm (2 c.c.) injected into a full grown rabbit; animal restless in a few moments, turns his head to the side, makes rapid swallowing motions, salivates, is evidently nauseated; difficult, irregular breathing, tremor, opisthotonos; animal lies on its side, apparently "in extremis," but after ninety minutes symptoms begin to abate.

After twenty-four hours, color still reddish purple. Dark precipitate by addition of morphine. No effect on aconitine.

Strychnine.—One grain of strychn. sulphat. to one ounce of water + one grain of permanganate of potassium to half an ounce of water. Color, purple; after five minutes, red; after fifteen minutes, dark brown, intensely bitter; after thirty minutes, same color, taste intensely bitter. Addition of morphine, black precipitate, colorless liquid above.

Could not be depended upon in strychnine poisoning, if the stomach should contain organic matter, which is the rule.

I now submit this paper to the unprejudiced criticism of the profession, and hope that my confrères will aid me in developing the ideas laid down in it. If my humble efforts should result in saving human lives, I should feel amply rewarded.

355 Boulevard West, New York,
February 1, 1894.

[1] Berliner Klinische Wochenschrift, No. 49, 1892.

A Disease to be Proud of.—"Van Gilding is quite a leader of fashion, isn't he?" "H-m, well, he hasn't had appendicitis!"

ACCOUCHEMENT FORCÉ.[1]

By S. MARX, M.D.,

NEW YORK.

When, about a year ago, I read a paper[2] reporting a few cases in which I had performed Dührssen's operation of deep cervical incisions, I ventured to remark at that time that the field for this operation was extremely limited; thus, indicated in cases of threatened death of the mother or the fœtus, when the condition of the os does not admit of rapid delivery by other methods; for example: A severe uræmic convulsion followed by a rapidly deepening coma, rupture of the uterus, accidental hemorrhage, and so forth. While looking for an operation, on the one hand, less radical and heroic in selected cases than the Duhrssen's operation, and, on the other hand, speedier of result and more reliable of action than the ordinary methods now in vogue, such as the Kiwish, Krause's, the modern elective accouchement forcé was brought prominently forward by Grandin. It must become evident to every fair-minded observer that any operation which in a great many cases can be made a purely elective one, is the one to be chosen. This is the one great advantage in doing this operation. It thus simulates any other operation for the performance of which the operator selects the time most suitable to himself, selects assistants, prepares his instruments and his patient, and brings every known scientific principle to bear in one direction, viz., the safety of the mother and her unborn child. Furthermore, the accoucheur knows that there will be no uncertainty or failure of action, as sometimes happens when the catheter is used to provoke labor. We know that the uterus of a woman who is uræmic is particularly tolerant to any measure by which we hope to start up pains; and, are we not sometimes disappointed when the catheter fails to provoke pains even at the end of thirty-six or forty eight hours? Again, there is no foreign body to be introduced and left in the uterine cavity by which sepsis might be introduced; further, the integrity of the membranes, so often endangered by other methods, is preserved, and serves a very useful purpose in the delivering of these women. When once the actual steps of the operation are begun, there is no postponing; the uterus is dilated, and the child delivered in one séance. Further, the hand is the only instrument actually used in operating; that it is an instrument of precision no one will deny, and that a substitute for the hand has never been found in any instrument, no matter how skilfully or scientifically made.

Mode of Operating.—The operation divides itself into two stages: the preparatory stage and the operative stage. The first stage may in some cases be omitted. Such cases are where the cervix is dilatable and the lower uterine segment already merged; or where the os is soft, non-resisting, and boggy, as occurs in placenta prævia. Therefore, it is especially in this complication that the operation is indicated and most easily done. The elective operation having been decided upon, the patient is placed on the back, no anæsthetic being necessary. After thorough asepticism of the vagina, cervical canal, and external genitals, a Sims' speculum is introduced, and the anterior or posterior lip is seized by bullet forceps. Iodoform gauze cut in strips the width of two fingers is carried, in the grasp of a Garrigues intra-uterine tampon forceps, into the cervical canal; slowly and gently worming your way until the gauze is well in the canal or until it meets a resistance, which is the presenting fœtal pole, and most frequently the head. The canal is then tamponed as completely as possible. The vaginal vault and vagina are tamponed in the ordinary way, and the patient put to bed. This method of tamponing the cervix is very important, and I lay especial stress upon this point. It has for its object, 1, that it mechanically separates the membranes without endangering their integrity; 2, it materially softens the os and causes a marked disappearance of the portio; 3, it provokes uterine pains, and sometimes gives rise to sufficient uterine action to cause the woman to deliver herself, as occurred in one of my cases.

In the cases I have done the preparatory tamponade upon, the patients have all complained of intermittent crampy pains, indicative of uterine action. In from ten to fifteen hours the tampon is removed, the patient thoroughly douched and an anæsthetic given, and the second or operative stage commenced. The os is now found very soft and dilatable, so as to admit readily one or two fingers. The hand, introduced into the vagina one finger after the other, is gently inserted until the open hand can be introduced. The hand, then closed, is gently withdrawn. If rapidly withdrawn it is easy to imagine how readily the uterus might be ruptured. The closed hand acts similarly to the ballon bags of Tarnier, which are introduced empty into the uterus, inflated, and then gently withdrawn. After withdrawing the fist several times and no resistance on the part of the cervix being encountered, the os is then dilated 10 ctm. (according to the width of my own hand) and dilated sufficiently for the passage of any ordinary child. The membranes having been preserved, a Hicks's version, if indicated, is easily done, and the labor terminated. The uterine tampon, in the absence of hemorrhage or sepsis, is entirely optional with the operator. The cases I wish to present are five in number.

Case I.—Complete placenta prævia in the eighth month. Mrs. O——, multipara, eight months pregnant. Symptoms for the last two months indicative of placenta prævia. For twenty-four hours prior to my seeing the case with the attending physician there was almost constant sharp bleeding, for which she had been thoroughly tamponed. On examination, a deeply bilaterally lacerated cervix admits two fingers. Supra-vaginal portion a quarter of an inch in depth. Complete placenta prævia. Separation on the left side. Child alive, head presenting. On account of the great loss of blood, and in the face of a grave complication, accouchement forcé decided upon. In the regular way, the fingers gradually worked up through the left-sided detachment, and the os gradually and fully dilated. The bleeding being very severe and finding the detachment of the placenta nearly complete, thus threatening also the vitality of the child, I delivered as rapidly as possible. A Hicks's version done, membranes ruptured, and a living child speedily delivered, immediately followed by the placenta, which had in the meantime completely detached itself. Uterus contracted well, but owing to the presence of a cervical tear involving probably the circular vessel, the bleeding continued. Three silkworm sutures passed. Bleeding ceased; convalescence normal. The cervical tear I attribute solely to the rapid delivery I was forced to make. It does not militate, in my opinion, against the value of operation. Deep tears have occurred and will occur in labors apparently normal. Cervices have been torn from uteri. They have been mashed and bruised by forceps thoroughly and carefully used. But I will admit it should not have occurred; but in the presence of such a grave complication where the result was so favorable to mother and child I did not deem it of much moment. To have left the woman alone, to have tamponed her, thus trusting blindly to the power of nature, what would have been the result? Certainly a dead child, most likely a dead woman. Primary trachelorraphy is an easy operation. I will concede that if one attempts to sew up a cervix post partem in the depths of the pelvis in Sims's position it proves a most difficult and awkward operation. But if the lacerated cervix be seized by bullet forceps, pulled through the vulva, as it were, into the world, the operation becomes one of the simplest imaginable.

Case II.—Mrs. L. M——. In the ninth month of pregnancy, when the membranes suddenly ruptured with the discharge of liquor amnii. Very slight pains present. Sent for her physician, who invited me to see the case.

[1] Read before Section on Obstetrics, New York Academy of Medicine, December 28, 1893.

[2] Read before the County Medical Association, February, 1893.

On examination os admitted easily one finger. Small segment of supra vaginal portion present. The entire vagina filled with umbilical cord, beating very weak, at times slowly, then irregularly. Presentation, deflected head not in truly transverse position. Indication, fœtal exhaustion, and accouchement forcé decided upon. Operation easily done. Delivery of living child; convalescence normal.

Case III.—Mrs. B——. Old, primipara. At the end of pregnancy, when pains set in with the rupture of amniotic sac. Has been seen, and in charge of two physicians for forty eight hours. All this time pains severe and regular. No progress taking place, I saw the patient and found the os thin, hard, and admitting one finger; for which chloral, quinine, hot douches, and morphia were given. No progress in spite of hard pains. Chloroform did not affect the os. The following morning pains begin to fail; uterine inertia. Mother's pulse rapid. Parturiens looks bad; commencing maternal exhaustion. Os still in the same condition. An accouchement forcé done, and in one hour os slowly and fully dilated. Head engaged, position, L. O. P. Forceps tried and failed. An attempt to rotate the head was then made and failed, for while rotation was easily accomplished, it would instantly re-rotate when the hand was removed. Internal version then performed. Partial extension of head. Forceps to after-coming head. Living child delivered. Weight, eleven and three-quarters pounds. Circumference of head, fourteen and a half inches. Convalescence normal.

Case IV.—Mrs. R——, aged twenty-four. First pregnancy interrupted by nature at five and a half months during an attack of eclampsia. Is now pregnant about six and a half months, when I take charge of the case. Urine nearly suppressed. Albumin twenty-five per cent. volume. No casts found. No œdema. Patient nearly blind. Double vision present, due probably to an abducens paralysis; retina free from changes; ocular examination undertaken by Dr. E. Meirhof. Intense headache, epigastric pain; high tension, pulse at 130 per minute; vomiting. Medical treatment, including veratrum, nitroglycerine, hot baths, Croton oil, does not ameliorate condition, but seems to aggravate the symptoms. Accouchement forcé decided upon for the following morning. Preliminary tampon after thorough antisepsis; severe crampy pains during the night; circulatory tension in the meantime relieved by veratrum. Following morning, the tampon having been removed, the os is found soft, and readily admits two fingers. Slight labor pains present; in the regular way os is dilated. Hicks's version performed, and a living premature child born; lived two hours; uterus tamponed with iodoform gauze; condition of patient good; during the night the patient complains of great oppression and gradually merges into a condition of extreme prostration. Pulse 160, soft and very feeble. After a critical examination of the patient, a diagnosis by exclusion is made of an acute iodoform poisoning. Gauze removed; intra-uterine douche of a Thiersch solution given. The symptoms gradually disappear and the convalescence runs a normal course.

Case V.—Mrs. L——. Threatened uræmic convulsions. Primipara. Pregnant six months; history very similar to the one above related. Pulse of extreme high tension, due as much probably to the administration of continuous doses of digitalis as to the threatened uræmia. Accouchement forcé decided upon, and counselled the operation for the next morning. In the meantime, after thorough douching, the lower uterine segment and vagina tamponed, and veratrum ordered. In this case the mere tamponing of the lower uterine segment was sufficient to provoke such pains during the night that the patient delivered herself in a short time of the tampon and a dead premature child. Convalescence normal.

In closing I beg to state that I did not come this evening to praise the operation as one to be universally recommended; for there are cases, and these not few, where the method cannot be used; such cases where from repeated and old lacerations the cervix is reduced to a mass of dense cicatricial tissue. Such a case I reported last year where no amount of physical energy could overcome the constriction caused by an old cicatrix, nothing short of a bloody dilatation by the knife would answer. The cases as above related are but a presentation of cold facts; they were all, with but one exception, seen in consultation; they were not selected cases. The method was faithfully tried upon women as the indications happened to present themselves. The rate of mortality is practically *nil*. All the women recovered; of the children, the two deaths occurred in children non viable. The case which presented the fairest and squarest test as to the value of the operation was Case I., that of complete placenta prævia. The woman lived on the top floor of an east-side tenement, surrounded by all the filth, squalor, and poverty that one could possibly imagine. Antisepsis and asepsis, surgically speaking, were utterly out of the question. Yet in spite of all these hindrances, face to face with as grave an obstetric complication as one has to meet, this woman was delivered in about three quarters of an hour by the accouchement forcé, her ruptured cervix sewn up, and still the object of the operation was attained—a living mother, a smooth convalescence, and last but not least, a living child.

1111 Lexington Avenue.

Clinical Department.

SPERMATORRHŒA.

By C. WAECHTER, M.D.,

NEW YORK.

Our text-books teach us that this disease is quite a rarity, and for the most part exists in the imagination of patients. This opinion is, I believe, shared likewise by most men of our profession. If the term "spermatorrhœa" be understood as meaning a more or less continuous flow of spermatic fluid, I must also share the foregoing belief, for, although I have treated quite a considerable number of patients with diseases of the genito-urinary system during the last twenty one years, still I have not as yet seen a single case of true spermatorrhœa. All cases reporting a continuous flow of semen proved to be those of hyper-secretion of the prostatic and other glands.

In the course of my experience I have found quite frequently that patients suffering from chronic prostatitis are losing semen during the act of micturition, especially when at defecation (a condition which must be denoted as spermatorrhœa). I have continually quite a number of cases under treatment, and do not find such of rare occurrence.

Some time ago I examined men of various ages, and with healthy urethral canals, as to the possibility of losing semen during micturition. The urine of fifteen persons at different times, especially during defecation, was examined, without finding spermatozoa in any case. It was, by the way, no easy matter to find persons with healthy prostates.

In regard to the correct diagnosis, I consider it important to examine the urine collected during defecation and filter it; the moist deposit or residue upon the filter is placed upon an object glass and diluted with a watery solution of glycerine. If spermatozoa are found the ordinary urine of different times is examined in like manner. It is a good rule to examine the urine—if spermatorrhœa is suspected—several times, as semen cannot be detected in every specimen.

Those cases in which the ordinary urine (*i.e.*, without defecation) contains semen, show generally aggravated symptoms, and are more difficult to cure. But there are exceptions. It is remarkable how some men are able to endure the unnatural loss of semen without any harm. I have treated, for example, married men who had no

doubt been suffering for years from spermatorrhœa, without being weak or impotent. Still, in other cases, even a slight loss of semen produces quite considerable disturbances.

The causes of spermatorrhœa are: Gonorrhœa, strictures, masturbation, etc. Those cases depending upon diseases of the cord and brain are not within the scope of this paper. I only wish to mention that it is probable that, in some cases of tabes dorsalis, spermatorrhœa is an important etiological factor. If the prostate be diseased for any continuous length of time, we have as the result an extended inflammation of the ductus ejaculatorius and seminal vesicles, which furthermore may reach the spermatic cord and testicle. As in other inflamed organs, we find congestion, hyperæmia, and swelling resulting in tissue alteration.

Chronic gonorrhœa is frequently the cause of spermatorrhœa; generally the seat of the former is the pars prostatica; with the bulb-sound we find it, as a rule, painful, swollen, and difficult of penetration. The examination per rectum shows the prostate generally also enlarged, sensitive, and painful. The endoscope reveals hyperæmia, erosions, ulcerations, and granulations around the caput gallinaginis.

It is a well-known fact that many cases of chronic gonorrhœa are generally obstinate to cure. According to my experience the cause is, that spermatorrhœa is frequently present at the same time; the loss of semen is keeping up a continuous inflammation of the prostate, hence the cure of such cases is difficult.

In cases of stricture we mostly find the posterior part of the canal involved, and consequently loss of semen takes place.

Masturbation will bring on inflammation of the urethra and produce not alone spermatorrhœa, but also considerable disturbances of the organism, especially that of the brain and spinal cord. The frequent weakening emissions and their consequent depression of spirits, generally cause these patients to seek medical aid and advice. This mental depression is often increased by reading the announcements of quacks.

Diseases of the rectum and bladder may bring on spermatorrhœa by producing prostatitis.

In my opinion it is doubtful if chronic constipation can produce spermatorrhœa, provided the urethra be healthy. I have examined the urine of quite a number of such patients without finding spermatozoa, but if chronic prostatitis exists at the same time, seminal fluid can be frequently detected. In such cases constipation produces loss of semen, and the latter again—through the inhibition of the peristaltic motion—constipation. The "non-emission" is also of evil consequence.

The sequelæ of spermatorrhœa are of various kinds. The nervous system especially suffers. The most frequent complaints are spinal irritation—weakness in the lumbar region of the spinal cord, radiating pains and weakness of the lower extremities, depression of spirits, melancholia, loss of memory, want of desire for mental or physical exercise, restlessness, want of refreshing sleep, ideas of suicide, etc.

The heart's action is altered in some instances; we may find palpitation, and accelerated pulse. The organs of digestion are likewise frequently impaired; tongue coated, appetite decreased, pressure and fulness in the region of the stomach, flatulence, continual constipation, hemorrhoids. The micturition is generally frequent and painful, while the urine contains in some cases mucus or pus.

The results of spermatorrhœa are weakening of the sexual organs, incomplete erections, and premature emissions; in advanced cases, impotency.

The prognosis of spermatorrhœa is favorable. There are also stubborn cases needing long treatment. At times there are relapses, especially if the local treatment had not been of sufficiently long duration. It is advisable to examine the urine after the cure has been completed.

The treatment is constitutional and local. Locally I prefer the nitrate of silver, and begin with a very weak solution ($\frac{1}{16}$ or $\frac{1}{8}$ grain to the ounce), in order to lessen first the sensibility of the mucous membrane, and to prevent if possible any untoward reaction from the prostate and bladder. Each succeeding injection is gradually increased in strength, until finally forty or sixty grains to the ounce are reached. These injections are made first every one or two days, later every three or five days. The instrument devised by myself and described in the MEDICAL RECORD, August 6, 1892, has proven to be perfect. We are able with it to cauterize the pars prostatica alone, so that the patient is able to bear strong solutions without much pain.

In stubborn cases I use also the negative pole of the constant current to the caput gallinaginis. Regarding the constitutional treatment, hydrotherapy is of considerable importance and benefit. By its means we are able to tone up the nervous system, to improve the digestive organs, and to alter the circulation. For this purpose sweat-baths of brief duration, with douches, are to be used, also packs, cold frictions, sitz baths, electricity, and massage, according to the indications. The cool or cold douche produces a powerful stimulating effect, and is best used after having warmed the body previously in the sweating box or hot room. The sitz-baths will quiet the irritation produced by the injection. They are first used lukewarm, later on cooler. The wet packs will quiet the nervous system and afford rest to the irritated brain and spine. Electricity I use in the form of electric baths. The diet and habits are regulated. Internally mineral waters and tonics are given, according to indications.

In conclusion, I take the liberty of giving the histories of a few cases for illustration.

CASE I.—I. M——, aged twenty-eight, consulted me regarding dyspeptic symptoms. He complained of loss of appetite, eructations, and pressure after each meal, distention of stomach, and obstinate constipation. In consequence he felt weak bodily and mentally. His head seemed dull and loss of memory was considerable. Family history good, as a child well, masturbation for several years. Pollutions frequent. Married since one year, is able to have coition but once a week, feels weak in the back after it for one day. Examination: lungs and heart normal, stomach and abdomen considerably distended, pressure produces pain. Tongue coated. The introduction of the bulb-sound evinced sensitiveness, especially at the prostatic portion. The rectum was also sensitive and the prostate enlarged. The urine voided during defecation contained many small spermatozoa, at other times none, besides mucus and phosphates.

Diagnosis: Catarrh of the stomach and intestines, spermatorrhœa, sexual neurasthenia.

Treatment: Introduction of elastic bougies (later sounds) as far as the neck of the bladder; deep injection of nitrate of silver, one-sixteenth grain to the ounce, thereupon sitz-baths of 85° F. for twelve minutes, with a weak faradic current. After reaching four grains to the ounce I used every second day the above-mentioned instrument, in order to cauterize the prostatic portion alone, until I reached forty-five grains to the ounce.

The remaining treatment was as follows: mornings, cold ablutions; twice weekly, short sweat-baths with cool douches; massage, cool rectal injections, wet bandage over the stomach during the night. The diet was restricted to light digestible food. Internally: muriatic acid with pepsin, later elix. ferri phosphor., c. quinii et strych. Improvement was quite rapid, appetite and strength increased. Patient was discharged cured after three months.

CASE II.—C. D——, aged twenty-six, of healthy appearance, acquired gonorrhœa three years ago which in spite of all treatment still persists. In the morning the well known suspicious drop is to be seen; during the day the meatus is moist.

The pars prostatica is very sensitive. The urine collected during defecation contains numerous spermatozoa, also pus and mucus, no albumin.

Diagnosis: chronic gonorrhœa, spermatorrhœa, cystitis. Treatment: irrigation with kal. hyperman. solution, then lukewarm water and nitrate of silver, sounds, sitz-baths, one sweat bath weekly, washing out the bladder with boracic and salicylic acid, later instillation of nitrate of silver one to two per cent. Internally: Buffalo-lithia water, ol. santalin, milk diet. After six weeks the discharge had ceased, no more spermatic elements, urine clear. At the close of the treatment I operated for an existing phymosis. Duration of treatment, ten weeks. (The accompanying spermatorrhœa was perhaps the reason that the disease was not arrested earlier.)

Case III.—W. S——, aged twenty-five, tall, strongly built, always well in childhood. When twenty years of age acquired syphilis; inunction treatment, kal. iod. sweat-baths. Three years ago gonorrhœa lasting six months. Since this time frequent pollutions, producing weakness, mental depression, and often ideas of suicide. A water cure taken two years ago from Pastor Kneipps, resulted only in a temporary relief. Sleep restless, not refreshing, appetite fair, eructation, heartburn, constipation. In the act of coition, ejaculations came prematurely.

Examination: Considerable hyperæsthesia of the urethra, especially pars prostatica. The urine (taken during defecation) contains quite a number of small spermatozoa, uric acid in abundance.

Diagnosis: Spermatorrhœa, sexual neurasthenia.

Treatment: Injection of nitrate of silver, sounds, sitz-baths, electric baths, mixed current, wet packs, morning cold washing (clyster) daily. The improvement was but slow, in consequence of a frequent interruption of treatment necessitated by travel. Six months elapsed before a cure was obtained.

Case IV.—M. P——, aged thirty-two; anæmic; weak; as a child has always been well; masturbation for years; acknowledges having led quite a dissolute life. His nervous system is shattered and he can hardly endure any noise; buzzing and weakness of the head; sleep restless. Weakness in the loins, cord, and lower extremities. Patient has been impotent for the last three years, no erections, frequent pollutions, increasing the sense of general debility. Appetite is poor; flatulence; obstinate constipation; painful hemorrhoids. The entire urethra is very sensitive, the prostate enlarged. The urine, as generally voided during the day, and that during defecation, contains a considerable number of minute spermatic elements, also a large amount of uric acid.

Diagnosis: Spermatorrhœa; impotency.

Treatment: Injection of nitrate of silver, with sitz baths; sweat-baths of short duration, with douches; central galvanization; general faradization; massage, Swedish gymnastics; at night wet bandage over the stomach; rectal irrigation. The diet was regulated. Internally: Bilin-water, muriatic acid with pepsin later. Elix. ferr. phosphor. comp. with extr. damian.

The patient's condition improved gradually, although after two months there still persisted a loss of semen during defecation, so that I also made use of the negative pole to the caput gallinaginis. At the close of four months' treatment the patient's condition had improved considerably, he was able to enjoy intercourse, but the ejaculations still came too soon. I advised a sojourn in the mountains.

Case V.—C. W——, aged thirty-six; of healthy physique, but from a nervous family; has suffered for two years from nervousness and depression of spirits, gradually increasing and alternating melancholia and excitement. He has taken a good deal of bromide, chloral hydrate, etc. The cause of his trouble is unknown to him, he is married very happily and has no financial cares. At night he hears voices in his or the next room (hallucinations), he awakens his wife, and she explains to him his deceptions. Sleep very restless, feels tired in the morning; appetite poor; frequent acid eructations and constipation. During the last few weeks has suffered from rheumatic pains in various muscles. Patient had practised coition frequently when younger; at present he feels less power.

The urethra, especially the prostatic portion, is very sensitive. The urine (taken during defecation) contains a great many spermatozoa, besides a large amount of uric acid.

Diagnosis: Spermatorrhœa, neurasthenia.

Treatment: Injections of nitrate of silver, sounds, sitz-baths, light sweat-baths, wet packs, electric baths. Mornings: cold ablution, enema. Internally: Carlsbad and Bilin-waters. After four weeks' treatment there was but little improvement; patient persisted in the idea that his brain was affected and that he would become insane. In consequence I requested a consultation with Dr. G. W. Jacobi. The latter agreed in diagnosis and treatment, and advised, besides, opium in increasing doses. As the result of the consultation the patient became more quiet; also the opium, continued for two weeks, had a beneficial effect. The improvement went on steadily, and after four months' treatment I advised a sojourn in Germany and Switzerland, from which he returned improved in every respect.

After W—— had been pursuing his daily occupation for several months he again became nervous and his sleep was restless. An examination of the urine revealed a relapse of the spermatorrhœa. In consequence strong injections were made twice weekly of argent. nitr., and light sweat-baths were continued for two months. One year has elapsed and patient has enjoyed the best of health.

The above cases seem to me sufficient. The aim of this article is to draw attention to the relative frequency and importance of spermatorrhœa.

220 East Tenth Street.

A CASE OF EXTENSIVE PLEURITIC ADHESIONS.

By FRANK WARNER, M.D.,

Lecturer on Operative Surgery, Starling Medical College, Columbus, O.

A very instructive and interesting case of extensive pleuritic adhesions, resulting from a stab wound, recently came before the Board of United States Pension Examining Surgeons, of which I am a member.

It was interesting in that such extensive adhesions, combined with so greatly a thickened pleura, are infrequently seen. Instructive from the fact that it illustrates how closely a thickened pleural membrane, adherent so as to prevent the proper expansion of the chest, will yield many physical signs of a pleuritic effusion or a consolidated lung.

Five years ago the man received a stab wound in the right anterior fourth intercostal space, which penetrated the pleural cavity and some of the lung-tissue. An inflammation followed which involved the entire right pleura; extensive exudations of lymph evidently occurred, and a complete adhesion of the pleural surfaces from top to bottom. It is true, there is nothing very unusual for the entire membrane to become involved in a pleurisy, or for the whole surfaces to become glued together, the one to the other. This latter condition we frequently see in post mortems held for other reasons than in the search of the lungs or its membranes. But what is not common in the case is the excessive amount of lymph deposit, which has subsequently undergone more or less organization, resulting in an almost complete fixation of the affected side of the chest, and yielding physical signs that would be perhaps misleading unless we stopped to consider the pathological conditions present.

The right chest remains almost completely fixed during inspiration and expiration. The supra-clavicular spaces are unequal; the right being depressed. The af-

fected side is much contracted. Percussion yields a flatness over the entire right lung. Auscultation shows vesicular murmur abolished, except slightly at apex front and back of the lung in question, and here greatly enfeebled. Changing the applicant's position and posture alters in no way the physical signs. The same flatness and absence of murmur remain. The ribs of the right side are packed closely together as a result of the contraction of the walls of the chest. On the left there are the usual signs of increased vesicular murmur, etc., where one lung is required to do extra service.

This flatness on percussion is the result of excessive thickening of the pleural membrane, for the inflammatory process extended over several months; and when a sero-fibrinous process continues any great length of time the pleura is apt to become very greatly thickened. As Loomis observes, p. 175 in his "Practice:" "This pathological process may be completed in two weeks, or a sero-fibrinous deposit may not be absorbed for months, and then the pleuritic thickening becomes very extensive."

Naturally the flatness on percussion, conjoined with negative symptoms of consolidation of lung-tissue, suggested an effusion. But the intercostal spaces of the affected side were not bulging as in an extensive effusion, but contracted. The affected side measured less by two inches than the normal side; the reverse being true in an effusion. The ribs were much closer together on the diseased side than the healthy side; which is just the opposite in a decided effusion. The tests relating to the change of position have already been spoken of. Vocal fremitus was lessened, but not abolished, as it usually is in an effusion.

There was no cough nor expectoration. The patient was well nourished; and the condition of the liver, spleen, stomach, intestines, and kidneys normal. The heart, both in structure and action, was normal.

The case illustrates that a thickened pleura may, and perhaps is, sometimes mistaken for either a pleuritic effusion or a hepatized lung.

SUBCUTANEOUS LIGATURE FOR VARICOCELE WITH AN ORDINARY NEEDLE.

By ERNEST F. TUCKER, M.D.,

PORTLAND, ORE.

NEVER having seen the following procedure described in any of the text-books or journals, and having made use of it several times myself and shown it to others, I think it might be of interest to some of the readers of the MEDICAL RECORD, if they are not already familiar with its performance.

An ordinary stout needle, about two inches long, and the necessary ligatures are all the instruments required. The needle, threaded, is made to pierce the scrotum from before backward, between the vas deferens and the veins, one end of the ligature being drawn clear through. The eye-end of the needle, which is still on the thread, is reintroduced through the hole of exit, and carrying the thread with it is made to pass outside of the veins and under the dartos, and out again through the hole of entrance, this end of the ligature drawn through, the needle unthreaded, and the ligature tied.

By thus using the blunt end of an ordinary needle to carry the ligature back about the veins, there is no danger of piercing a vein or of puckering the skin of the scrotum included accidentally in the ligature. It does away with the necessity of Reverdin's needle or any of its modifications, thereby diminishing the chances of sepsis, which are necessarily attached to the use of any mechanical needle, and adding to the general simplicity of the operation.

In all other particulars the operation should be performed as described by Dr. Keyes.

Bellevue Hospital has more patients than beds to put them in.

Progress of Medical Science.

Catarrh of the Biliary Ducts.—Dr. Castaneda Gonzalo has studied three hundred cases of affections of this nature, which are common in men from twenty to forty years of age, and almost always secondary and chronic. There is generally pain about the gall-bladder, extending sometimes to the back, and sometimes there is jaundice. The increasing size of gall-bladder is a pathognomonic sign of the disease, which may last months and years. To empty the bladder will settle any doubt about the diagnosis, which it is important to make from an etiological and anatomical standpoint. Treatment should be causal. Chronic gastritis is cured by milk diet and calomel; opium and nux vomica modify favorably the gastro-intestinal catarrh of alcoholics. Simonillo (an indigenous plant, *Lœnneccia parvifolia*, Compositæ) is valuable as a eupeptic and cholagogue. A successful treatment is artificial or manual emptying of the gall-bladder, or the "Jimenéz manœuvre," as it is called—a national invention, almost unknown in Europe; it overcomes obstruction, alleviates pain, and verifies the diagnosis.—*Universal Medical Journal.*

The Dangers of Overfeeding in Children.—Dr. Bellot calls attention to the frequency of disturbances due to overfeeding, not only in infants at the breast, but also in those who are older and take ordinary food. (*New York Medical Journal.*) He has made a study of these disturbances as they affect the digestive canal, the liver and the kidneys, the locomotor apparatus, the skin, and the nervous system. It is not sufficiently recognized, he says, that hepatic colic is apt to attack overfed children, especially those who live in cities, and therefore lead a sedentary life not very favorable to the combustion of fatty food. Although less frequent than in adults, hepatic colic is not positively rare in children. Rouisson found concretions in the biliary passages of the new-born, and Hein observed hepatic colic in a child twenty-five days of age. Undoubtedly heredity and a sedentary life may of themselves play an important part in the etiology of this morbid assemblage of symptoms, but it is not the less true that it is in a measure to be imputed to overfeeding. By causing congestion of the liver this sets up inflammation of the biliary passages. It follows that the mucus secreted by the glands of these canals acquires an acid reaction and decomposes the biliary acids, which then lose their solvent power and allow pigment and cholesterin to be deposited in the form of small concretions, or biliary sand, the starting-point of calculi. In common with hepatic colic, nephritic colic is not very rare in children during the second infancy, or even during the period of nursing. Sometimes the new-born present uric-acid infarctions in the canals of Bellini, in the calices, and in the pelvis of the kidneys. The origin of this renal lithiasis before birth is rather obscure, but the diet of the mother and hereditary influence may be considered to play an important part. During lactation overfeeding may be a cause of disease. In the second period of infancy authors commonly recognize the influence of excessive feeding and of a diet containing too much animal food. Similar affections, as Bouley has shown, occur in young animals. As regards the skin, the correlation existing between various skin diseases and gastro-intestinal derangements in children is indisputable, and these gastro-intestinal troubles are very often due to overfeeding, which therefore should be considered as very commonly the primary cause of these different cutaneous affections. According to Brocq, symptomatic skin diseases may be the result of accidental poisoning by drugs, articles of food, or a morbid toxin; or of an organic disease acting in a reflex way; of progressive vitiation of the general condition; or of defective nutritive exchanges. In the cases of overfed nurslings, the first and second of these etiological factors do not generally play a part, unless the milk on which the children are maintained is of an extremely bad quality; but the same is not

true of an organic lesion acting in a reflex way, or of the imperfect nutritive exchanges which undermine the vitality of an organ and make it morbidly vulnerable. In the case of infants subjected to a mixed diet, or to a diet containing no milk, all four of these causes may come into play. As regards the genesis of certain skin diseases, such as urticaria, following the abuse of drink, and often observed in persons with dilated stomachs, a reflex action upon the cutaneous vaso motor nerves must be admitted, or in a weaned child, a direct action of ptomaïnes taken in excess into the system with articles of food. In other cases, on the contrary, and these are the commonest, where it is a matter, for instance, of impetiginous eczema, or seborrhoic eczema, or ecthyma, or different forms of acne, strophulus, etc., the pathogeny is probably different, in that case involving the direct elimination by the sweat-glands of volatile fatty acids which, in their passage through the skin, alter the anatomical elements of the integument. Among these various skin diseases there is one—eczema seborrhoicum of the hairy scalp and of the face—that is observed in large, fat children, who assimilate the great quantity of food which they take—that is to say, who bear overfeeding without gastro-intestinal troubles. One point it is very important to recognize—namely, that digestive derangement is not at all necessary to the production of skin diseases in an overfleshy or overfed child. In all these conditions it is a prime requisite of treatment to reduce the amount of food taken.

The Treatment of Fractures Involving Joints.—In the therapy of fractures involving the joints there is unanimity of opinion upon one point—that by a continuous immobilization a cure is very problematical. According to Dr. Klemm, if the patient is to regain good functional use of the joint there must be a proper balance in the treatment between rest and motion: rest of the broken bone; motion of the joint, muscles, tendons, and fascia. How these conditions are to be obtained is the subject of much controversy. In all joint fractures, as well as in most par-articular fractures, there occurs an extravasation of blood into the joint cavity and into the surrounding parts. The pathological changes which subsequently result are dependent upon the hæmatomata. To these changes belong: 1. Difficulty in placing and retaining the fragments in good apposition. 2. Changes in the joint cavity: *a*, thickening and toughening of the synovia; *b*, a growing together of the intra-articular parts of the joint surfaces by means of newly formed connective tissue (anchylosis). 3. An increase in density and cicatricial changes in the par-articular tissues. 4. Obliteration of the tendons in their sheaths. 5. Nutritive changes in the muscles. 6. Pressure and disintegration of the nerve-trunks, and, as a consequence, a possible neuritis with resulting disturbance of nutrition of bones and joint which result in deformities. 7. Hydrops of the joints as well as a firm œdema in the par-articular tissue. We can thus see how the presence of intra-articular and par-articular hæmatomata may affect the prognosis; and it is clear that these extravasations should be removed as soon as possible. What means have we at our command to accomplish this result, and how shall we use them? The therapeutic measures for the removal of such masses may be divided into two classes: the bloody and the non-bloody. To the first of these belong: 1. Puncture of the blood tumor and its removal, with or without subsequent irrigation. 2. Incision into the mass and its removal; with this may be classified also the suture of the bony fragments. Under the non-bloody modes of treatment are: 1. Compression. 2. Massage. The first method would appear to be of chief value in those cases only where there is such large extravasation of blood that gangrene of the distended soft parts is to be feared; just as incisions are made into infiltrated tissues, so that the relief of existing pressure will prevent subsequent occurrence of necrosis. The method of incision with subsequent suturing of bony fragments is to be reserved for cases where there is already an injury to the soft parts, or where the injury is so extensive that a reposition and coaptation of the fragments of bone is impossible without suturing. At any rate, it seems unjustifiable to suture the bone at the outset in a simple fracture, before it has been determined that any other mode of treatment will give bad results. Massage and compression are the factors which, when combined with active and passive motion, play the most important rôle in the treatment of joint fractures. Massage fulfils both indications for a rapid absorption and prevention of atrophy. Degeneration and new-growths are also restricted by massage. Compression acts more in a passive way. Massage increases the circulation in the affected region, new tissue formation is favored, and the veins and lymphatics are rendered more patent, so that the extravasated fluid is pressed by the manipulations directly into these and so carried away. Compression aids these results by increasing the *vis a tergo* in the time between the use of massage, and so serves to increase absorption. Hand in hand with these manipulations, active and passive motion should be used, which should vary in extent from time to time and thus, by changing the points of contact, prevent degenerative changes in these parts. As frequently happens in the use of a new method, some have gone to the other extreme, and recommended an entire absence of splints and immobilization, and entire reliance upon massage and motion. This is certainly wrong. The broken bone needs rest, and this indication must be met by the use of splints and bandages, and a proper position. Of course, cases vary greatly, and good judgment must be used to give each form of treatment its proper relative value.—*Annals of Surgery.*

Desternalization of the Ribs.—Dr. Jaboulay, surgeon to the Hôtel-Dieu of Lyons, writes on the subject of desternalization of the ribs and its employment in the treatment of large purulent accumulations in the pleura and in that of scoliosis. When, he says, in the dead body the costal cartilages are detached from the sternum, or when they are simply cut through at about their middle from the first to the seventh, the side of the chest-wall corresponding to the divided costal cartilages will be seen to become flattened, especially behind, and to become contracted transversely, the ribs tending to the median line and in front of the sternum. This change in the shape of the chest is still more evident when the corpse is placed in a sitting posture. If it is stretched out on the back, the weight of the upper limbs, through the medium of the clavicles, drags the first and second ribs away from the median line instead of allowing them to approach it, as all the other ribs do. The same change takes place on both sides. If bilateral desternalization is practised, or if the sternum is removed, the chest becomes narrowed transversely to an extent equal to the whole breadth of the sternum, or even a greater extent. It will be understood that by means of this double measure one may contract the thorax almost at will by adding transverse compression to the narrowing set up by this operative procedure. These effects may be made use of in the treatment of purulent pleurisy, when it is not cured by puncture and by the ordinary operation for empyema. Unilateral or bilateral desternalization or resection of the sternum seems preferable to the resection of a great number of ribs, as the latter procedure in severe and inveterate cases is not likely to prove successful. The author insists upon this point, that when a rib is removed the transverse sinking of the chest-wall affects only the level of that rib and a portion of the intercostal spaces above and below it, and diminishes at the same time the height of the side of the chest, so that, in order to completely efface one side of the chest, as is commonly necessary in cases of enormous effusion, it would be necessary to remove all the ribs. Desternalization, on the contrary, affects all the true ribs, and makes the corresponding half of the chest entirely mobile.—*New York Medical Journal.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street.

New York, February 17, 1894.

THE NERVE-THEORY OF MENSTRUATION.

In a paper recently read by Christopher Martin, F.R.C.S., before the British Gynecological Society, the author elaborates a new view of menstruation, or rather of the relation of that function to the nervous system. He believes that there is a menstrual "centre" in the lumbar spine analogous to those for micturition, defecation, parturition, etc. This view finds in the author's mind a support from the general arrangement of the nerves of the pelvis. The uterus is supplied by the ovarian, and by the utero-vaginal plexus. He also admits the existence of the so-called splanchno-pelvic, which are described by Gaskell as arising in the lumbar part of the cord in the cells of the posterior vesicular column of Clark, and being also connected with the cells of the lateral horn of gray matter. They may be distinguished by the fineness of their fibres from other nerves. They run in the nerve-roots of the second and third sacral nerves, and pass from these directly into the hypogastric plexus, without entering the chain of lateral ganglia. From this plexus they are distributed to the generative organs, and also to the bladder and rectum. They are chiefly vaso-dilator in function, that is, they transmit impulses which bring about vascular engorgement in the viscera supplied. It is probable, therefore, that they are concerned in bringing about the determination of blood to the uterus and appendages, which is such a marked feature of the menstrual epoch.

In extension of this theory Martin finds the disturbances of the menopause due to a condition of instability and increased excitability of certain other cerebro-spinal centres brought about by the failure of the menstrual centre. He further adds that it is probable that the ovaries, like the liver and the thyroid gland, modify the blood circulating through them, and add to the blood some peculiar product of their own metabolism. It may be that some of the climacteric symptoms are due to the loss of this substance from the system.

Martin finds further confirmation in the case of a woman (already described in medical literature), twenty years old, whose body bifurcated below the waist, the spine dividing at the third lumbar vertebra. She had two pelves, each with its full complement of internal and external genitalia. Menstruation appeared at the usual age, was normal and simultaneous on both sides. If the menstrual centre was in the uterus or in any pelvic ganglia, menstruation would not have so occurred. As it is inconceivable that two independent menstrual centres, each in its own pelvis governing its own uterus would have kept synchronous beat, there must have been a higher centre in the body above the point of bifurcation governing both uteri, and bringing about the process of menstruation in each at exactly the same time.

A similar line of reasoning will show that ovulation cannot be the cause of menstruation, for it is most improbable that Graafian follicles would rupture in different ovaries, in different pelves, month after month at the same time.

Menstruation is defined by Martin as a katabolic process. A katabolic nerve stimulates the destructive metabolism which is always going on in the tissues. It frees energy, and such escape is followed by exhaustion. Now comes in the anabolic nerve to repair the damage and build up the tissue to its normal status. Between the menstrual period the uterus is governed by the anabolic fibres. It is engaged in constructive metabolism. If impregnation does not occur within a certain period, katabolism occurs and menstruation results. The endometrium cells rapidly degenerate, "the fabric of the half-formed decidua tumbles to pieces," the turgid capillaries burst and pour out the menstrual flow which sweeps away the useless tissue débris. If, however, impregnation occurs, the anabolic influence not only increases but continues until gestation is finished. Then katabolism anew gains the ascendency and parturition takes place.

Where the appendages are removed the arrest of menstruation may be explained by the withdrawal of a tonic nerve influence running in some way from the ovary reflexly through the menstrual centre to the uterus. More probable is it, however, that the operation severs the nerves governing the menstrual process. Against this view has been advanced the fact that in certain cases menstruation continues where both sets of appendages have been completely removed. In such a case the nerves have probably taken (one or both) an unusually deep course in the broad ligament, and so have been left behind.

The pseudo-menstrual discharge frequently seen after removal of the appendages is due, according to Martin, to the mechanical stimulation of the end of the divided menstrual nerve by the traumatism of the operation.

MEDICAL BULLETINS CONCERNING DISTINGUISHED INVALIDS.

THE author of the Code of Medical Ethics sends to the *British Medical Journal* the following memorandum and suggestion regarding the subject of medical bulletins. It ought to be read by all physicians.

"That much difference of opinion exists on the question may be taken for granted. Looking at it, however, from a medico-ethical point of view, I am strongly inclined to the opinion that undue importance (stimulated, it may be, by a feeling, more or less acute, of jealousy) has been attached to the passing notoriety gained—or rather assumed to be gained—by the affixing to medical bulletins of the signatures of the attendant practitioners, from which, nevertheless, I firmly and conscientiously believe that beyond the personal gratification possibly derived by a junior practitioner from the transient publicity accorded to his name, but little, if any, professional advantage is gained.

"If, indeed, as some allege, the practice merely pandered to the public appetite for sensational news, it could not, in my opinion, be too severely criticised and condemned. When, on the other hand, it arises from a purely honest public anxiety for authenticated information in the dangerous illness of, for instance, an illustrious or popular statesman, a distinguished prelate or esteemed dignitary, or some noble character beloved and respected by the nation, I not only fail to realize any valid objection thereto, but am forcibly impressed with the conviction that, in such and like cases, the natural public solicitude may be legitimately gratified without in any degree impairing professional morality; as a matter of fact, indeed, under the implied limitations the prescriptive custom of issuing signed bulletins has an evident meaning and the sanction of weighty precedents. Moreover (and the question may, I think, fairly be asked), if the signatures of the faculty in attendance be deemed relevant and essential in bulletins relating to royalty, why should the principle be regarded as irrelevant and objectionable in cases of special note, though of minor national importance? Be that as it may, it is, I apprehend, to the form rather than to the substance of bulletins that exception is generally taken—inasmuch as when the desired information is simply recorded in a newspaper paragraph, but without the customary signatures, no grave objection would appear to be raised. The conventional practice, withal, is one that it has hitherto been found impracticable or inexpedient to prohibit; and whenever the question of its abuse unhappily arises, it should be ethically determined according to the essential and collateral incidents of the particular case. At the same time the multiplicity of bulletins, the ill-judged flourish of titles and degrees, and the insertion of unnecessary details are always open to obvious objection and reproof. Need I add that personal modesty and good taste—two important factors which could not fail to exert a healthy restraining influence in the framing of bulletins—are natural gifts not always to be found in one and the same person, much less are they equally shared by all alike. Be that as it may, in view of the non-existence of any rule, written or traditional, by which the faculty should be governed in issuing bulletins (by some regarded, rightly, as a possible mode of covert medical advertising) in the illnesses of distinguished patients, I should hail with much satisfaction the authoritative utterance of the respective Royal Colleges—jointly or severally—on the subject, which would tend to allay contention, and thereby promote the true interests of the profession—an appeal which I would hope will sooner or later meet with an effective response in the form of a carefully defined rule. Meanwhile, in the hope of averting contentious criticism, and so far to promote professional harmony, I would suggest, as ethically essential—

"That in all cases of illness, except in the Royal Family, or of notable personages of national interest (in which professionally authenticated daily reports are rendered more or less imperative with the view to allay public anxiety), the medical attendant or attendants shall loyally withhold their signatures from bulletins; and, further, shall not allow their names to appear in any paragraph published in the newspapers relative to their patients; a contrary course, in so far as it may constitute a covert mode of unprofessional advertising, is opposed to the best traditions of the faculty and justly condemned by it, as are all oblique, indirectly inspired, and unauthorized communications to the lay press.

"Practitioners, moreover, will best consult their own honor and dignity, and true personal interests withal, by a conscientiously rigid but courteous refusal to be interviewed by reporters, or other non-related persons, with reference to the illness of patients; in regard to whom the desired information should emanate solely from, and its responsibility (clearly expressed) be accepted by the patient or his family.

"In a word, the principle enunciated in the following old Hippocratic adjuration should constitute the simple rule and guide of the Faculty of Medicine:

"'Quæcunque inter curandum videro audiverove, siquidem ea effari non expediat, silentio suppressurum.'"

A perusal of the foregoing will show that the author's views are wise and sound, and do not differ from those taught and generally practised in this country. We should take exception, however, to the necessity of publishing bulletins of the Royal Family. It would be justified no doubt in the case of the Queen and the heirs apparent, but we see no reason why all the little princelets, including grandchildren, uncles, aunts, and cousins, should receive bulletins. We should consider it very bad taste in American physicians to do this sort of thing.

THE WORKHOUSE AND ALMSHOUSE HOSPITALS.

We referred recently to the trouble between the Medical Board of the Almshouse and Workhouse and the Charity Commissioners. The outcome has been that Dr. Le Boutillier, who was most active in the agitation, has been compelled to resign. In a communication to the *New York Times* Dr. Le Boutillier makes a very fair statement of the case for the Medical Board.

After reciting the futile efforts of this Board to get the needed reforms, he says:

"So called 'economy' thus brought the daily cost of each inmate down below even the old rate of eight cents a day, while the number of inmates declined and the actual number of deaths rose. The efforts of the Medical Board to remedy the grave state of affairs above described extended to official and unofficial letters and visits to various Commissioners of Charities. But, relying on the 'luck' of the department and disregarding facts as to a rapidly rising death-rate and figures showing overcrowding that the Medical Board considered dangerous to health, they took no active steps, and the time passed for securing from the Board of Estimate and Apportionment the necessary increase of funds so to care for the sick and destitute of the city under their charge that they shall not suffer from bad or insufficient food or overcrowding in unsanitary dwellings.

"With the close of 1893 the number of applicants for relief largely increased, and the overcrowding of past seasons began again more intensely, but this time at the workhouse. With their old disregard of 'capacity,' or air space, the Commissioners sent men to the workhouse till they had less than four hundred cubic feet of air apiece, the amount required by the Sanitary Code for the poorest tenement-house in New York City being six hundred. As before at the almshouse, so this year at the

workhouse, there was the same old condition of dangerous overcrowding for the well and the same lack of adequate accommodations for the sick in the way of beds, fresh air, and proper food and nursing.

"What course can be taken by the comparatively few island visitors of the Medical Board, unheeded by the officials charged by law with the proper care of the institutions, than one to insure publicity of the actual facts? Of course, under our carefully devised system of elastic and evasive responsibility for municipal government, an appeal to the public may appear to the Commissioners to show an 'animus rather than a desire to correct abuses,' supposing the Commissioners to mean by 'animus' personal animosity."

After denying the charge of personal animosity, he continues:

"Lacking this personal animosity, the charges of official neglect have to be met by the old means of forcing the resignation of any members of the Medical Board who chance to be unpleasantly active or resist the Commissioners' desire for silence in regard to the actual facts of overcrowding, deficient food, and an appalling death rate, as shown by official documents in their possession."

We feel that while there was some indiscretion on the part of one of the Medical Board, their position as regards the needs of the hospitals must be correct; and it is not at all unlikely that the special attention which has been aroused in the matter by the recent agitation will result in good.

SARSAPARILLA.

There is, so far as drugs are concerned, a great deal in a name. This is particularly the case with regard to sarsaparilla. By long custom, through the influence of tradition and expensive modern advertising, sarsaparilla has become fixed in the public, and to some extent in the medical, mind as a "blood purifier." This fact lends potency to prescriptions, for the patient experiences a certain mental satisfaction in feeling that he is taking an accredited depurative, while the doctor experiences a sense of satisfaction in the belief that he has advised the use of a drug with such a respectable history.

There is, however, not a single tangible fact which shows that sarsaparilla has any medicinal properties at all.

Sarsaparilla root contains a very minute amount of an ethereal oil, and a principle which would be called active if it were not inert. This principle has been called paraglin, smilacin, and various other names. Its composition is said by Merck to be $C_{18}H_{30}O_6$. Some authorities have asserted that it possesses some power as a diaphoretic, but if so it is only slight, and secondary to the nausea produced by large doses.

No one has ever been able to show that the drug itself produces any tangible physiological effects, though Palotta, Böcker, and Schroff are the only authorities that have tested this point.

All systemic writers on therapeutics, including Rossbach and Nothnagel, Wood and Lauder Brunton, admit that the alleged therapeutical virtues of sarsaparilla depend on tradition rather than on any special observations or actual tests. Ringer does not even mention the drug.

Despite this, most writers succumb to the influence of tradition and admit the oft-repeated legend that it is an alterative, and in some inscrutable way—if given with other drugs—may be of use in scrofula, syphilis, chronic skin diseases, and perhaps rheumatism.

There are so many new drugs of demonstrated utility at the present day that it would be wise to drop all the useless ones; and we see no reason for retaining sarsaparilla in the Pharmacopœia simply because it may be administered pleasantly with iodide of potash. Unless, however, the medical profession says decidedly that radix sarsaparilla is of no use whatever, it is in some danger of becoming the ginseng of the American nation.

THE TAX ON INCOMES OF PROFESSIONAL MEN.

One of our correspondents has called attention to the fact that the proposed income-tax applies only to the excess over $4,000 and not to the total income. This fact does not, of course, invalidate in any way the point which was made by us, namely, that as the incomes of medical men increase, their expenses increase in such proportion that few physicians are able to save money or become capitalists, no matter how successful they may be.

We notice that our English brethren are starting a crusade against the income-tax which the Briton has to pay. A correspondent of the *British Medical Journal* shows that the real estate or landowner or bondholder who gets from his rents and interest an income of say $8,000, pays no more than the physician who earns the same amount. Yet the physician's income is entirely dependent upon the retention of his health and mental faculties, and, perhaps, from his freedom from rest or vacation. The property-holder may be ill, but his income continues, and he is justly taxed upon a real and permanent possession, but the medical man is taxed upon the results of his brain work, results which are, we are sorry to say, irregular and fugacious. Of course this applies also to the incomes of all professional men.

THE VIVISECTION OF CRIMINALS.

The medical profession has from time immemorial been enlisted on the side of humanity, and its best directed efforts have been toward mitigation of human suffering. That it may continue in these glorious lines of work is the wish and hope of its thousands of votaries. Our aspirations in these regards have, however, received a sudden and severe shock by the news that in Ohio an attempt is being made to so alter the law for the execution of criminals that the victims can be subjected to vivisection for what is claimed to be the benefit of science. The advocate of this repugnant, unreasonable, and we may say unscientific and really cruel procedure, is reported to have urged the claims of the bill on the following grounds:

"He thought it a good way for the condemned person to pay the debt he owed to society. He would have the condemned person placed under the influence of an anæsthetic, his stomach, heart, or brain exposed, and these organs studied in the living state.

"The subject should be kept alive until the questions pursued are solved, and finally executed by drugs. He did not think it would be necessary to inflict much pain in performing these vivisections."

We do not think that any physician can read the above without a feeling of repulsion and disgust. There is no

sentiment among medical men in favor of such a proposition. It is vulgar, sensational, and it is degrading to the profession. Medical science is based on humanity, and medical work illustrates every day the power of human sympathy and charity, but the deliberate mutilation and subsequent poisoning of human beings for any purpose whatever is too shocking to be seriously contemplated. Physicians are the very last to ask that their science be advanced by anything so brutal and demoralizing as human vivisection. We leave all this to the sportsmen and the warriors.

It is legitimate to have a decent ardor for the advancement of science, to study every means to such an end, to advocate every measure that may tend to the perfection of our knowledge of the relation of diseased to healthful processes, but we must in all such endeavors remember that we are gifted with reason and compassion, that even in the punishment of criminals we can stop short of torture, ever remembering that

> "Taught by that Power that pities me,
> I learn to pity them."

News of the Week.

The Four Years' Course at Columbia College (College of Physicians and Surgeons)—The entering class bids fair to be the largest in the history of the college, despite the lengthened course. Medical education in the leading institutions of this country is fully abreast of that in the Old World.

The West End Medical Society.—At the annual meeting of the West End Medical Society, held February 3, 1894, the following officers were elected for the ensuing year: F. Spencer Halsey, M.D., *President;* S. V. Ten Eyck, M.D., *Vice-president;* F. J. Blodgett, M.D., *Recording Secretary;* H. G. Meyers, M.D., *Treasurer;* H. S. Houghton, M.D., *Corresponding Secretary;* C. B. White, M.D., *Pathologist.*

Another Remarkable Newspaper Operation.—A man in Newark who has suffered from chronic hiccough has become the subject of a sensational experiment. The medical attendants, after publicly airing their theories regarding reflex irritation as the cause of the disease, sever the dental branch of the inferior maxillary nerve. But the hiccough does not stop. It is unfortunate that such cases are allowed such publicity. It stultifies the profession at the expense of advertising a so-called bold operator. The greatest wonder is how all these remarkable operations are so minutely detailed in the newspapers without the knowledge or connivance of the principals.

Dr. Lassar, who was Secretary-General of the Berlin International Congress, has been made Professor of Dermatology.

A Society for the Healthy Education of Youths has been organized in Berlin. It ought to include the maidens.

The New Antidote for Morphine.—It is reported that a man in Arkansas, who attempted suicide by taking three grains of morphine, was treated by the new antidote, permanganate of potash, and quickly recovered. Dr. Moor's article, in the present number, gives a coincidental interest in the subject.

The After-Care Association.—At the annual meeting of the "After-Care" Association for Poor Female Convalescents on leaving Asylums for the Insane, held on January 15th, it was estimated that there were about thirty thousand women of various callings and conditions of life in lunatic asylums in England and Wales. Of those a large number are discharged recovered in the course of the year; many very poor, and some friendless, but capable and anxious to earn their own living. The present association was formed to assist such by obtaining for them when needful an interval of change of scene and air, by placing them in a convalescent home, and by boarding them out in the country when thought desirable, under proper care and supervision, by giving them grants of money and clothing, and by assisting them to obtain suitable employment.

A Large Fee and its Use.—A story recalling a characteristic trait of the late Sir Andrew Clark is told by a correspondent of the *Daily News.* The correspondent writes in reference to the statement in the *Strand Magazine* that "as regards fees Sir Andrew Clark always took what was offered." This statement, says the correspondent, conveys a false impression. Sir Andrew always took what was offered when it was less than his ordinary fee, but not when it was more. Then an illustrative case is mentioned with regard to the physician's visit to Cannes some years since. On returning to London the patient he went to see sent him a check for £6,000, which Sir Andrew returned, saying he could not accept it, as it was excessive, his fee being £750, not an excessive sum, considering it took him away from his practice for a week. The patient paid the fee and returned the first check, asking Sir Andrew to employ it for the benefit of the suffering sick poor, a wish which, it is needless to say, was faithfully carried out.

An Excellent Reason.—The *Pacific Medical Record,* published at Portland, Ore., has transformed itself into *The Medical Sentinel,* the reason given for the change of name being that "there is but one MEDICAL RECORD in the United States, and that is the one published in New York City."

Chicago's Death-rate.—The report of Health Commissioner Reynolds for the year just ended mentions the low mortality-rate of Chicago as compared with other cities, and then gives an opinion touching the cause of such condition as "due without doubt to our fortunate location between the broad prairie on one side and Lake Michigan on the other, giving free play to the breezes that dilute and sweep away the impurities of the air." The total number of deaths for the year 1893 was 27,059, which is a rate of 16.91 per 1,000, "the lowest rate, with one exception, in fifty years."

Another Post-Graduate School.—Rumor has it that there is already organized a new post-graduate school in this city. It is in connection with the German West Side Dispensary, a heretofore modest institution on West Thirty-eighth Street.

The Congress of German Dermatologists will hold its fourth annual meeting in Breslau on May 14th.

National Guard Surgeons Organize.—The Association of the Medical Officers of the National Guard and Naval Militia of the State of New York was formed last week, in the armory of the Tenth Battalion, Albany. Organiza-

tion was effected by choosing the following officers: *President*, General Joseph D. Bryant; *Vice-Presidents*, First Brigade, Major D. M. Stimson, Seventh Regiment; Second Brigade, Major W. E. Spencer, Twenty-third Regiment; Third Brigade, Major Herman Bendell, Brigade Surgeon; Fourth Brigade, Major Albert H. Briggs, Sixty-fifth Regiment, Buffalo. *Secretary*, Lieutenant Daniel S. Burr, Assistant Surgeon, Separate Company, Binghamton. *Treasurer*, Colonel N. H. Henry, assistant to the Surgeon General. The constitution provides that the Executive Committee shall consist of the officers of the Association and five members to be appointed by the President. They will be appointed, one from each brigade and the naval militia. The following committees will soon be announced, and the surgeons of each brigade and the naval militia will have a representation in each: On Organization of Hospital Corps, Equipment of same, Drill and Regulations of same, Construction of same, Sanitation and Technique of Field Surgery.

Partisanship appears to be exceedingly acrimonious in Germany. The Leipzig Society of Physicians has just expelled two republican members, lest their membership prejudice the pecuniary interests of the government employees who are members of the society.

The International Sanitary Conference was held at Paris on February 7th. Among the French representatives were Professors Brouardel, Proust, and M. Monod; Germany was represented by MM. de Schoen and Mordtmann; Austria by Count Kuefsten and Dr. Hagel, and the United States by Drs. Stephen Smith, E. D. Shakespeare, and P. H. Barthacha. England alone, of European countries, was not represented, a fact not much to her credit. England has always been too much afraid of her tradesmen to engage herself in any entangling sanitary pledges.

A Brooklyn Doctor gets a column notice in the daily press for his extraordinary heroism in supplying blood to an exsanguinated patient. This is not a rare occurrence in medical experience, and one must conclude that in Brooklyn heroes are cheap.

No Scarlet Fever at Harvard.—It is denied that there is any scarlet fever at Harvard College. It is only a crimson fever.

Rise in the Price of Life.—The damages given to heirs for a death through negligence of railways, etc., has heretofore never been over $5,000. An Arkansas jury, however, has just given a verdict for $20,000 against the Little Rock & Memphis Railroad.

Dr. Walter D. Green has been appointed by Governor Pattison, physician to the port of Philadelphia.

Dr. Emily Winifred Dickson, of Dublin, has been elected the first female fellow of the Royal College of Surgeons, Ireland.

Insanity Statistics.—The Annual Report of the State Board of Charities, submitted to the Legislature February 1st, shows a total increase in the number of insane in the institutions of the State, from October 1, 1880, to October 1, 1893, of 8,842. The increase in population from 1880 to 1892 was twenty-eight per cent., while the increase of the insane in the institutions was eighty-three per cent. A part of this increase, it is stated, may be accounted for by the greatly increased accommodations, by means of which many insane had been taken from their homes to institutions. Besides, the better care of the chronic insane has doubtless considerably prolonged their lives. Still, the Board believes that the increase is not wholly accounted for by these causes. The number of patients in the various State hospitals for the insane on October 1, 1892, was 7,484; the number of admissions during the year ending September 30, 1893, was 2,586, and the total number under care during the year, 10,070, as against 9,435 the preceding year.

Gifts to Hospitals.—The will of Mr. Andrew L. Kidson, of New Haven, Conn., bequeaths $5,000 to the General Hospital Society of New Haven. The Sheltering Arms Hospital at Charleston, W. Va., has received a gift of $17,000 from the widow of Ex-Governor Olden, of New Jersey.

A Verdict for the Physician.—Dr. William Marvin Bemus, of Jamestown, N. Y., who was recently the defendant in a suit for alleged malpractice, has won his case, Judge Green deciding in his favor, that there was no cause of action. The circumstances of the case are as follows: On March 19, 1892, the plaintiff, a woman, forty-one or forty-two years of age, slipped and fell on a stone walk, in the city of Jamestown, producing a badly comminuted Colles's fracture, with dislocation of ulna, and displacement of extensor carpi ulnaris. A Levis's splint was used, and removed in a little over three weeks, and passive motion commenced, which was practised three times at intervals of three days. Upon calling the fourth time the doctor found his patient had left the city and gone to Hydetown, Pa., to try the virtues of a patent liniment, where she remained about three weeks. There was no evidence that the limb was manipulated during the time she was absent, and the fact is, that it was not. It should have been stated before that the plaintiff claimed that her shoulder was dislocated at the time of the accident to the wrist, and that the surgeon failed to discover it. Upon her return from Hydetown, she went to another physician, who, she claims, and so testified, reduced the dislocation, and advised her to have the wrist broken over. This physician, upon being put upon the stand, testified that the shoulder was not dislocated, and that he broke down some adhesions, the result of bruises. He also contradicted the plaintiff as to having the wrist broken over. A number of physicians were sworn for the defence, all of whom examined the arm and pronounced the result as better than could have been expected under the circumstances. Judge Green said among other things, there has been a perfect exculpation, by the evidence, from all negligence or want of skill on the part of the defendant, and a perfect vindication of the manner in which he treated this plaintiff and of the result which he obtained; and while professional men were held to the strictest degree of duty toward their clients and their patients, when they have done that they certainly ought to have the fullest and most complete vindication, and it seemed to him there had been given that to this defendant by the evidence upon this trial. The evidence had shown that he did all that a skilful and experienced surgeon could do under the like circumstances, and that the result was as good as it was possible for men to obtain, and he therefore directed the jury to find a verdict in favor of this defendant of no cause of action.

Society Reports.

PATHOLOGICAL SOCIETY (LONDON).

Aneurism of the Aorta.—Dr. Voelcker showed a specimen of aneurism of the aortic valve, which occurred in a child eighteen months old who died from capillary bronchitis following measles. The heart contained a pale adherent clot on the right side. The left ventricle was not much enlarged. On the posterior cusp of the aortic valve there was a mass the size and shape of a small cherry-stone. This was moulded by the semi-lunar cusps and projected down toward the ventricle, dragging the aortic cusp with it. The valve was not perforated. There was no sign of endocarditis or of infarcts. Dr. Voelcker did not believe that the pouching of the cusp was the result of endocarditis or a hemorrhage into the valve, but was of the opinion that a patch of fatty degeneration had altered the nutrition of the overlying endothelium, that fibrin had been deposited from the blood, moulded into form by the other cusps, and the patch yielding to the pressure above the cusps, and being dragged down by the mass, had formed an aneurismal pouching of the valve. Such polypi on the cusps of the aortic valve in children he believed to be rare.

Inflamed Vermiform Appendix.—Dr. Smith presented a specimen of diseased vermiform appendix removed from a man who during life presented no symptoms referable to this appendage. The patient had had an attack of nephritis which had nearly recovered, and then, after a few months, relapsed. The patient died apparently from acute uræmia. At the autopsy, the kidneys were found slightly enlarged, mottled, and with adherent capsules. The stomach and intestine down to the colon showed patches of intensely red congestion, but no ulceration. The appendix was pale, about the size of the forefinger and curved on itself as the result of adhesions. In its mesentery there was a small black hemorrhagic swelling. Dr. Smith considered the case a typical example of recurrent appendicitis and thought the specimen might throw light on the possible condition underlying many cases of appendicitis in which the patients recovered under medical treatment only.

LONDON CLINICAL SOCIETY.

Acute Phthisis.—Dr. Fenwick read a paper on two cases of acute phthisis following destruction of the mucous membrane of the stomach by corrosive fluids. A man, thirty-four years old, had severe gastritis after swallowing oxalic acid, which lasted upward of six weeks, this was followed by symptoms of subacute gastritis. Under lavage, considerable improvement manifested itself, so that he gained eighteen pounds in weight. Four months after the gastritis the patient contracted a cold which was attended with cough, fever, sweating, rapid emaciation, and death within six weeks from acute phthisis. The necropsy showed a condition of caseous tuberculosis invading both lungs from apex to base, with a small cavity in the right upper lobe.

The second patient had swallowed some nitric acid and had following this a prolonged attack of subacute gastritis accompanied with marked dilatation of the stomach. Seven months after the accident the patient began to suffer from cough, night-sweats, and fever. These symptoms increased in severity. The gastric symptoms returned, evidence of progressive consolidation of the lungs became manifest, and death followed in a few weeks. The autopsy showed the lungs to be the seat of acute tuberculous infection from apex to base. The mucous membrane of the stomach was completely destroyed.

Dr. Fenwick said it was of interest to remark that in each instance a corrosive fluid had destroyed the digestive activity of the stomach. It would therefore seem that the sudden impairment of nutrition had so diminished the resistance of the tissues as to render them particularly vulnerable to tuberculous infection.

Membranous Inflammation of the Throat During Scarlet Fever.—Drs. Goodhall and Washbourn spoke of the results of their observations of cases of membranous inflammation of the throat during scarlet fever. In cases where the membrane is tough and thick, accompanied by a well-developed rash, the diagnosis must be made between, 1, severe scarlatina anginosa with membrane; 2, diphtheria with rash; and 3, coexisting scarlatina and diphtheria. An absolute diagnosis can only be made by a careful bacteriological examination. They believe that a membranous inflammation of the throat occurring during the acute stage of scarlet fever is generally not true diphtheria, but that a similar condition occurring during convalescence is true diphtheria. These conclusions are in accord with the results of bacteriological examination.

FRENCH SOCIETY OF DERMATOLOGY AND SYPHILOGRAPHY.

Buccal Ulcers.—Dr. Wickam, in a paper presented to this Society, described special buccal ulcers occurring during the course of locomotor ataxia. These ulcerations, which have not yet been described, present such characteristics that they may be considered diagnostic of tabes. The principal diagnostic points laid down are as follows: 1. The seat of the ulceration is at the dento alveolar junction. The ulceration entirely, or at least in part, is at the margin of the alveolus. 2. The atonic aspect. 3. Indolence and anæsthesia. 4. Exploration with a probe frequently demonstrates that the surface-opening leads down to denuded bone. 5. Chronic evolution. 6. Loss of teeth; this frequently occurs without pain. 7. Deformity of the maxillary bone. This deformity arises as the result of the alveolar ulceration, necrosis of the bone, and elimination of the sequestrum, etc. He emphasizes that this inflammatory process occurs without pain, as does the falling of the teeth. These characteristics differentiate this variety of ulceration from that associated with tuberculosis, syphilis, phosphorus necrosis and intense mercurial stomatitis. The nature of these tabic lesions is uncertain. Dr. Wickam is not certain whether these lesions are purely trophic or whether they are not an affection *sui generis*, which finds a favorable soil for its development in tabetic patients. Dr. Fournier proposed that these ulcers be referred to as buccal perforating ulcers.

BERLIN MEDICAL SOCIETY.

Demonstration of a Case of Syphilis of the Spinal Cord Followed by Recovery.—Dr. Feilchenfeld presented a patient who had suffered for upward of six months with severe symptoms of spinal cord syphilis and who, under the influence of antisyphilitic treatment, went on to recovery. The patient had been infected with syphilis two years previously, and had had well-marked secondary, for which he was treated by inunctions of mercury. During the course of this treatment the patient became anæmic and emaciated. While making a journey he became chilled and soon after this he suffered from extreme pains in the back and from girdle sensation. The legs became tired easily, and he had difficulty in controlling the urine and bowels. In a few days he developed markedly ataxic gait, but the knee reflexes were still preserved. Sensibility of the lower extremities was almost completely lost, and he could not distinguish between warm and cold. Two weeks later it was quite impossible for him to lift his legs from the bed, so that he had an entire paraplegia. A diagnosis of syphilitic meningo-myelitis was made, and the patient was placed in a hospital and subjected to a rigorous antisyphilitic treatment, particularly by means of inunctions and vapor baths. After fourteen days his recovery went forward rapidly, so that at the time of reporting his case all the symptoms, except a slight diminution of sensibility in the left leg and some diminished tonicity of the sphincter ani, had disappeared.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Eighty-eighth Annual Meeting, held at Albany, February 6, 7, and 8, 1894.

HERMAN BENDELL, M.D., PRESIDENT, IN THE CHAIR.

SECOND DAY, WEDNESDAY, FEBRUARY 7TH—MORNING SESSION.

Discussion on Abdominal Surgery.—DR. ALBERT VANDER VEER had arranged a discussion on this subject, but several of the papers were read by title.

Disputed Points in Pelvic Surgery.—DR. JOSEPH PRICE, of Philadelphia, read a paper with this title. He thought much was said and printed which was far from scientific or in accord with the teachings of advanced surgery. An evil of the profession was the too prevalent medical journal. These were often established to act as mediums for nostrums or anything which would pay for space; "as the French say, 'all cats are black in the dark,' so all names are on paper." Often statements were given as facts which were pure fiction. Pus in the pelvis or tubes was rarely dangerous *per se*, said some, and on top of this it had been gravely stated that even if the tube were broken down with puriform degeneration, it might be preserved as an aid to the production of pregnancy. The authors of such nonsense failed to consider that such tubes were by universal consensus of opinion of the best observers made responsible for ectopic pregnancy. Among rash procedures, was thrusting a needle through the abdominal parietes and allowing the patient to walk home. Loss of physiological organization carries with it loss of physiological function.

Dr. Price thought this was a generally recognized law, yet there were some who took the remarkable stand that it did not apply to the tubes and ovaries.

Influences Affecting the Results of Abdominal Operations.—DR. J. F. W. ROSS, of Toronto, Canada, read the paper. Similar cases, operated upon under antiseptic precautions, did not always give equally good results as the surgeon had reason to expect. Why? The author, in analyzing possible influences in cases occurring in his practice, had come to the conclusion that one factor was the air. This had seemed to act injuriously under conditions where he had reason to believe it contained impurities; weather conditions, however, had also an influence. Where impurities of the air had been credited with affecting the peritoneum injuriously, Dr. Ross excluded possible infection through the hands or instruments. Might not the peritoneum respond to a poison in the air which could not be detected by sight, or perhaps by smell. Some condition inherent in the patient might influence the result of the operation, such as scrofula or tuberculosis, malaria, etc. The cases most likely to die after abdominal section were those in which a septic condition had existed some time before the operation. A difference in the virulence of the contained pus of tumors or tubes must be assumed to account for the difference in fatality of some cases apparently similar in other respects.

Hemorrhage after Abdominal Section.—DR. A. H. BUCKMASTER reported a case of fatal hemorrhage the fourth day after removal of diseased appendage, the cause being found at autopsy to be slipping of a portion of peritoneum out of its constricting band. The pedicle had been tied in halves and in whole. He had supposed himself very unlucky in losing the case from this cause, for similar cases in literature were very rare, yet on conversing with his acquaintances he had heard of fifty accidents of this nature. They were not reported in the journals, one reason for which it could be assumed was danger of suit for malpractice. The author thought some cases of death without clear cause had been of this nature and overlooked because no autopsy or only an incomplete one was made. There was no certain means of knowing that hemorrhage was occurring in the closed peritoneal cavity until it was too late to save life. The drainage tube was not a guide, and as to distention, this of course, occurred too late. The necessity for prevention by care during the operation became evident.

Cysts of the Epigastrium.—DR. DUDLEY P. ALLEN, of Cleveland, O., in this paper gave the histories of two cases of cyst of the epigastrium, a term which he used in preference to that of cyst of the pancreas, since their exact origin was not evident, although they were attached to the pancreas among other organs.

In the first case a tumor had appeared, giving fluctuation over the entire front of the abdomen, but being most prominent at the left of the umbilicus. Diagnosis of cyst of the pancreas was made, although the possibility of cyst of the kidney and gall-bladder had been borne in mind. The aspirating needle brought away dark brown fluid, coming apparently from a hæmatoma. The abdomen was opened six hours later, the cyst was found attached to the walls, the pancreas, colon, etc. A glass tube was inserted and left for drainage. Nine months afterward the patient vomited much dark colored fluid; a physician was summoned, who removed a living child from the uterus by cæsarian section, the woman died and an autopsy was made twenty-one days after burial. It revealed the fact that the cyst was attached to the pancreas, but the structure of this was not changed, and the conclusion was reached that the cyst was the result of hemorrhage which had undergone changes due to long retention. The second case was that of a boy of nineteen years who had observed swelling of the abdomen since receiving a blow over the episgastrium ten years before. The stomach was below the cyst in this case, while in others it had been between the stomach and transverse colon. He opened the cyst, and packed with gauze. The fluid contained much cholesterin and emulsified fat, no tripsin, nothing to show that it came from the pancreas.

The author referred to the investigations of Mr. Lloyd regarding the possibility of occurrence of cyst of the omental bursa, the outlines and extent of which had been shown by injections, and expressed his own belief that there were cases in which fluid collected in the omental bursa as a direct result of injury to the pancreas or liver, the fluid being either blood or mixed with the secretions of the injured organ. The second case seemed to be one of this nature. In rabbits it had been shown that the fluid poured out into the bursa could be taken up very rapidly by the lymphatics of the diaphragm, and it was thought the same might occur in man.

In the discussion, DR. HOWARD KELLY and DR. A. G. GERSTER expressed the opinion that the title of Dr. Price's paper, Disputed Points in the Treatment of Pelvic Surgery, was not justified by its contents; that the points brought up were no longer disputed. They also expressed disapproval of what they took to be general assertions impugning the motives, and reflecting upon the intelligence of the profession. Referring to drainage, they employed this only occasionally, and Dr. Kelly said it was his custom to have the pus examined immediately when he opened the abdomen, and if it contained pyogenic streptococci and staphylococci he was much more likely to drain than if it did not contain these germs, which pointed to greater virulence of the fluid. Referring to Dr. Ross's paper, they thought that where the air had been credited for an unfavorable wound the real source of the trouble was faulty antisepsis.

DR. CHARLES P. NOBLE upheld drainage practised as frequently as some did in Philadelphia, on the basis that the more favorable statistics justified it, and, referring to the same subject, DR. PRICE supposed it might be very scientific to be guided in the use of the drainage tube by microscopical examination of the pus for germs, but intimated that it would be much safer and more practical to put the drain in in doubtful cases, since in any event it could hardly do harm and might save life.

Case of Acromegaly.—DR. FLOYD S. CREGO, of Buffalo, presented a woman who showed the condition called acromegaly, of which about thirty undisputed cases had been reported in literature. It was characterized by enlargement of the bones, and somewhat of the fleshy

parts; in a number of cases there had also been exophthalmic goitre, and the patient shown had had this affection about six years prior to the enlargement of the bones, but since the commencement of acromegaly the projection of the eyes had diminished. She was now thirty-one years of age, and showed enlargement of the facial bones—head, hands, feet. In London they had considered removal of the pituitary gland, which was enlarged in many cases and had been supposed to bear an etiological relation to the acromegaly, but the author thought this procedure impractical. It might be wise, however, to try the treatment of myxœdema.

Dr. T. R. Pooley had examined many patients with exophthalmic goitre, but had never seen it combined with acromegaly, and therefore concluded that the latter affection was very rare.

Dr. Sherman, of Ogdensburg, said the late Senator Irwin in the last years of his life presented the appearance of this patient, and was believed to have had acromegaly, but he had at no time shown signs of Graves's disease.

Dr. Frederick Remington, of Buffalo, sent photographs of a case of acromegaly which were presented by Dr. Potter.

Dr. Angell said that in many cases of acromegaly there was deterioration of the mental faculties, but the woman exhibited was an exception. Dr. Crego said closer inquiry had shown that probably over fifty per cent. of cases did not have deterioration of the mental faculties.

Three Cholecystotomies for Gall-Stones, with Recovery.—Dr. W. W. Seymour, of Troy, related in a paper the histories of three cases of cholecystotomy for gall-stone, all of the patients recovering. He entertained very pronounced views as to the relative merits of certain methods. Excision of the gall-bladder, in his opinion, had no field except in malignant disease or gangrene. Again, the operation of cholecystotomy in two stages had no advantages which the simple operation in one stage did not possess many times over. In another case like his third one he would make cholecystenterostomy. With all respect to internal medicine, he must say that the time had come when gall-stones should be regarded as a surgical affection which required prompt intervention when the attacks became frequent or severe. Nothing would dissolve the stones when once formed. The paper was discussed briefly by Dr. Mynter and the author.

Palpation of the Vermiform Appendix.—Dr. George M. Edebohls, of New York, read the paper, describing the manner in which one could palpate even the healthy appendix as well as the enlarged one, and the value of the information derived therefrom. The practicality of the procedure had been tested by him in many cases the past year, mostly on females, but also on three males. The correctness of his conclusions had been demonstrated on opening the abdomen where for some reason an operative procedure was indicated. The success of the method had also been demonstrated in one case by his colleague, Dr. George F. Shrady. After examining other organs, one proceeded to palpate the appendix. Only one hand, applied externally, was required; no assistance was afforded by a finger in the vagina, and very little and only occasionally by one in the rectum. Standing at the patient's right, apply two, three, or four fingers over the abdomen and notice successively the character of the structures which came beneath them as they passed from the umbilicus to the spine of the ilium, sufficient pressure being used to feel the posterior wall of the pelvis. The appendix, when normal, felt more or less flattened, ribbon-shaped, or more or less firm and rounded when thickened by inflammation, more or less sensitive when diseased. It was usually found almost immediately outside the iliac vessels. Its variable location, and its common deep situation behind the cæcum were not against palpating it. The heretofore assumed distention of the caput coli by fæcal matter scarcely ever existed.

The Inch-and-a-Half Incision and Week-and-a-Half Confinement in Appendicitis.—Dr. Robert T. Morris, in a paper written under this title, stated that we had recently learned four principal things relative to appendicitis, and he was now asking the members of the profession to accept a fifth point. We had learned that, 1, appendicitis was of very common occurrence, 2, that many forms of abdominal inflammation were symptomatic of appendicitis, 3, from statistics, that late operation did not give much encouragement, 4, that early operation was with trifling mortality, but there was danger of ventral hernia if a long incision were made. The fifth point was that a long incision was not needed when cases were operated upon at the outset of the inflammation.

The author advised one inch and a half abdominal incision, the uniting of the structures with fine catgut, and the burying of the stump of the appendix with Lembert sutures. The abdominal scar disappeared so that it could not be seen at the end of a few months. His death rate was nothing in all cases without pus. He did not approve of carbonate of sodium for reversing peristalsis of the bowel, but used chloride of sodium for that purpose in all his operations.

Dr. Morris said that opposition to the plan of removing the infected appendix as soon as it was discovered must fade away when physicians learned that appendicitis was an infectious exudative inflammation which did not disappear on disappearance of the symptoms.

He also stated that he had removed two or three appendices which were apparently normal, but the patient's symptoms had stopped and cultures of bacteria and microscopic sections from these proved that they had been dangerously infected, and the mucosa and adenoid tissue were undergoing destruction by the colon bacillus.

Dr. Morris said that when his inch-and a-half incision was employed, the patients left the hospital at the end of a week and a half; when a two-inch incision was made they were not ready to leave until fourteen days after the operation; and when a two-and a-half to four-inch incision was made eighteen days were necessary for repair. Consequently he had adopted the inch-and-a half incision and week-and a-half confinement plan, which left no hernia and an evanescent scar.

By operating immediately in acute cases, he did not mean the following day, but the following hour.

Pseudo-Diverticulum of the Duodenum.—Dr. Louis S. Pilcher reviewed the literature of duodenal diverticula, stating no record of true or pseudo diverticula of any size of that gut appeared, other than the record of a case in the West back in the thirties. He then related the history of a young man, seventeen years of age, who, in a state of marasmus and with irritative septic symptoms, and an indistinct tumor in the middle of the abdomen, was received into the Methodist Episcopal Hospital of Brooklyn in November last. Here an abdominal section was made, which displayed a heart-sized and shaped tumor, with its base hidden above under the transverse colon. This burst under examination, giving issue to pus and bile; upon enlarging the opening partially digested food was also found within it. The cavity was cleansed, and drainage provided for. Forthwith a free flow of bile began to issue from the drains, and milk swallowed by the mouth at once thereafter appeared on the dressings. A fatal peritonitis ended the case on the third day. The autopsy disclosed that two-thirds of the wall of the transverse portion of the duodenum were wanting, and the descending portion of the duodenum opened freely into a large cavity, whose walls were made up largely of infiltrated connective tissue, the whole constituting the tumor which had been formerly appreciated. From the left upper angle of this cavity the jejunum issued, being connected to the duodenum by a relatively narrow strip of mucous membrane. The biliary papilla was discoverable just within the duodenal orifice. This cavity had formed an interruption or diverticulum from the alimentary canal, into which all food was received and held for a time while in transit.

The specimen was submitted, together with plates showing the condition at the time of operation, and the minute anatomy of the specimen.

Appendicitis: The Connection Between its Symptomology and the Gross Anatomy of the Appendix.—Dr. Joseph D. Bryant read this paper. The gross anatomy of the appendix and its variable location had been described by him elsewhere, and was based on studies at one hundred and forty-four autopsies. In only three of this number was the appendix extra peritoneal. Speaking of pain at any fixed point, he said that the varying directions of the appendix, its difference in length in different cases, together with tenderness along the sigmoid, from which it arose, all conspired to make the establishment of a fixed point of pain impossible and reliance on it misleading. Tension of the right rectus abdominis was an important symptom, being a conservative process, but the tension, for the same reason, was apt to affect the left side as well and also deeper muscles, the psoas and iliacus, which caused flexion of the thigh. The bladder and rectum often became tender, especially if the appendix extended into the pelvis; and other parts were apt also to become sensitive. The conclusions from the paper were: That the location, extent, and direction of the appendix had an important bearing on the history of the appendicitis, and that well-recognized variations in length, direction, and location of the appendix made the establishment of a definitely stated diagnosis upon the seat of pain unwise and misleading.

Intestinal Perforation in Strangulated Hernia.—Dr. W. B. De Garmo read the paper (see future issue).

The several papers just read were discussed together, and in some remarks upon appendicitis, Dr. Herman Mynter, of Buffalo, alluded to the difference in the mortality rate according to the nature of the cases. He had not lost a patient until a year ago, then he had a number of fatal ones, and the reason was that previously they had not been of the kind in which there was perforation with general septic peritonitis. He would like to know how the surgeons in New York city, where they apparently lost no patients, would account for their wonderful success.

Dr Durand related a successful case of acute perforation with gangrene, in which he gave credit for the recovery to washing out with a solution of peroxide of hydrogen.

Drs. Willy Meyer and R. T. Morris, of New York, were willing to grant Dr. Mynter's premises and would account for their greater success in New York by the fact that physicians there had learned to call a surgeon early. Dr. Edebohls referred to two successful cases of perforative appendicitis, and the discussion was continued by Dr. Vander Veer and Dr. Bryant, who admitted the fatal tendency of perforating appendicitis accompanied by general septic peritonitis, the class of cases which, some of the speakers might have forgotten, had alone been referred to by Dr. Mynter when he spoke of their extreme fatality.

Recent Methods of Gastrostomy for Stricture of the Œsophagus.—Dr. Willy Meyer, of New York, read the paper, which was illustrated by drawings. Among the methods which he described were those of Witzel, Sabanejew Frank, Fenger, Hahn, and Von Hacker. He gave the preference to Witzel's. Operators used to see doctors temporizing with cases of œsophageal stricture. Why? Because they saw patients die quicker with than without operation. The fluid would ooze out of or alongside the tube, cause painful eczema and starvation, because it was impossible to keep the wound closely adjusted around the tube. This objection to operative interference or gastrostomy held no longer, for there were a number of methods at the surgeon's disposal which would enable him to prevent regurgitation through gastric fistulæ. Cases which the author had operated upon were mentioned, and the opinion was expressed that Witzel's method was an excellent one and the best.

Some Cases of Head Injuries.—Dr. Herman Mynter, of Buffalo, in this paper referred to twenty-seven operations for injuries of all kinds to the head which had come under his charge within some months. Four of the twenty-seven were severe fractures of the base, all proving fatal. Three of the entire number deserved special mention. In one the diagnosis was made of subdural hemorrhage in the facial area, there having been motor-symptoms referable to the face and arm, and aphasia. Three ounces of blood clot were found beneath the dura at the site of the trephining. The patient recovered and the aphasia and paralysis disappeared. In the second case the patient, five or six weeks after the injury from a fall, began to get drowsy, show stupor, and some fever. Abscess was diagnosticated, and on trephining was found near the motor area. In the third case the patient had been injured on the left frontal region, was well apparently six years, then began to show mental stupor and drowsiness, with epilepsy unattended by convulsions, and passed into status epilepticus. There was improvement after trephining, then relapse, but so far apparent cure after a second operation. Attention was called to the fact that only sterilized water should be used on the brain, for it was extremely sensitive to antiseptics, 1 to 10,000 bichloride acting injuriously.

The Action of Scopolamine on the Eye.—Dr. Thomas R. Pooley, of New York, reviewed in this paper the roseate experience with this new mydriatic described by two continental writers, and which had led him to give it a trial beginning with last August. It belonged to the group of atropine, was contained in hyoscyamine without being identical with this, and the preparation which he had used was Merck's. Its action was found to be about five times as strong as that of atropine, and was much shorter by twenty-four to forty-eight hours, which made it much better in examining the eyes for errors of refraction than sulphate of atropine, although the influence of hom atropine passed off in about equally short a time, and the latter, contrary to the statement of writers abroad, less frequently caused toxic symptoms. Dr. Pooley had had two cases of pretty severe toxic symptoms from scopolamine.

A New and Almost Bloodless Operation for Prolapse of the Rectum.—Dr. Edward Clark, of Buffalo, in a paper with this title, reviewed some of the difficulties of other operations for prolapse of the rectum, especially that of controlling hemorrhage, and then described the method which he had carried out in a single case with the loss of little more than a drachm of blood. The gut being prolapsed as if the finger of a glove were partially inverted, it followed that the portion in view was double. He placed an elastic ligature around the prolapsed portion up at the anus, which controlled the circulation, then cut off the extreme end, then separated the internal and external portions of the protruding gut, tied a ligature around the internal portion, which prevented passage of fæces and hemorrhage, and thus gave opportunity to remove the elastic ligature above. The external portion having been separated up to the anus, was cut off, and the stump was carefully stitched to the inner portion, after which the latter below the stitches was cut off. The end then immediately drew into the anus. In his case there had not only been no suppuration but no rise of temperature, or scarcely any.

Tuberculosis and Health Boards.—Dr. Mallory offered a resolution, which was adopted, earnestly urging local boards of health to place tuberculosis on the list of infectious diseases, and approving the efforts of the State board to control this disease.

Third Day, Thursday, February 8th—Morning Session.

Report of Committee on the President's Address.—Dr. Eugene Beach read the report. It recommended a reapportionment of delegates in several counties to correspond with the number of assemblymen as required by the constitution. Also that presidents of county societies

be made ex-officio members of the State Society for their term of office, but without privilege of voting or becoming permanent members. Donations of private medical libraries to the State Medical Library were encouraged, and larger appropriations were urged by the Legislature. They did not recommend at present holding meetings elsewhere than at the Capitol, as provided by law. Dr. Pilcher, however, sent in a minority report on this point, recommending that alternate meetings, in accord with the President's address, be held at other places than Albany. On motion, the minority report was rejected and the majority report was adopted.

No Prize Essays.—Dr. Townsend, of Albany, read thereport of the committee, that, as usual, no essay had been received in competition, a fact which was much regretted.

The report of the Committee on Publication was read by Dr. F. C. Curtis, and was adopted.

Delegates from Voluntary Societies, Colleges, and Asylums.—Dr. Burr, of Binghamton, gave notice of an amendment to the by-laws, allowing one delegate from incorporated voluntary medical societies, incorporated medical colleges whose by-laws were in accord with those of the State Society, and each State hospital for the insane, and the New York Academy of Medicine five delegates.

To Incorporate Certain County Medical Societies.—Dr. Beach called attention to the fact that in counties created since 1814 the county medical societies had not been legally incorporated, and he moved that the Committee on Legislation be directed to seek appropriate legislation. The motion was adopted.

Fixed Fees for Attending Coroners' Inquests.—Dr. Maddren said he had offered a resolution two years ago, which was adopted by the Society, looking to legislation fixing the fees of physicians attending coroners' inquests, taking the remuneration out of the hands of Boards of Supervisors, who always cut down the amount, through false economy. As there was to be a hearing on the bill before the Legislature that afternoon, he requested that a committee be appointed to appear in favor of it. His motion was adopted.

Proposed Separation of Business and Scientific Proceedings.—Dr. Albert Vander Veer moved that the Committee on By-laws be requested to consider the question of separating the meetings devoted to business and those devoted to scientific matter, and to report at the next meeting. He thought there should be an earlier report from the Nominating Committee and that the scientific proceedings should not be entrenched upon by the business proceedings, and *vice versa*. Dr. A. F. Currier spoke in the same strain, and suggested there might be a business meeting Monday, the day before the usual time of meeting. Dr. Vander Veer's motion was adopted.

Quarantine Committee Continued.—Dr. A. W. Suiter read the report of the committee which had been appointed to seek national quarantine legislation, which had since been enacted, and he suggested the committee be continued or another be appointed to co-operate with the new Committee on Quarantine of the New York Academy of Medicine to seek the creation of a National Board of Health. The report was adopted and the committee was continued.

Uræmic Hemiplegia.—Dr. R. W. Wilcox read the paper. The existence of this condition had been denied by such authorities as Addison and Bright, Lécorché, Sée, Loséque. On the other hand, cases had been reported since 1880 by Charpentier, Pätsch, Jäckel, Raymond, Chantemesse, Tenneson, Bernard, Lancereaux, Level, Chaufford, Dreyfus, Brisac, Florand and Canniot, Lloyd and Dercum. Dr. Wilcox also reported his own case, in which the patient recovered, but in which the diagnosis was undoubted.

The clinical histories of the reported cases presented great uniformity of symptoms and signs. Careful questioning was important, and the existence of prodromal symptoms should be established clearly, for upon the presence of these symptoms—they were rarely absent—was placed great dependence in diagnosis.

Symptoms: 1. Vertigo, often slight. 2. Gastric symptoms, nausea not relieved by stomach medication, beginning apparently without cause. 3. Cardiac. If hypertrophy of the left ventricle, it should be remembered that this predisposed as well to cerebral hemorrhage. 4. Localized œdema of the face, eyelids, and patches in the lungs.

Signs.—1. The urine was likely to be albuminous before the hemiplegia appeared. If it was only discovered afterward, this symptom lost much of its significance, for it was often found in hemiplegia from hemorrhage or softening. 2. Persistent low specific gravity of urine was important; casts, if found, would do much to aid in forming an opinion. 3. If only hyaline casts were present, the general import of the urinary finding was increased, for in contracted kidney these might be the only casts present. 4. If atheromatous changes were apparent, it might be suspected that the cerebral arteries presented the same changes. 5. If albuminuric retinitis was present, as was rarely found, there was great probability that uræmia was the cause of the hemiplegia.

Conclusions.—1. Uræmic hemiplegia was a distinct form. 2. The peculiarities were its mobility, variability, and complete recovery. 3. The diagnosis rested upon the antecedent history, condition of the urine and temperature curves. 4. The dominating factor in treatment was the uræmia.

Dr. E. D. Fisher referred to two cases, said the diagnosis was very difficult, an important point being uræmic symptoms before the hemiplegia.

Dr. W. W. Seymour thought too much attention was given albumin and not enough to quantitative examination of urea.

The Barber-shop as a Source of Contagion.—Dr. Geo. Thomas Jackson read the paper. (See future issue.)

Dr. F. C. Curtis, of Albany, thought all had probably seen cases now and then where the barber had spread infectious diseases epidermal in character, but seldom others, especially syphilis.

Dr. Van Ranken said that in a Troy institution ringworm of the scalp persisted among the inmates, three hundred children, until they discarded the use of a hair-clipping machine, and Dr. Jackson said there had been a similar experience in an institution with which he was connected.

Glycosuria.—Dr. W. B. Vanderpoel, of New York, in this paper considered mainly the treatment of glycosuria cursorily, observing that, as with albuminuria, so with glycosuria there exists a functional and also a morbid form, the latter called the diabetic, depending on pathological changes in the liver, pancreas, or nervous centres. Two sets of causes are recognized: 1. Predisposing, which includes heredity, race, climate, sex, obesity, environment, and age. 2. Exciting, viz., traumatic, disorders of peripheral nerves or centres, functional or structural, profound mental shock or strain, exposure to cold or moisture, prolonged errors in diet, certain physiological states, certain diseases, drugs, or poisons.

Treatment.—1, Prophylactic; 2, hygienic; 3, dietetic; and 4, medicinal.

1. *Prophylactic treatment* embraces avoidance of all exciting causes, and especially those having inherited tendency or already showing the functional form.

2. *Hygienic treatment* includes regulation of diet, exercise, bathing, dress, etc.

3. In *dietetic treatment* the object sought is to diminish the glucose in the blood, and, if possible, restore the bodily power to assimilate sugar. At first carbohydrates alone augment the glycosuria; later, nitrogenous foods, and even the proteids of the body go to swell the flood. Hence, early, by limiting the carbohydrates good results follow, while later, a mixed diet offers less strain to the renal structures, and in personal cases by its substitution for rigid nitrogenous diet, impending diabetic coma has been averted. Fats are of service early to sup-

ply to the body elements ordinarily derived from carbohydrates and protect the albumin of both food and tissues from being seized to maintain the combustion necessary to the animal functions. Later, the fats may be attacked themselves and increase the glucose supply, but even yet are of some protective value. Ordinary bread, in one-half or one-fourth the customary amount, yields better results than the deceptive diabetic flours in the market used *ad libitum*, as they all contain starch.

4. In *medicinal treatment* opium ranks pre-eminent in its power to lessen glucose formation and also the polyuria. Codeia (gr. ¼ to ½), t.i.d., and later every two to four hours. Bromides control nervous symptoms, but have no direct effect on the glucose formation; sodium and lithium salts are the best borne.

Arsenic used in Giliford's or Clemens's solution, or in combination with lithium carbonate (gr. iij.), and sodium arsenite (gr. $\frac{1}{48}$) in a syphon of Vichy water, and drank in one or two days. Coal-tar derivatives, antipyrin, phenacetin, sulfonal, are all of value, phenacetin most so.

Ergot and ergotine counteract vaso-motor paresis in hepatic circulation. Good results are thus attained.

Alkalies and alkaline waters increase the blood alkalinity, and so enhance the oxidizing powers of the body. Combined with sedatives, as codeia, phenacetin, etc., a maximum effect is attained. The purgative alkaline waters are most effective where sugar formation is excessive; the non-purgative where sugar assimilation is defective. Carlsbad and Vichy are at the head of each class. Jambul is considered directly inhibitory to the glucose production in the intestine, and also acts through the medullary centre. The bowels are loosened, which, if not excessive, is of benefit. Results have varied, possibly due to capricious action, uncertain preparations, or pathological type of the disease.

Pancreatic preparations are of marked benefit in the wasting form of the disease. Pilocarpin in this same class, oxygen inhalations, hydrogen peroxide per orem, etc., are all of benefit. Strychnine, phosphorus, iodoform, transfusion of blood, electricity, benzosal, nitro-glycerine, etc., are among the drugs mentioned.

Personal method is a fairly rigid diet gradually inaugurated, the general condition of the patient being more closely observed than the actual sugar percentage in the urine. Codeia alone, or, alternately with phenacetin, and also the combination of sodium arsenite and lithium carbonate in Vichy water. In hepatic cases Carlsbad Sprudel salts in hot water before breakfast secures bilious stools, and aids our other general measures. For thirst, phosphoric acid lemonade.

The Treatment of Hernia.—Dr. Dallas, of New York, sent a paper supplementary to one which he had read last year on the treatment of hernia. He advocated greater personal attention to these cases on the part of physicians and the employment of suitable instruments, claiming that in so doing results could be secured both surprising and gratifying—the cure of the cases under puberty and of the majority of recent cases in adults.

There were also a number of other papers read by title.

Election of Officers.—The Nominating Committee, being unable to make their report unanimous on the name for president, presented the names of Drs. Geo. Henry Fox, of New York, and Henry Flood, of Elmira, five of the committee having voted for Fox and three for Flood. The Society then balloted for president and Dr. Fox was elected; 59 votes having been cast, 40 for Fox, 19 for Flood.

The remainder of the report was adopted as follows: *Vice-president*, Frank Low, of Pulaski; *Secretary*, F. C. Curtis; *Treasurer*, C. H. Porter; *Committee on Arrangements*, W. J. Nellis, of Albany, Josiah Hasbrouck, of Port Ewen, R. W. Wilcox, of New York; *Committee on By-laws*, H. D. Wey, of Elmira, A. R. Simmons, of Utica, F. C. Curtis, of Albany; *Committee on Hygiene*, Charles E. Bruce, of New York, H. R. Hopkins, of Buffalo, A. N. Bell, of Brooklyn, D. S. Burr, of Binghamton, Lewis Balch, of Albany, E. H. Loughran, of Kingston, O. W. Peck, of Oneonta; *Committee on Legislation*, D. B. St. John Roosa and Daniel Lewis, of New York, and D. V. O'Leary, of Albany; *Committee on Ethics*, John S. Warren. Charles Jewett, Eugene Beach; *Committee on Prize Essays*, Franklin Townsend, Jr., A. W. Suiter, C. Stover; *Committee on Publication*, F. C. Curtis, W. W. Potter F. D. Bailey, C. H. Porter; *For Honorary Membership*, George M. Sternberg, U. S. A., O. E. Herrick, of Grand Rapids, J. S. Stone, of Washington, A. T. Cabot, of Boston, J. H. Packard, of Philadelphia; *Eligible for Honorary Membership*, G. H. Rohe, of Maryland. A number of delegates to various medical societies.

A vote of thanks was extended the President.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, January 22, 1894.

Seneca D. Powell, M.D., President, in the Chair.

To Change the Coroner System.—The Comitia Minora having approved the resolutions passed recently by the Academy of Medicine, recommending a change in the coroner system, on motion the resolutions were endorsed by the County Society.

Resolutions in Accord with the President's Address.—The recommendations contained in the president's inaugural address led the Comitia Minora to recommend the following resolutions for adoption:

The Abuse of Medical Charities.—*Resolved*, That this Society adopt a resolution condemnatory of the practice in vogue at certain hospitals and dispensaries of giving gratuitous medical and surgical service to patients in a position to pay. Adopted.

A Suggestion to the Board of Health.—*Resolved*, That it is the sense of this Society that if the Board of Health is to preserve its usefulness in the community in the highest degree, it should extend to the family physician the same consideration which one member of the profession owes to another. This resolution was laid on the table for future action.

Expert Medical Testimony.—It is recommended that the bar association be requested to appoint a committee of five to meet a like committee from the County Medical Society for the purpose of considering the question of expert medical testimony, and for effecting such legislation as may seem desirable. Adopted.

Legislation Relating to the Practice of Medicine.—It is recommended that all legislation suggested by members of the County Society, relating to the practice of medicine, either as between physicians or between the physician and the community, should be first submitted to this Society and receive its approval before it is transmitted to the State Society or proposed for enactment as a law, and that all such propositions should be referred to the Comitia Minora for careful consideration before any official action be taken. It is further recommended that the by-laws be amended at the next annual meeting in accordance with the above recommendation.

Some doubt was expressed as to whether this resolution would not interfere with the rights of members as individual citizens, and to first bring proposed legislation to the attention of the Academy of Medicine (and presumably other societies with which they might be connected). The resolution was adopted.

The Opium Disease in Children.—Dr. Louis Fischer read the paper. In it he described a number of cases of the opium habit, or, as he preferred to call it, the opium disease, in children, which had been brought on by the administration of this drug in some form for intestinal or other trouble. (See page 197.)

The Unreliable Nurse.—Dr. F. M. Crandall also believed the opium habit in children was far more common than was generally known. He had seen many cases, even in very early infancy, especially in babies under the care of a nurse. The child might be well the

first two weeks or twenty days except perhaps for constipation. Then the monthly nurse leaving it would become very restless and "upset." In one instance the mother, who had had the same nurse at the birth of several of her children, said she dreaded the time when the nurse was to go away because she had such a time with the baby. Dr. Crandall learned that this nurse was in the habit of giving the baby paregoric while it was under her care.

The Prescribing Druggist Reprimanded.—Dr. H. D. Chapin thought it was not only common for druggists to prescribe and sell paregoric to mothers for the ills of their children, but they also wrote on the label how many drops constituted a dose. This was bad practice, for the mother, noticing the quieting effect of the drug, limited its use only by the number of drops said to be a dose. He believed the tendency of physicians was coming to be against the use of opium in the diseases of children. There was less danger at their hands than at the hands of the ignorant mother and nurse.

Another speaker gave warning of the danger in cough drops, and expressed the opinion that more children died of the opium taken in this and other forms than of bronchitis.

Puerperal Sepsis, Its Modern Prophylaxis and Treatment.—Dr. R. W. Murray read a paper on this subject. In spite of the recent advances of midwifery, especially of aseptic midwifery, he was convinced that a large number of physicians had not kept pace with this department of medical art. In the term puerperal sepsis he included those mild forms which led to subinvolution of the uterus and a "poor getting up" after confinement.

Labor was a natural process, physiological, and, if properly managed, should not be followed by fever or septic manifestations. If it was, it indicated that there had been some fault in the technique. In the vast majority of the cases the septic matter was conveyed to the parturient woman through the vagina by means of the examining finger, hands, or instruments.

Puerperal sepsis involved a number of tissues, according to the point or extent of the inoculation, but as all cases had the same cause, sepsis, he would on this occasion only stop to inquire how the septic matter entered and what should be the treatment. He would not deny that now and then the poison entered the system through other channels than the genital tract. The veins, lymphatics, and continuous mucous tracts were the usual channels. Among the phenomena attributed to puerperal sepsis were phlegmasia alba dolens, and thrombosis in the lungs and elsewhere.

Prophylaxis.—Prophylaxis was obtained by preventing the entrance of germs, and this was secured by antisepsis before confinement, antisepsis after confinement, shutting off the genital tract after labor, and securing contraction of the uterus. He used the term antisepsis because it was only through antisepsis that asepsis could be secured. The prophylactic treatment which they advocated and employed at the Maternity and in private practice required little time, was not burdensome nor expensive. The antiseptics which they had employed were corrosive sublimate, carbolic acid, and creolin, the latter being preferred by Dr. Murray because of its freedom from certain objections which pertained to the others. Before confinement the patient's clothes were changed, the external genitals were cleansed, she occupied a bed in a sunny, well-ventilated room, new sheets, a rubber cloth, two yards wide, covered with a slip-sheet. The bowels were moved by enemata, and in this connection the reader expressed the opinion that a good many cases of infection were due to the fact that the bowels had not been moved, fæces were forced down during labor and infected the hands of the accoucheur, and through them the genital passages of the woman. A napkin was placed a little under the sacrum. The nurse was instructed not to make a vaginal examination before the arrival of the physician. The latter washed his hands, cleaned his nails, used a nail brush, immersed the hands in bichloride solution, 1 to 2,000, touched nothing until the vaginal examination had been made, if it was intended to make one. Creolin could be used to lubricate the hands. The antiseptic pad was ready to apply immediately after extraction of the child, and was left on until the placenta came away, when another was applied. Expression was used in placental extraction, the hands were not introduced. If, however, any membranes remained, they should be brought away at once. If the hand had been introduced into the uterus, or if the liquor amnii were foul, or other unusual occurrence had taken place, the intrauterine douche should be employed, the uterus being held meanwhile in a state of contraction with the hand on the abdomen. With this exception, no douche was given during the puerperium. The external parts were bathed with creolin, and a pad was applied over the vulva, the patient was cleansed, clean sheets were placed beneath her, a dose of fluid extract of ergot was given after the labor, especially if there were any tendency to uterine relaxation. In hospital practice the urine was usually drawn with the catheter every eight hours.

In evidence of the superiority of the antiseptic method in midwifery, Dr. Murray quoted the statistics at the Maternity Hospital for periods prior to the antiseptic method and subsequent thereto. The former showed a mortality from septic causes of 4.17 per cent., the first antiseptic period only about a quarter of one per cent., and the last, during which there had been 957 confinements, no deaths from sepsis. In the 957 cases there had been 124 operations; deaths from all causes, 6. This excellent showing had been obtained in the face of the fact that the house staff and nurses were changed about every six weeks.

Inspection should always precede vaginal or intrauterine douche following labor, lest an infected clot or diphtheritic patch be carried up into the uterus. He believed puerperal diphtheria was more common than had been recognized. The source of any fetor should be determined. If from the uterus, it was apt to be from the corners where shreds of placenta were liable to be retained. The uterus being cleansed thoroughly, it was packed with iodoform gauze. If acute general septic peritonitis had already developed, laparotomy would be useless; it was different if the peritonitis were local. A case of rapid fatal septicæmia, death in twenty-four hours, was due to a nurse examining the patient before the physician arrived, the nurse having previously attended a case of diphtheria.

Recommends Laparotomy in Puerperal Septic Peritonitis.—Dr. Egbert H. Grandin thought an aseptic confinement should be followed by a perfectly afebrile state. As soon, therefore, as there was rise of the temperature and acceleration of the pulse, the heart and lungs being excluded as a cause, the physician should seek at once to locate the origin of the trouble. According to his observation the majority of cases of puerperal sepsis originated in the uterine cavity. He was opposed to what seemed to be the routine practice of simply giving a uterine douche or douches in such cases. The proper procedure was to examine the interior of the uterus with the finger before giving the douche, in order to be assured whether the source of sepsis was within that organ. If it was, then the more radical the treatment the better. The douche would not eradicate sepsis beginning and emanating from the uterus. It was necessary to make thorough dilatation, curettement, and efficient drainage.

A second point which he wished to make was that laparotomy should be performed for septic puerperal peritonitis whether it was local or supposed to be general, for, while it would in all probability prove fatal in spite of operation if it were general, we could not be positive in our diagnosis and might find but a local collection of pus on opening the abdomen, where we had expected general distribution. Acting on this principle, he had saved two lives the past three years which would have been lost had no operation been performed.

Dr. H. J. Garrigues said it was just ten years ago that he had read his first paper on the prevention of puerperal infection. Those who listened to it could have been divided into two classes, viz., those who believed puerperal disease hardly existed, and those who admitted its frequency but believed that the better results obtained by Dr. Garrigues's method would be found, as on other occasions, due to some other factor than the method itself. Many took a humorous view of the measures then advocated. Now, however, it had come to be generally admitted that the proper treatment and prophylaxis consisted in antiseptic midwifery. While this had come to be generally adopted in hospitals, we could not say as much for private practice. It was common for physicians to say that the patient could get along without all these precautions. Statistics, however, told a different story. How often did we hear of young women in the walks of society dying in their first child-birth. This meant infection, and infection could be prevented. The doctor should not make a vaginal examination without taking the same precautions that he would if he were going to perform a laparotomy. He should not enter the uterus at all before labor; all that was necessary was to feel the dilating os. He had been surprised to hear that it was the custom in the hospital to draw the urine with the catheter every eight hours after labor. Better let the woman urinate naturally if she could. He agreed with Dr. Grandin regarding cleansing the uterus in sepsis, and in opening the abdomen in septic peritonitis, both general and local, for that supposed to be general might be only local and amenable to treatment by laparotomy.

Dr. Rosenburg did not believe that puerperal sepsis would be eliminated until midwifery was placed altogether in the hands of physicians or educated midwives. An important lesson was taught by the fact that puerperal sepsis was scarcely known in certain localities where a vaginal examination was never made. One should use no antiseptic which would mask fetid lochia.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, December 28, 1893.

H. J. Boldt, M.D., Chairman.

Case of Absent Menses.—Dr. H. W. Mitchell gave a further account of the case of non-menstruation which he had first reported in February, 1892. The subject was an unmarried Irish girl, now aged twenty-six, who came to this country in 1888. There had never been any evidence of normal or vicarious menstruation. The only occurrence of further interest in the case was the fact that, about a year ago, she bled profusely after having a molar pulled by a dentist, but Dr. Mitchell did not regard this as connected in any way with absent menstruation. There had been no other indication of the hemorrhagic diathesis.

Ovarian Ligature Sloughed into Bladder.—Dr. Locke presented a silk ligature which had caused the formation of vesical calculi in a patient on whom an operation had been performed for sloughing ovarian tumor some months previously. After the operation for removal of the tumor, bladder irritation continued, she passed several calculi, and finally the ligature, which evidently had sloughed through the walls of the bladder.

The Chairman remarked that the case supported the position which he had long taken, that silk ligatures should not be used on the pedicle of abdominal tumors. Dr. Outerbridge, he said, had asserted that it was not unusual for them to find their way into the bladder.

Report of Cases of Accouchement Forcé.—Dr. S. Marx read the first paper of the evening, bearing this title (see page 202).

Objections Answered.—Dr. Egbert H. Grandin having been called upon to open the discussion, said he could wish someone else had first spoken, in order that he could, since he was known to be an advocate of accouchement forcé, answer objections which might be raised. The cases cited in the paper showed that the operation was an eminently safe one to the woman and a life-saving one for the child. They were quite in accord with his own experience. Therefore, notwithstanding the objections which had emanated recently from a distinguished source, he was still practising accouchement forcé when the necessity arose, and he expected to continue to practise it until a better method of saving mother and child should be offered.

The objections could be reduced to one, namely, danger of rupturing the uterus. So might version rupture the uterus, yet we were not going to reject version as an obstetric procedure on that account. The same remark applied to the forceps. Between himself and Dr. Marx fourteen or more cases of accouchement forcé could be cited, in which all the mothers and all but two of the children were saved, the latter being non viable; yet by any other method the probabilities were that all the children would have been lost. While it was possible to rupture the uterus, yet there was no necessity for such an accident, for absolutely no brute force was employed in dilatation of the cervix and lower uterine segment with the fingers. The cervix might rupture, but, as the author had said, there was nothing simpler than to repair a lacerated cervix immediately after labor, if the patient were placed upon her back. In the Sims position the procedure was much more difficult. The conditions in which he had resorted to accouchement forcé were placenta prævia and eclampsia, or impending eclampsia. The mortality to mother and child had been *nil*, whereas by methods which he had formerly employed in similar cases the mortality had been about fifty per cent. Obstetrics should in every respect rest on a scientific basis. The time had gone by when the pregnant woman should be allowed to die. If a woman engaged a doctor in time, he should, before her confinement, know her pelvis as well as he knew her face; he ought to recognize placenta prævia, pelvic deformity, and impending eclampsia, and should do the elective operation if an operation were called for at all.

On Neutral Ground.—Dr. Malcolm McLean said he looked upon the operation more favorably than he had ever done before, as it had been made clearer to him in the paper and during the discussion. At the same time he must say that certain statements were not in accord with his own experience. He had understood Dr. Marx to say that in placenta prævia the cervix was boggy. He had not so found it. The preparatory procedure of introducing gauze, which sometimes also effected delivery, was not regarded by him so favorably as hydrostatic dilatation by the improved Barnes bags. He would fear laceration of the cervix, and that the tear might extend even into the vagina. The danger of rupture of the uterus should not be underestimated. The suggestion by Dr. Grandin that version might also cause rupture, led him to remark that, according to his observation, it was trials with the forceps before version was performed which had caused rupture. No man should, under any circumstance, tear the uterus by internal version. If accouchement forcé were to be adopted too readily by the general practitioner we might yet expect to hear of ruptures of the uterus.

Dr. Edgar said his views of accouchement forcé were nearly in accord with those of the author and the first speaker. The experience of the past eighteen months, however, had convinced him that it was a serious operation, especially if performed rapidly, and therefore, when haste was demanded he preferred to combine with it Diihrssen's incisions, as he had done in one case which he related. In another case he combined accouchement forcé with symphyseotomy. Hydrostatic dilatation would have required too long a time.

Dr. R. A. Murray said that accouchement forcé meant rapid dilatation of the cervix, and also more or

less rapid extraction of the child. Whenever there was sufficient time the cervix should not be cut. It could always be dilated without it. If the cervix were anyways rigid, one man alone could not dilate it sufficiently with his fingers, but would have to be relieved by an assistant or by Barnes's bags. There was great danger of sepsis, which was enhanced by calling in assistance. Rapid delivery was also attended by danger of shock.

Dr. Marx closed. Rupture of the uterus was possible if brute force were used, but this was unnecessary. He objected to Barnes's bags because they could not always be obtained; or, if kept, they were likely to be rotten when required. Dr. Murray having referred to the danger of shock, he said that no operator would interfere while the patient was in collapse.

The Radical Cure of Umbilical Hernia.—Dr. George M. Edebohls discussed this subject, making use of illustrations on the board and presenting a patient. Herniæ which occurred in the median line of the abdomen were divided according to their cause into four varieties: Those due to fat, cœliotomy, pregnancy and tumors, and umbilical. He proposed to consider only umbilical herniæ. First, however, he pointed out certain differences between this form and the form which followed operations. The latter were more easily cured, for the reason that the separation of the walls was elliptical and their edges less retracted and attenuated. In umbilical hernia the edge of the opening was composed of thin white fibrous tissue.

In children a bandage or truss might answer, but in adults it was not to be used. It was difficult to fit, and should the hernia come out while it was being worn, injury would follow and there would be greater danger of its becoming irreducible. Every woman with an irreducible hernia was entitled to an operation.

As long as the hernia was permitted to remain it was exposed to injury, to incarceration, to the skin becoming extremely thin and inflamed, to phlegmonous inflammation through repeated attempts at reduction.

Dr. Edebohls then mentioned some reasons why operative procedures had failed, and went on to give the methods of operating which he had tried. The opening being a round one it was necessary to render it elliptical, so that if its diameter had been two inches its length would, after trimming, be as much as six inches. He had tried the flap-splitting method, splitting the thin walls back half an inch anteriorly and posteriorly, so that when they were brought together they presented a broad surface of union; but the trouble was that when the sutures were tightened the very broad walls were narrowed almost to a line. What was wanted was a means of union which would leave the flaps broad when united, and this was what he had been enabled to accomplish by the suture which he had described in his operations for perineorrhaphy. During four years' use in perineorrhaphy it had always secured primary union, and a second operation had never been called for. While it had not given equal success in umbilical hernia, yet it had proven very satisfactory. He first brought the flaps together with catgut and kept the line of union broad by inserting buried silkworm gut sutures, about three to the inch, and these remained after the catgut had become absorbed.

Hysterical Manifestations Due to Alcohol.—Dr. Henry C. Coe read the paper. The etiology of hysteria or hysterical manifestations was not always clear. Yet it could be detected by the observant physician in many cases where it was commonly quite overlooked, and the treatment, in consequence, was entirely misdirected. That tippling was not uncommon among fashionable women was well known, but visible effects of it were seldom shown except in unusual vivacity. It was only after unwonted indulgence that the old hands displayed symptoms which might be mistaken for hysteria. It happened, now and then, however, that young women of nervous type, and unaccustomed to alcohol, were for some reason led to take, for them, an excessive quantity and developed hysterical symptoms for the first time. Several cases had come under his observation, the first related being that of a young woman of high degree of intelligence, who had shown habitual self control, had never manifested hysterical symptoms, yet one morning astonished her family by manifesting much excitement, laughing, crying, throwing off her clothes, and behaving in an extraordinary manner. He learned that she had been out the evening before and had partaken of a moderate amount of intoxicating drink. The second case was similar, a young miss partook of two or three glasses of wine at a dinner, and that evening developed hysterical symptoms, tearing off her gown, and showing considerable excitement. There had been no previous attack and none since. Two instances were also given of hysterical excitement developed in fashionable women who were accustomed to drink, but on this occasion had some hours previously taken more than their accustomed amount. One case was that of a woman who had developed the tippling habit from having been given alcohol by her physician for the relief of pain of menstruation.

Every case of hysteria to which one was called should lead him to inquire as to the patient's drinking habits. It was important to remember, too, that a small amount of alcohol was sufficient to upset the nervous system of a nervous woman who was not accustomed to stimulants. The physician was in a position to exert an influence in the right direction with regard to the tippling habit and the dangers attending it. The best remedy for the hysterical attack in such cases was to secure sleep and cause the excretory organs to act. Dover's powder would quiet the nervous system and stomach, make the patient sleep, and bring on perspiration, so that after again awaking she would be found in her right mind. The physician who prescribed whiskey or brandy for a slight ill was scarcely less culpable than he who gave opium for the same reason.

Dr. R. A. Murray would give an emetic first of tepid water, if that would succeed.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

MEMORIAL OF SIR ANDREW CLARK AT THE COLLEGE OF PHYSICIANS OR THE LONDON HOSPITAL — MEDICO CHIRURGICAL SOCIETY—ALBUMINURIC ULCERATION OF THE BOWELS—INTESTINAL OBSTRUCTION CAUSED BY HYDATID CYSTS—CLINICAL SOCIETY—HYDATID CYST OPENED THROUGH THE CHEST-WALL—MEDICAL SOCIETY OF LONDON—CYSTOSCOPIC EXAMINATION FOR FOREIGN BODIES—FRACTURED PATELLA—HORNY GROWTH ON THE PENIS—LORD COLERIDGE VICTIMIZED BY ANTIVIVISECTORS.

London, January 20, 1894.

That a memorial to Sir Andrew Clark would be projected was certain from the moment of his death. The only question about it was as to the form the memorial should take. Naturally the College of Physicians would like it to be in connection with their corporation, and a portrait or statue would be a fitting ornament to their building. Such a memorial would suit the profession perhaps, but it is hardly likely to commend itself to the public, and even medical men who are not connected with the corporation may think that a portrait or statue might very well be provided by the College itself. The governors of the London Hospital have taken time by the forelook, and held a public meeting at which their President—the Duke of Cambridge—took the chair. A resolution was passed in favor of a memorial in connection with that hospital—the field of Sir Andrew's life-work. It was suggested that a new wing, to be named after the lamented physician would provide much needed isolation wards. A committee was formed and a subscription list opened with a donation of £100 from Mr. Gladstone. It is possible, therefore, the governors of the London Hospital may further enlarge that which is already the largest hospital in the kingdom.

At the last meeting of the Royal Medical and Chirurgical Society, on the 9th inst., Dr Dickinson read a paper on "Albuminuric Ulceration of the Bowels," in continuation of cases he has previously published. In an experience of forty years he has met with twenty-two examples in which ulceration of the bowel was coincident with, and presumably pathologically connected with, renal disease. The ulcers were not confined to any part of the bowel, though they were most frequent in the lower part of the ileum, nor were they especially associated with any of the glandular structures. The most marked character of the ulcers was their association with hemorrhage. Two cases were adduced in which the stomach was ulcerated as well as the bowel, in one the ulceration being associated, as in the bowel, with extravasation of blood. In all the 22 cases the kidneys were diseased; in 14 they were granular; in 2, large white. In 19 of the cases hypertrophy of the heart was noted; in 9, there was retinal hemorrhage or exudation. Thus the albuminuric ulcer presented itself in company with other members of the cardio-vascular series to which it apparently belonged. The lesion mostly presented itself late in the course of the renal disease, and often brought about the fatal issue by means of peritonitis and perforation. The symptoms commonly present were griping, abdominal tenderness, diarrhœa, and vomiting. In a minority of cases no symptoms were to be observed.

Dr. White said the fact that ulceration of the bowel was associated with Bright's disease used to be taught by Sir William Gull and by Dr. Fagge. He had himself been interested in the subject from another point of view, for he had investigated it from the intestine as the starting point. Of twelve patients who suffered from ulcerative colitis, four were found to have granular contracted kidney, while a fifth had suffered from gout. Of the twelve cases, five of them had also ulceration of the small intestine, and of these five two had granular kidney and one gout. Perforation of these ulcers was common, and peritonitis was twice as common as perforation. When fatal, death was usually due to diarrhœa, exhaustion, or peritonitis. He therefore concluded that the albuminuric form of ulceration of the intestine was one form of ulcerative colitis. He had seen in all his cases evidence of colitis extending for some distance round the ulcers, and he therefore regarded the hemorrhage rather as an indication of the severity of the ulceration than as a cause of it. When extensive hemorrhage occurred in other regions extensive ulceration did not follow—as, for instance, in purpura—and the epistaxis of chronic Bright's disease was not usually accompanied by ulceration. In a recent specimen which had been sent him from Trinidad of dochmium duodenale there were multiple hemorrhages caused by the bites of the worm, but this had led to no ulceration. Dr. Mitchell Bruce said that he had met with two cases of very profuse hemorrhage from the bowel occurring in chronic Bright's disease. In neither case had he been able to prove the presence of ulceration, which, he thought, must be rare. Dr. Herringham referred to a specimen in St. Bartholomew's Hospital Museum of ulcers of the stomach, of the size of the end of the little finger, the base of each formed of a clot of blood. The specimen was taken from the body of a man who was said to have died from "cirrhosis of the kidneys." A second and similar specimen by its side had the same renal association. He agreed with Dr. Hale White that the ulcers were post-inflammatory rather than hemorrhagic erosions. In albuminuric retinitis the inflammation occurred first and the hemorrhages later. Dr. Church had not noticed the association of ulceration of the intestine with chronic Bright's disease, although he had frequently observed pigmentary changes in the intestinal tract. Dr. Dickinson, in reply, said that Sir William Gull might have known of the condition, but in the course of many conversations with him on the subject of renal disease he had never mentioned it. In his cases he had found no evidence of enteritis, and the hemorrhages were very deep in the wall of the bowel, and there were hemorrhages elsewhere in the bowel independently of ulceration. The ulceration was constantly associated with retinal changes and hypertrophy of the heart. Ulceration was rare, for it had only been met with in the post-mortem room at St. George's Hospital about twice a year. The pigmentation of the intestine was, he thought, due to hemorrhage of old date.

Mr. J. Hutchinson, Jr., then gave the particulars of a case in which abdominal section was performed for acute intestinal obstruction, due to multiple hydatid cysts, the cysts being removed and recovery resulting. The patient, a gardener, aged fifty three years, was seized with symptoms of acute obstruction three days before the operation. He had ascites at the age of thirty, which was cured by a single tapping. On abdominal section three hydatid cysts were found projecting from the peritoneum of the mesentery and extending in a row from the right of the umbilicus to the recto-vesical pouch, in which lay the largest of the three. They were of cartilaginous hardness and ivory whiteness, the largest being the size of a goose's egg, and apparently impacted in the pelvis. The cysts had walls one-third of an inch in thickness, contained numerous daughter cysts, and were in part calcareous. It was suggested that the attack of ascites, twenty-three years previously, gave the date of their deposit.

The case certainly presented uncommon features. The manner in which the hydatids were implanted in the position is not easy to understand. The great thickness of the walls might be partly due to the duration of the case. Such duration is now and again met with, and one was mentioned at the meeting which was diagnosed thirty-five years ago, and has not increased in size in that time, and was opened eighteen months since, and was found to spring from the under-surface of the liver.

It was suggested that the date of the deposit was that of the ascites, twenty-three years previously, and the long duration of such cysts is well known. One extending over thirty-five years was mentioned at the meeting, and it had not increased in size, but had lately been operated on in consequence of its setting up severe abdominal pain. It was attached to the under-surface of the liver.

It may be interesting to report, in succession to the foregoing case, another which was also related last week, but at a different society—the Clinical—at which Dr. W. J. Tyson gave his history of a case of suppurating hydatid cysts of the liver opened through the chest-walls in a woman, aged thirty-one. In 1888 she had a slight attack of jaundice, and again in January, 1892.

On admission to hospital, February 8th, the liver was found to be enlarged, extending below the ribs for four inches; all other organs healthy; the evening temperature was 101° F. A week after admission signs of pleuritic effusion into right chest developed, and the liver had now reached as far as the pubes; the evening temperature remained high. On February 27th twenty-three ounces of serous fluid were drawn off from the right side; on March 3d the posterior part of the chest was again aspirated, and an ounce of puriform hydatid fluid escaped. March 5th an incision was made into the eighth intercostal space, posteriorly, three inches in length. As soon as the pleural cavity was opened about an ounce of fluid flowed out, and an elastic swelling presented itself, the cyst-wall of which was stitched to the external wound; the cyst was then laid open and thirty ounces of thick pus, full of cysts of all sizes, escaped; the cavity was not washed out; a large India-rubber tube, six inches in length, was put in. External dressings of gauze and wool were then applied. There was no difficulty in putting in the stitches between the wall of the cyst and the skin wound, on account of the wide separation of the adjoining ribs. For three days after the operation about half a pint of pus and "skins" passed, and the cavity was washed out with boracic acid solution through the tube. On March 13th the breathing became audible over the base of the right lung, and the liver dulness had disappeared. The discharge gradually became

less, but the tube, although shortened from time to time, was not finally removed till February, 1893. The case, when first seen, was thought to be one of simple enlargement of liver; but the rapid increase in its size, with the high evening temperature, pointed to a suppurative condition of the organ. The presence of the pleuritic effusion is worth noticing. There was never a sign of the liver contents entering the thoracic cavity after the operation. In such liver abscesses as the one described the opening through the chest-wall, posteriorly, seems to be the proper route to take, as being more direct and better adapted for drainage.

Mr. Wallis suggested that it would have been better at first to have made merely an exploratory puncture with a hypodermic needle, and then, later on, to have excised a rib or two when they could have dealt radically with the hydatid. If the hydatids were still living, the cyst-wall could have been pulled out, or if suppurating, it could have been treated as an ordinary abscess.

Sir Dyce Duckworth objected to the practice of washing out these cysts, and preferred the policy of non-interference provided a sufficient exit were made, a large drainage-tube inserted, and the patient kept in a proper position and surgical cleanliness adhered to. He thought that the majority of hydatid cysts and empyemata did better under this plan than when washed out.

Mr. Hulke noticed that the abscesses which ruptured upward could be divided into two classes, viz., those in which the hydatid burst into the lung first and caused a secondary empyema, and those in which the rupture took place primarily into the pleura. In the first class there was decided risk in washing out, for these cases resembled an empyema communicating with a bronchus. In one case which had been irrigated with iodine, traces of that substance were detected in the expectoration. He believed that the introduction of a small quantity of iodoform emulsion would naturally assist in keeping the cavity sweet.

London, January 27, 1894.

On Monday last (22d inst.) there was a pleasant clinical evening at the Medical Society of London. A piece of rubber tubing was exhibited, eleven inches in length, which Mr. Gould has removed after making out its position with the cystoscope. Similar cases were mentioned in which the cystoscope had located the foreign body; one of these was a bit of a wax taper which, as it floated on the water, was by no means easy to seize with a lithotrite. Two men were shown for whom wiring of the patella had been done. The general opinion was in favor of wiring, but it was remarked that any suture could be used, but when wire was employed, patients might move about before bony union had taken place. Another exhibit was a man with a horn on the penis nearly two inches long, which developed a few months after circumcision. It was suggested that the outgrowth might be due to the accidental implantation of epithelial cells at the operation. This seems likely, as we know that similar growths occur in other conditions admitting such an explanation, *e.g.*, on the fingers where pins and needles may engraft the cells.

There was also a good show at the last meeting of the Pathological Society. Among the specimens was one of diseased vermiform appendix removed by Dr. Fred. J. Smith from the body of a man with no history of previous illness when he was admitted to hospital for acute nephritis. At the autopsy the kidneys were found enlarged, mottled, and adherent to their capsules. The stomach and intestines down to the colon were patched with red, but there was no ulceration. The appendix shown was pale and curved on itself by the contraction of adhesions; in its mesentery was a dark hemorrhagic swelling the size of a seed of nux vomica. It is curious that no symptoms of inflammation of the appendix had occurred, and this suggests that other cases may occur and not be observed, and we know that some recover under medical treatment. There were also specimens of cranial deformity in two infants associated with fusion of the fingers and toes; of pyæmic actinomycosis in man; and of aneurism of the aortic valve from a child of eighteen months who succumbed to capillary bronchitis coming on six weeks after measles.

Further I may mention two specimens of very extensive ulceration of the large intestines in their whole length. The patients—women thirty-two and thirty-six years of age—had suffered from uncontrollable diarrhœa for seven and ten weeks respectively.

Lord Coleridge "has put his foot in it," to use a proverbial expression. He seems to have permitted the antivivisection faddists to prey on his good nature, and, like others who have trusted them, finds too late that he has been taken in. Still the Lord Chief-Justice should have exercised a little judicial caution. Instead of that, having been shown a sentence in a little work on microbes issued by the Christian Knowledge Society, he wrote an intemperate letter, duly communicated to the newspapers, threatening to withdraw from that society unless the publication of the book in question was stopped. The committee, finding that the book merely touched on the question of experiment historically, and did not recommend, or even consider vivisection, declined to condemn it.

His Lordship accordingly withdrew from the society; others at once made up for the loss of the trifle he subscribed, and now it transpires that he has had to acknowledge that he has not read the book, but was only shown an extract.

It seems incredible that all sense of judicial impartiality should desert the Lord Chief-Justice of England when he puts off his wig and gown and leaves the bench. But this vivisection question seems to give rise to a sort of madness, and all who trust the good faith of the faddists seem to injure their reputation in parting with their common sense.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 10, 1894.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	0	0
Scarlet fever	129	16
Cerebro-spinal meningitis	0	0
Measles	594	19
Diphtheria	190	59
Small-pox	23	9
Cholera	0	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0

Serum-therapy of Syphilis.—Bonaduce (*Monatshefte f. Prak. Derm.*, Bd. xvii., No. 3) has conducted a therapeutical study bearing on this subject. Blood was drawn from three children born with all the characteristics of hereditary syphilis. This was allowed to stand for a day on ice, and from it 35 c.c. of serum were obtained, to which 100 c.c. of sterilized water were added. This mixture was heated for ten minutes to 100° C., and was filtered. A patient, thirty two years of age, who had exhibited for eighteen days a characteristic chancre, in the coronary sulcus, and whose inguinal glands were typically enlarged, received injections of this serum in the subcutaneous cellular tissue. These were conducted with all aseptic and antiseptic precaution, and the injection fluid was kept aseptic. There was no inflammatory reaction excited. In all, twelve injections were given in twenty-four days; about ten cubic centimetres were administered at each injection. During this treatment the glandular enlargements subsided and the ulcer grew steadily better, although no local treatment was employed. After thirty-five

days the ulcer was completely healed and the inguinal adenitis was markedly lessened. The treatment was begun November 13, 1892, and at the time of the report (June 23, 1893) the patient was well and on the most minute search showed absolutely no signs of syphilis. It is suggested that blood may be used from the placenta of a syphilitic child, or may be taken from individuals who are at the height of secondary syphilis, but in all cases the serum should be employed with the most minute antiseptic and aseptic precautions. In Italy, Tommasoli has sometime since proposed a method of hæmo-therapeutics in the treatment of syphilis. This consists in the injection of serum derived from the blood of lambs or calves, the practice being based on the theory that since these animals are immune to the disease, their body fluids must contain some immunizing substance. Fournier has obtained some results from injections of the blood serum of the dog and horse, and Pellizzari has expressed the hope that by the injection of the blood serum of syphilitics who are in the transitional period between the secondary and tertiary stages of development all secondary lesions may be prevented in those who are suffering from chancre.—*Medical Review.*

The Methodical Examination of Pregnant Women in Private Practice.—Dr. J. Milton Mabbot says: "The most common utility of the practice recommended, consists in the conversion of podalic or pelvic into cephalic presentations in single pregnancies. The time of election is prior to labor, preferably toward the end of the eighth month, to secure the advantage of the presence of abundant amniotic fluid with unruptured membranes, and the absence of the contractions of parturition. Under these conditions it is not usually difficult to push up the breech and bring down the head by a procedure requiring no anæsthetic, and involving but slight discomfort to the mother, while it improves the prognosis of labor both for herself and for the child. And while infant mortality in breech labors is conceded, *cæteris paribus*, to be much higher than in vertex cases, additional danger to the cervix and perineum being also involved on account of the necessity for rapid delivery of the after-coming head, what right have obstetricians to neglect a means so simple and devoid of danger? Some one may raise the hypothetical objection that the practice recommended might occasionally result in a face or brow presentation, which would be more unfavorable than a breech. So far as I know, no one has yet raised such an objection or met with such a case. Attitudes resulting in face and brow presentations are not generally assumed by the fœtus until shortly before or during the first stage of labor. Such an unfavorable occurrence in breech cases subjected to version should certainly be no more common than among head presentations in general. In the rare cases in which it might be directly produced by version, it would probably be recognizable and remediable; and, furthermore, it is offset by the possibility of recognizing and counteracting conditions favoring spontaneous face and brow presentations which, without the examination, would have gone undiscovered and unremedied. The recognition and correction of breech cases are not the only field of utility of examination during pregnancy. The discovery of an anteverted or retroverted uterus susceptible of replacement, a uterine fibroma or carcinoma, an ovarian cystoma, or an ectopic gestation may reward early investigation. Face and brow cases (as just indicated), occipito-posterior positions of the head, oblique positions and unusual size of the fœtus, deformities of the pelvis, tumors, and other causes of dystocia or of danger, may be unexpectedly encountered. Some of the latter are as remediable, perhaps, at the commencement of labor as earlier. Even in such cases may not a previous examination make us better prepared to render the required assistance? In other cases, when we are called after the advent of labor it is too late, and we can only contemplate what might have been."—*New York Medical Journal.*

A Doctor's Troubles.—"My dear fellow," said my doctor to me, "you have no idea what we have to put up with. If I call to see a patient frequently, I am 'trying to run up a bill;' if I don't, 'it is shameful neglect.' If I manage to get to church, and am called out, I hear afterward, 'Working the Bob Sawyer dodge on Sundays, eh, doctor?' If I am so busy that I cannot go, I am sure to be asked, 'How is it that you doctors are all atheists?' If my wife calls on people, 'it is because she is trying to get patients for me,' but if she doesn't, it is because she is 'too stuck up.' If I cure a patient quickly—get credit, you say? oh, dear, no!—the patient 'wasn't half as bad as the doctor tried to make out; why, he was quite well in a week;' but on the other hand, should the case develop serious complications, 'Ah! the doctor never understood the malady; in fact, he was worse when he had been taking the medicine a week than when we called him in.' If I suggest a consultation, it is only because I don't know what is the matter; if I pooh-pooh the idea as unnecessary, I am 'afraid of showing my ignorance.' I am expected to, so to speak, cast a horoscope on a baby's life, and tell its mother what its ailments will be. If I can't do that, I 'cannot possibly know very much.' I am expected to foresee all the 'ills that flesh is heir to' six months before they come. I once lost a patient whom I had treated for influenza, because I did not foretell an attack of rheumatism which came on three months later. In all cases, if they get worse, the fault lies in the medicine; if they get well, it is 'the goodness of Providence.' If I send in my bill, they say, 'he is in a terrible hurry for his money;' if I don't, it is 'so unbusinesslike.' 'But we get well paid?' do you say. My dear sir, if I received payment for one-half I do, I should die from shock."

Horse-Hair in Minor Surgery.—Dr. C. O. Thompson writes to the *Boston Medical and Surgical Journal*, October 5, 1893, giving his experience with horse-hair in minor surgery. The objection has been made that horse-hair, being cellular in structure, cannot be sterilized. This objection, however, is not well founded, as horse hair is not materially injured by any of the methods used in the sterilization of dressings. Boiling in water is acceded to be one of the most practical methods; and according to experiments all pyogenic bacteria are quickly destroyed, even the spores of these organisms cannot long resist this treatment. It is, therefore, an easy matter, should sutures not be at hand, for one to always readily prepare a practically sterilized suture, by removing a few hairs from the tail of a horse, placing them in boiling water for from three to five minutes, when they will be ready for use. In preparing the hair a bundle of one to four drachms weight is freed from dust as much as possible, and then washed in a strong soap or soda solution. When dry it is transferred to an ordinary pint fruit jar, which is filled with benzine and frequently agitated to remove all fatty material. Finally, it is rinsed in a strong bichloride solution and kept in the same (1 to 1,000). Experiments made with hair thus prepared have shown that it is absolutely sterile. Dr. Thompson describes the different purposes for which he uses horse-hair. They run from a simple cut up to a ruptured perineum. He summarizes its advantages as follows: 1. Easily obtained and inexpensive. 2. Soft, pliable, elastic, and holds a knot well. 3. Aseptic, non-absorbent, and non-irritating. 4. Can be used with a very small needle, and makes no shoulder at the eye. 5. More easily removed than any other suture, without pain or injury to the tissues. 6. Can be used for drainage.

Education not Appreciated.—A young doctor, desiring to make a good impression upon a German farmer, declared he had received a double education: He had studied homœopathy, and was also a graduate of a "regular" medical school. "Oh, dot vas nodding," said the farmer; "I had vonce a calf vot suckd two cows, and he made nodding but a common schteer, after all."

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 45, No. 8.
Whole No. 1216.

NEW YORK, FEBRUARY 24, 1894.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

THE CURE OF CANCER BY OPERATION.[1]

BY B. FARQUHAR CURTIS, M.D.,

ATTENDING SURGEON TO ST. LUKE'S HOSPITAL, AND TO THE NEW YORK CANCER HOSPITAL.

WHAT is to be considered a cure in a case of cancer? We can scarcely talk of a cure so long as there is any danger of recurrence, and it is exceedingly difficult to set a time limit when that danger shall have passed. The great majority of recurrences appear within the first six, or at most twelve, months after operation, but many come in the second year also, and a few in the third. After that date recurrence is not common, and yet quite a number of cases are on record in which a recurrence has taken place even later.

I do not include among the cases of recurrence those in which the disease returns at some other point in the body, at a date too late to make it probable that we have to deal with a metastasis from the original tumor, as in two cases of mammary carcinoma reported by Eder, in which the same disease appeared in the other breast four and seven years, respectively, after removal of the first. But true late recurrences are not uncommon. Plicque has collected thirteen cases of relapse after an interval of three years. Schmidt reports three cases of cancer of the breast relapsing in the fourth year after operation, one in the sixth, and one in the seventh. Fink reports three cases, Hildebrand two, Dietrich three, and Poulsen eight, cases relapsing after three or more years. Partsch reports two cases of cancer of the lip recurring eight and ten years after operation. Fraenkel reported recently a case of a comparatively young woman, thirty-seven years of age, who had been under constant observation for eight years after a high amputation of the cervix uteri for epithelioma, and who finally developed a recurrence in the body of the organ. Then there is the well-known case of laryngectomy done by Hahn, in which the patient remained well for eight years, and finally developed another cancer in the scar. In the rectum late recurrence appears to be especially common, cases having been reported by Volkmann, König, Kelsey, Böckel, Arnd, and Lövinsohn, of recurrence at intervals of from three to eleven years. The tongue also appears to have a bad prognosis in this respect, recurrences after an interval of more than three years being reported from Billroth's and Volkmann's clinics; while Kocher had the misfortune of seeing a return in two of his cases ten and twelve years after operation. The same surgeon saw return of the disease in the scar after laryngectomy, in four cases, three years after the operation, and Billroth and Fischer had similar experiences.

Metastasis has usually been supposed so show itself very soon after the primary operation, if present at that time, but there are some cases on record which go to prove that it may fail to declare itself for some years. One of Poulsen's cases of cancer of the breast died of cancer of the stomach over five years after the operation on the breast, and three others died with signs of some internal recurrence in from three to six years. Schmidt reports a case of death by cancer of the lungs and liver seven years after removal of the breast, and Dietrich one in the uterus four years after a similar operation—in neither case was there any local return. Lövinsohn reports a case of cancer of the rectum which did not return in loco, but the patient died four years later of metastasis in the liver. The last case is perhaps not so very remarkable, for the liver infection might itself have been secondary to disease in the lymphatic glands, and thus not have been very much longer in developing than usual. Some of the other cases can be explained as the growth of entirely independent tumors, and I should certainly so interpret the cases of late appearance of the disease in the other breast, and of pyloric cancer. But there still remain some cases of recurrence in the lungs and liver which appear to be true developments of secondary tumors.

It is, therefore, self-evident that the limit of two years set by the earlier writers is altogether too short to assure a cure, and it may even be questioned whether the limit of three years can be allowed to stand. It is true that the number of cases of malignant disease occurring three years and more after the operation is very small, but it should be remembered that the proper basis of comparison is not the number of operations, but the number of patients who remain alive and free from disease three years and more after the operation, and that number is comparatively small. Thus my lists give me one hundred and eighty patients alive and free from recurrence for three years or more after removal of the mamma for carcinoma (cancer); and they also give me twenty-three cases which relapsed after that period—or thirteen per cent., a comparatively large proportion. Certainly, for the rectum, the tongue, and the larynx, a four years interval of freedom should be required before a case can even relatively be said to be cured. Taking all these facts into consideration, we have taken three years freedom from recurrence before allowing that a case is cured, and for certain organs we have set the limit at four years.

It is, in fact, true that the expression "cure" can hardly be employed in a strict sense. A fair idea of the matter can best be obtained by considering the somewhat parallel case of the chronic infective inflammations. Take, for instance, the now well-understood tuberculosis of bones and joints. If a child has a tubercular arthritis of the knee, a cure may be brought about by immobilization and general treatment, the infective material and the products of surrounding inflammation being partly absorbed and destroyed by the surrounding tissues, partly encapsulated. Even when this has taken place it is uncertain whether the cure is permanent or not, for relapses are common, and they may occur even after half a lifetime. These relapses can be explained by the supposition that the encapsulated infectious material has been awakened to life—perhaps some blow or other injury has burst its capsule, or perhaps the general condition of the system has suffered and the encapsulating tissues have lost their vitality and power of resistance, and so allow the enclosed material to resume its growth. In case of an outbreak of disease in another joint, it is rather simpler to assume a reinfection from without. In either case we need not fall back upon the ancient and worn-out theory of a diathesis or dyscrasia, although we may admit the predisposing influence of certain constitutions. So with cancer, whether we look upon the cell itself, or some special infection or parasite as the local cause of the disease, in every case it is a true infectious agent; and although we have as yet no positive evidence that cancer can remain encapsulated without growth in the tissues for any length of time, yet there are some facts at our dis-

[1] Read before the New York Clinical Society, January 26, 1894

posal to show that the supposition is at least a possible one. We have, in the first place, the occasional but apparently well-authenticated reports of the spontaneous disappearance of apparently malignant growths, and even Virchow admits the possibility of this occurrence. But more important is the every-day fact of the dying out of cancerous infiltration followed by healthy cicatrization of the skin along the edges, as seen in that form of epithelioma known as Jacob's, or rodent, ulcer. If the tissues can overcome the cancerous infection in such cases, it is certainly reasonable to suppose that, under favorable circumstances, they should also encapsulate them. Indeed, to my mind the very fact that we can eradicate and "cure" the insidious and spreading cancerous growth by our operations—which, no matter how broadly planned and thoroughly executed, are very crude methods of dealing with such an insidious foe—makes the analogy with tuberculosis even closer. The thoughtful surgeon can hardly close a wound after an operation for tuberculous disease of bones or joints without feeling certain that, in spite of his best efforts, his operation has been far from ideally complete; for there are probably small foci which he has not been able to recognize and has left behind, while he has undoubtedly inoculated his fresh wound surface at many points with tuberculous material which he has been attempting to remove. Nevertheless, he hopes that he has created an opportunity for recovery, because he knows that the healthy tissues will be able to dispose of or encapsulate the few remaining bacilli. It is, I believe, because of a similar power of resistance of the tissues to the infectious material of cancer, but of course to a hundred-fold less degree than in tuberculosis, that we owe our ability to cure cancer by operation, and the same theory gives some explanation why late recurrence is frequent in cancer as well as in tuberculosis.

To ascertain the results of the treatment of cancer by operation we are dependent upon the statistics offered by the various large clinics, especially the full reports of the German and Swiss surgeons. To collect cases at random from the literature, would expose us to many fallacies. Therefore, I have rejected this method, especially as statistics so collected are apt to be too favorable, the unsuccessful cases usually not being published. I have consequently taken only those cases which are published in series by reliable men, so that I should be reasonably sure of getting all the cases in the experience of the particular surgeon. I have, as far as possible, taken these cases from original reports, not accepting the analyses of other students of the subject, or even of the reporters themselves, without investigation.

In order to combine or to compare the results of different operators, it is necessary to agree upon some standard method of analyzing the cases. To obtain the most reliable percentage of cures by the accepted limit in any set of cases, we should know the total number of operations performed before the limit of the time agreed upon, whether three or four years, and use that total as a basis of reckoning; for it is evident that, if all the cases operated upon up to a certain date are taken, and the number of cases which have remained well for three years reckoned as a percentage of the total number, the result will be unfair, because the unfavorable cases (those with recurrence) count on the debit side, while there are a number of cases free from recurrence, a certain proportion of which will remain well and ultimately count on the credit side; but as they have not passed their crucial period of time, they cannot as yet be so counted.

The next step is to deduct from the total all cases, free from recurrence when last seen, which have died or have been lost sight of before the time limit of three or four years passed. Some authorities deduct also all cases which have died from the operation—a proceeding which is, as Gross says, incorrect; and yet it is hardly fair to include them, for some of these fatal cases would be balanced by the cases lost sight of before the limit expired, and if the mortality were heavy and there were also a large number of cases lost sight of, the result would be very far from the truth. To take an extreme case, suppose that half of the patients should die from the operation and half of those who recovered were lost sight of, while of the remainder one-half were cured, if the percentage were to be reckoned only on those who recovered and were followed, the cures would amount to fifty per cent.; while if it were calculated on the total number, less those lost sight of, it would make less than seventeen per cent. It is evident that the truth lies somewhere between these extremes, for, if the total results of all these cases could be found, and if the results of these unknown cases corresponded, as they probably would, to those of the cases followed, the proportion would be twenty-five per cent. of cures. In other words, when patients are lost sight of, it is as if they had not been operated upon at all, and if there had been less cases operated upon and there would have been fewer deaths consequently, these cases should have deducted on their account a certain part of the fatal cases. The importance of this distinction depends entirely upon the rate of mortality, and when it is low it makes very little difference whether the fatal cases are included in the basis of percentages; and in stating the results of my calculations I will quote both figures.

I shall limit myself in this paper to a consideration of carcinoma (including epithelioma) of the larynx, tongue, rectum, breast, and uterus, as full statistics are not yet on record for other organs.

Larynx.—In the treatment of cancer of the larynx we have one of the battle-grounds between the specialist and the general surgeon. The statistics, so far, are rather against the latter, but they really prove little except that the cases are subjected to radical operation too late, and as has already been the case with the uterus, early diagnosis and prompt operation are likely to improve them at any time.

I have collected cases from the reports of the clinics of Fischer[1] (thirteen cases), Hahn[2] (seventeen cases), Billroth[3] (twenty one cases), Trendelenburg[4] (five), Krönlein[5] (six), Schede[6] (three), and Kocher[7] (ten)—a total of seventy-three cases with twenty-two deaths — almost exactly thirty per cent. In twenty-seven total laryngectomies the mortality was 40.7 per cent., and in thirty-seven partial laryngectomies the mortality was 21.6 per cent. But we must not jump at once to the conclusion that this is a true picture of the relative danger of the two operations, for it is to be remembered that the early operations were chiefly complete, while the partial operations belong to more recent times and benefit by the improved technique. Strangely enough, in Kocher's ten cases he lost only one of six total extirpations, and two out of four partial ones. In any case the mortality is very heavy, and yet it is a mortality which can certainly be reduced, as is shown by Kocher's low mortality in spite of the extensive character of his operations.

Twenty-two cases of total extirpation were followed, of which eight recurred in the first year, fourteen in the second, one in three years, and one (Hahn's famous case) recurred after nine years of health; the rest being free from recurrence—five for a few months, two for two years, and one for four years and more. Of the partial laryngectomies twenty-nine were followed, thirteen recurring in the first year, five in the second, one after three years; while of those free from recurrence it was known that six cases were healthy for a few months, one for one year, two for two years, and one for three years. In each set three cases remained well over two years. Of the complete operations, excluding Hahn's case, we have 13 6 per cent. remaining well over two years, and of the partial operations 10.3 per cent. Both combined make 11.7 per cent. But if we apply the usual three-year limit,

[1] Tietze: Deutsche Zeitschrift für Chirurgie, xxxii., Hft. 5 and 6.
[2] Hahn: Archiv für klinische Chirurgie, xxxvii., 522.
[3] Salzer: Archiv für klinische Chirurgie, xxxix.
[4] Loeb: Dissert., Centralblatt für Chirurgie, 1892, p. 142.
[5] Billeter: Dissert., Therapeutische Monatsschrift, December, 1888, p. 529; and Internat. Centralbl. f. Laryng., Rhin., etc., vi., p. 30.
[6] Schede: Deutsche medicinische Wochenschr., 1889, p. 61.
[7] Lanz: Archiv für klinische Chirurgie, xliv., Hft. 1, p. 1.

we find only three cases cured, even including Hahn's, amounting to 5.8 per cent., the worst result of all operations for cancer, except in the internal organs. But the operation has not as yet had a fair trial, as is evident from the fact that recurrence is so frequent, although it is well known that in this form of cancer the glands are very late in becoming involved. I believe that the ultimate results here should certainly equal those in the tongue, and the mortality ought not to be much higher.

Tongue.—Several important reports upon the result of operations for cancer of the tongue have been published during the last few years. Whitehead [1] furnishes us with statistics of 129 cases, Billroth,[2] 139, Volkmann,[3] 91, Czerny,[4] 28, König,[5] 28, and Kocher,[6] 58—a total of 473 cases, with a mortality of 54, or 11.4 per cent. From those reports which are so particularized as to give the exact kind of operation performed, we find that the entire tongue was removed in 139 cases, with a mortality of 15.8 per cent., and that removal of one-half or less of the tongue was accomplished in 81 cases, without a single death. The removal of the tongue through the mouth, with no preliminary operation except ligature of the linguals, was performed 163 times, with a mortality of 12 8 per cent., and 77 times the organ was removed by Kocher's method, or after resection or division of the lower jaw, with a mortality of fourteen per cent. This slight difference in mortality should be noted, for it is contrary to the generally accepted opinion, that the so-called simpler method of excision with the scissors is a much less dangerous operation than the other methods. Whitehead states the mortality of extirpation of the tongue with simultaneous removal of glands, in his hands, to be seventy-seven per cent. in the small number of cases in which he has tried it; and with such bad results it is not wonderful that he should advocate the simple scissors operation through the mouth; but his results are so much worse than those of other operators, that it is evident that he attempted operation in cases unsuitable for any interference. A fairer estimate of the comparative danger of these operations can be formed from Kocher's cases recently published. From 1872 to 1882 he operated twenty-nine times, with five deaths, and from 1883 to 1888 twenty-nine times, with only one death, showing what practice will do in improving technique, and very likely also what experience can effect by selecting cases. He removed the tongue through the mouth without preliminary operation except ligature of the linguals, in eighteen cases, without a death, but when Kocher selects this method of operating it means that the case is a very favorable one. He operated by his own method in twelve cases, with one death (8.3 per cent.), and by division of the jaw or in cases requiring partial resection of the jaw on account of disease, in twenty-two cases, with four deaths (18.1 per cent.). The last group includes very severe operations in unfavorable cases, for Kocher seldom operates by division of the jaw unless the disease is so extensive as to require partial removal of the bone. These figures give, it seems to me, a true view of the choice of methods and of the results to be expected from each.

Now, as to final results. In our table the final result is known in 186 cases, recurrence taking place in 111 (39 in six months, 26 in the second six months, 16 in the second year, and 30 in three years or more), and of those without recurrence 51 were followed for less than three years, 8 for three years, 16 for four years or more. At the three year limit this gives us ten per cent. of cures, and at the four-year limit 6 6 per cent. If we deduct from the total the fatal cases these figures become 13 and 8.6 per cent., respectively.

There were two recurrences among Kocher's cases at ten and twelve years after the first operation. Among his operations are included many very severe ones, and Sachs, in studying the effect of this upon the final result, finds that in eighteen cases living one year after the operation, it had been severe in seven; of thirteen cases living two years, it was severe in five; in eight living four years, severe in four; and in five living seven years, it was severe in three. Wölffler had claimed that recurrence took place later in those cases in which the operation had been extensive, but Kocher's statistics show that in eight such cases recurrence took place in 5.1 months, while in fourteen cases limited to the tongue itself, recurrence occurred in 8.3 months, which seems more probable, for extensive operations mean extensive disease, difficult to eradicate completely. Yet, from the figures just given, Kocher appears to have been so successful that more than one half of his long-lived cases had been subjected to severe operations. Of all the cases which remained free for one year or more, ten in number, there were severe bone operations in three, and in five glands were removed, while only seven were operated upon through the mouth.

By way of comparison we quote Whitehead's statistics, which are also excellent. He reports seventeen cases surviving less than three years, two for three years, five from four to ten, and one over ten years, making twenty-five cases out of a total of 129 operations, most of the rest not having been followed.

Rectum.—Reports on the results of treatment of rectal cancer lie before me from the clinics of Kocher [1] (35), Cripps [2] (38), Czerny [3] (109), Genzmer [4] (17), König [5] (54), Esmarch [6] (29), Albert [7] (39), v. Bergmann [8] (46), v. Wahl [9] (18), Krönlein [10] (20), and Billroth [11] (15), a total of 420 operations with a mortality of 15.5 per cent. It would be desirable to completely separate the operations done from the perineum from those in which the sacrum was attacked, but I have been unable to do this to my satisfaction, owing to the manner in which the two have been confused in the reports. For a careful study of mortality and results, the operations on the rectum should be classified under a double division, first as to the part of the bowel removed, second as to the mode of attack, whether the entire circumference of the bowel is removed or only a part, and whether excision is made high up without affecting the anus, as in the resection, or whether it removes the entire lower segment, as in amputation: for all of these points affect both the mortality and the later results. But there are not as yet enough cases available for a complete study of this kind.

As to the mode of attack, the decision of the question as to the value of those methods of operation which divide the sacrum is most important. The method advocated by Kocher, of making a posterior incision from the anus to the base of the coccyx and removing this bone, amounts to a prolongation of the ordinary incision, and does not complicate the ordinary perineal operations sufficiently to require separate consideration. But the true sacral methods add an extensive injury to the bone, with all the increased dangers of prolonged operation, sepsis, and hemorrhage, and it also brings within the scope of the operation many cases of extensive disease which could not otherwise be attacked; consequently it is natural to expect a higher death rate and a greater percentage of relapses. Czerny, in reporting his cases, does not distinguish between cases operated upon according to Kocher and Kraske, and this appears to me an error.

[1] Whitehead: Lancet, London, 1891, i., 1032.
[2] Wölffler: Arch. f. kl. Chir., xxvi., 314, and Büdinger, Beiträge z. Chir. (Billroth's Festschrift) Wien, 1892.
[3] Krause: Deuts. med. Wochenschr., 1889, No. 22.
[4] Steiner: Beiträge z. kl. Chir., 1890, vi., 561.
[5] Landau: Dissert., Centralbl. f. Chir., 1885, p. 695.
[6] Sachs: Arch. f. kl. Chir., xlv., p. 774.

[1] Arnd: Deuts. Zeitschr. f. Chir., xxxii., p. 1.
[2] Cripps: British Medical Journal, 1889, ii., 803.
Lövinsohn: Beiträge z. kl. Chir., x., 208.
[4] Voigt: Dissert., Halle, 1885 (quoted by Arnd).
[5] Hildebrand: Deuts. Zeitschr. f. Chir., xxvii.
[6] Caspersohn: Dissert., Kiel, 1887.
[7] Frank: Wiener kl. Wochenschr., 1891, Nos. 43-48.
[8] Schwieder: Dissert., Berlin, 1889 (quoted by Arnd).
[9] von Wahl: quoted by Arnd.
[10] Stierlin: Beiträge z. kl. Chir., v., Hft. 3.
[11] Billroth: Wiener kl. Wochenschr., 1891, No. 34.

In estimating the final results we shall do well to accept the four years limit as the test of a cure. Taking the sacral and perineal operations together, of the 420 cases in my list, 144 were operated upon four years before the report, thirty-three died from the operation, and 13 were lost sight of, leaving 99 to test the question of recurrence; and of these 99 recurrence took place in 71 before the four years elapsed, while 28 remained free from the disease. Calculating on the total number, including the fatal cases but excluding the 13 lost sight of, the percentage of cures is 21.3 per cent. We might add that 4 healthy cases of Krönlein's only lacked from three to six months of the four years at the time of report, consequently they were not included; while 3 of Czerny's cases were attacked again by the disease three, four, and seven years after the first operation, so that they had to be placed on the debit side of account; therefore our estimate is certainly not biased in favor of the operative results.

The majority of these cases were perineal operations, and nearly all of the cures were the result of such operations. But it must not be imagined that for this reason the operations were slight or the cases all favorable. I have especially studied this point in the histories of forty-three cases of cures (estimated by the four-year limit) which were accessible, with the following results: Twenty might be called favorable cases, being tumors low down or with small attachments, but the rest were all serious, while in eight cases the operations were extensive and severe. For instance, in the last category we find twelve to eighteen centimetres of bowel removed in several cases, the vaginal septum infiltrated and removed, the prostate attacked and seminal vesicles partly removed, and finally a large tumor filling the rectum, involving the vagina and compelling the opening of Douglas's pouch, and the use of the curette on masses there which could not be cut away. One case of Esmarch's was a melanotic tumor, which occurred in the inguinal glands later, but after removal there did not recur, the patient remaining well seven years after the first, and five after the second operation.

Breast.—In the last five years reports have come from the clinics of Czerny[1] (104 cases), Gussenbauer[2] (153 cases), Küster[3] (222 cases), v. Bergmann[4] (114 cases), König[5] (152 cases), Lücke[6] (148 cases), Copenhagen,[7] Paulsen reporter (280 cases), and Angerer[8] (40 cases)—amounting to 1,213 cases operated upon for cancer of the breast since 1870. Of these, 71 cases died, a mortality of very nearly six per cent. Of those that recovered the subsequent history has been ascertained in 813 cases, as follows: Two hundred and eight recurred within the first six months, 88 during the second six months, 56 during the second year, besides 35 other cases in which the date of recurrence is unknown; a total of 633 recurrences. The rest remained free from recurrences, eighty-eight for less than three years, 180 for three years or more, including forty-five cases over four years, and three cases over ten years. If we calculate the percentage of cures, accepting the three-year limit as a text, we find that twenty-two per cent. of the cases followed remain well for that length of time. I am at a loss to explain the sudden falling off in the number of cases followed four years and over (45 cases), as compared with those of three years, even bearing in mind the high normal death-rate among persons so advanced in years as these patients usually are (averaging fifty years at least), for there are only twenty-three recurrences after the three year limit. Probably it is due to the fact that the reporters have not made the same effort to keep in sight patients whom they have supposed to have reached the limit of safety, three years being so commonly accepted as that limit.

[1] Schmidt: Deuts. Ztschr. f. Chir., xxvi. 139.
[2] Fink: Zeitschr. f. Heilk., Prag., ix., 453.
[3] Schmid: Beiträge z. kl. Chir., iv., Heft 1, p. 40.
[4] Rotter: München. med. Wochenschr., 1887, No. 49.
[5] Hildebrand: Deuts. Zeitschr. f. Chir., xxv., 337.
[6] Dietrich: Deuts. Zeitschr. f. Chir., xxxiii.
[7] Poulsen: Arch. f. kl. Chir., xlii., p. 592.
[8] Bihler: Dissert., Centralbl. f. Chir., 1890, 869.

We may compare with these results the work of some of our own surgeons, although, as full details have not been published, I have been unable to include them in my tables. Dennis reports the results of 33 cases of amputation of the breast for carcinoma with no deaths, and twenty-five per cent. of cures; and Weir, in a series of 125 cases also with no mortality, states that twenty per cent. of the 60 cases which he was able to follow for three years had no recurrence. Angerer, in 40 cases, had a mortality of zero, and Poulsen gives the Copenhagen mortality as only 5 in 280 cases, less than two per cent.; and these are the lowest rates of the foreign operators.

I have taken, from the original records of such reporters as were accessible to me, the totals of all cases operated upon more than three years before the report—in other words, all those cases which had a chance to remain free from recurrence for that time. The sum of these totals is 826 cases, of which 59 died from the operation and 767 recovered. Of the latter 154 remained well, 529 had local recurrence or metastatic growths, and 82 were lost sight of or died of other causes in less than three years. Deducting the last set of 82 cases, we have a percentage of cures of 22.5 on the basis of the recovered cases only, or including the deaths, a percentage of 20.7 on the total number of cases. In either case the result is better than one patient in five cured.

It would seem unnecessary at this late date to dwell upon the necessity for clearing out the axilla in every case, whether the glands can be felt there or not; but since such authorities as Butlin and Treves still defend the old idea of leaving the axilla untouched unless glands can be felt, I must emphasize again the teaching of Volkmann, Banks, and Gross. Gross found, in those cases subjected to operation in which the site of recurrence is noted, that in 96 cases operated upon without touching the glands, the disease reappeared in the cicatrix or vicinity alone in forty-eight per cent., in the axillary glands alone in twenty per cent., and in both in thirty two per cent., returning therefore in the glands in fifty-two per cent. of the cases. On the other hand, in 313 cases in which the axilla was also cleared the percentage of recurrences was seventy-five locally, twelve in the glands, and thirteen in both, a reduction of the glandular recurrences from fifty-two to twenty-five per cent. Surely one could have no better evidence than that of the influence which clearing the axilla exerts in preventing recurrence. As to recognizing disease of the glands through the skin, Gross states that they may be expected to be diseased even when they cannot be felt, as he found them affected in 14 out of 16 cases in which he could not feel them; while Küster found them affected in 57 out of 65 cases in which he could not feel them.

Uterus.—The results of treatment of carcinoma of the uterus have very greatly improved of late years, and we are now in possession of sufficient material to make a preliminary statement at least of these results. From the clinics of Shauta,[1] Landau,[2] Gusserow,[3] Olshausen,[4] Martin,[5] Leopold,[6] Hofmeier,[7] Boldt,[8] F. Krug,[9] Fritsch,[10] Kaltenbach,[11] Fehling,[12] and Terrier and Hartmann,[13] I find reported 798 cases of vaginal hysterectomy; and from those of Czerny,[14] Schede,[15] and Hochenegg,[16] 53 cases of the sacral extirpation of the uterus for carcinoma.

[1] Schauta: Zeitschr. f. Heilk., Prag., 1891, xii., p. 89.
[2] Landau: Samml. kl. Vorträge, 1889, No. 338; and Berlin. kl. Woch., 1893 563.
[3] Gusserow: Deuts. med. Zeitung, September 8, 1892; and Berlin. kl. Woch., 1891, No. 47.
[4] Olshausen: Trans. 10th Internat. Med. Congress, iii., p. 50, section 8.
[5] Martin: Path. and Therap. Diseases of Women, 2d American edition, pp 309, 370.
[6] Leisse: Arch. f. Gynäkol., xl., 261.
[7] Hofmeier: München. med. Wochenschr., 1892, Nos. 42, 43.
[8] Boldt: American Journal of Obstetrics, 1892, xxvi., No. 4.
[9] Krug: American Journal of Obstetrics, 1891, xxiv. No. 7.
[10] Tannen: Arch. f. Gynäkol., xxxvii., Hft. 3.
[11] Kaltenbach: Berlin. kl. Wochenschr., 1889, Nos. 18, 19.
[12] Rossier: Corresp. bl. f. schweiz. Aerzte, April 1, 1892.
[13] Terrier and Hartmann: Revue de Chir., 1892, 295.
[14] Czerny: Beiträge z. kl. Chir., vii., 774.
[15] Schede: Jahrb Hamburg Staatskr. Anstalten, 1890, ii.
[16] Hochenegg: Wiener kl. Wochenschr., 1892, 357.

The mortality after vaginal hysterectomy is 9.7 per cent., but in the hands of some operators it falls as low as five per cent. Of the cases which recovered, 490 were followed, and 198 of these recurred, while 192 were well but had not yet passed the three-year limit, and 100 had passed that limit in safety; therefore there were 26.4 per cent of cures, or, deducting the fatal cases, 33.4 per cent. of the cases which recovered from the operation and had not been lost sight of, were cured. From the same sources I have been able to classify separately a list of all the cases operated upon by certain of the operators (Fritsch, Fehling, Terrier and Hartmann, Schauta, and Leopold) previous to the three years preceding the report, thus excluding all cases which had not had the opportunity to reach this limit; making a total of 156 cases, 15 deaths, 20 lost sight of, 60 recurrences, and 61 cures. This gives a proportion of cures equal to 44.8 per cent. of the cases followed, or 50.4 per cent. of the cases which recovered. This list includes the much criticised results of Leopold, but it also includes the rather unfavorable cases of Terrier and Hartmann, and even if we omit Leopold's cases, the figures still remain 35.8 per cent. of cures, or deducting the fatal cases, 41.3 per cent. The result, therefore, of vaginal hysterectomy for cancer can be said to be unusually good, certainly better than those of operations upon the breast.

The sacral method in extirpation of the uterus has been demonstrated to be feasible, and the mortality has fallen, so that Czerny lost only one in eight cases—although, to be sure, Schede, operating apparently in more desperate cases, lost 8 cases out of 28. I have found only 2 cases of cure in the 53 on my list. The utility of the method is doubtful, for as a rule, when the infiltration has extended so far as to contra-indicate vaginal extirpation, even the sacral method of attack will not completely eradicate the disease. Those unusual cases in which the infiltration extends backward, and not into the broad ligaments, are the only ones in which the method can claim any natural rights.

Abdominal hysterectomy for cancer, although much more often done than formerly, and with a constantly decreasing death-rate, has not as yet enough cases to its credit to enable one to speak authoritatively as to its merits.

The only operation which competes seriously with vaginal hysterectomy is supra-vaginal amputation of the cervix. Winter,[1] including Schroeder's cases already published, found in 155 cases a mortality of 10, but in the last 64 cases there was not a single death. Excluding 4 cases operated upon within three years, we find 151 cases with 10 deaths, 80 recurrences (13 which had passed in safety the third year after operation), and 46 free from recurrences for three years or more. Omitting the cases lost sight of before the three-year limit, the cures amount to 32.4 per cent., or 34.8 per cent. of the recoveries. This is not quite so good a result as that just given for vaginal hysterectomy, even when Leopold's favorable showing is omitted.

Byrnes[2] has recently claimed to have done 359 high amputations of the cervix with the cautery within twenty years, and to have had only 2 deaths; while 138 cases remained well for three years or more out of 201 who were followed for that length of time. This would give a proportion of 68.6 per cent. cures, a truly unheard of result. Unfortunately he does not seem to have verified his diagnosis by microscopic examination, so that it is not impossible that these brilliant results may prove somewhat overdrawn. It is impossible to conceive how hot steel can be more effective than cold steel in giving a greater freedom from recurrence. Certainly there is not so much tissue removed or destroyed in his operation as in a properly performed vaginal hysterectomy.

Operations for Recurrence.—After the facts we have been obliged to record of late return of the disease, either *in loco* or as metastasis, and of repeated returns after operations, it is necessary to throw a little more emphasis on the cheerful side of the picture by noting the comparatively large number of cases in which a cure has been established after a second or even several secondary operations. Plicque has put on record ninety seven such cases collected from various sources, but unfortunately I have been unable to obtain his thesis for study. But Poulsen records three cases in which two or more recurrences of mammary carcinoma were removed in the first year or eighteen months, and yet the patients remained well eight and nine and a half years after the last operation. He also mentions two cases in which recurrences appearing three and five and a half years after the first operation were successfully removed and the patients continued well respectively two and three and a half years later. Gouley relates two cases of very late recurrence of carcinoma of the breast (twenty and twenty-five years after the first operation) which remained well five years after the last operation, and a similar case of sarcoma. Parker records a case of amputation of the thigh for sarcoma recurring after amputation of the knee, in which the patient was well seven years after the second operation. Michael saw an epithelioma of the skin of the thigh recur twice, and finally remain well nine years after the last operation. Similar cases in the rectum are on record by Turner, Volkmann, and Arnd. I have met with a personal experience which is very interesting in this respect. In January, 1890, I removed a slow-growing epithelioma from the floor of the mouth in a man forty-nine years of age, removing at the time all the mucous membrane of the lower surface of the tongue and all the tissues between the mouth and the skin under the jaw, leaving the tongue above and the skin below. The bone was not affected at the time, but before he left the hospital a small growth had to be curetted from its inner surface. In December of the same year he returned with the lower jaw involved, and with a mass as large as a hen's egg over the great vessels of the neck, on the same side. I found a large gland adherent to the internal jugular vein, and excised with it over an inch of that vessel, otherwise the mass was not adherent; and two weeks later, when the wound had healed, I removed the right half of the body of the lower jaw with the diseased tissues attached. He made a good recovery, and now, three years after the last operation, still remains perfectly well. Perhaps it would be well to record here a case in which I removed the left breast and cleared the axilla in a woman thirty-seven years of age, at St. Luke's Hospital, in October, 1889, for carcinoma. In October, 1890, she returned with a nodule in the scar, and finding the latter very adherent and suspicious, I removed the entire pectoral muscle with it on that side. In December, 1892, she returned with extensive disease of the right breast, requiring its removal together with the pectoralis major of that side. It may be well to note in passing that the deformity in this case, after removal of both pectoralis major, was by no means striking, and the loss of function very slight. It is rather early to record this case, but she has, at all events, had four years of freedom from return of the disease upon the left side.

Summary.—To recapitulate, we find a proportion of cures in the larynx of 5.8 per cent., in the tongue (four-year limit), 6.6 per cent., in the rectum (four-year limit), 21.3 per cent., in the breast, 20.7 per cent., and in the uterus, 35.8 to 44.8 per cent.

Such are the results of the operative treatment of cancer. In spite of the general and great improvement over those of former times, it must be acknowledged at the outset that even free removal is no sovereign remedy for the disease. It may be said with truth that, if the disease is attacked in time it can be cured by a radical operation, but that single limitation prevents the universal success of operative treatment; for there must always remain the internal cancers that do not give symptoms until they are too far advanced to be completely eradicated, and also a large proportion of external tumors that, owing to the carelessness or ignorance of their vic-

[1] Winter: Archiv f. Gynäkol., xl., Hft 2.
[2] Byrnes: Trans. American Gynecol. Soc., 1892, xvii., 3.

tims, are not observed until it is too late for successful operation. As Winter puts it, supposing that one case in four of uterine cancer can be cured by operation, and only one case out of four which come to the surgeon is suitable for operation, we can save only one woman in sixteen of those attacked by the disease. We must, therefore, still desire a remedy which can cure the disease in any stage and in any situation, without damage to the surrounding parts, in some such way as mercury and potassium iodide act upon the lesions of syphilis; and there appears to be some ground for hoping for an advance in this direction since the experiments of Fehleisen, Sprouck, and Coley[1] have shown that, at least in some cases, it is possible to check the progress and even cause the absorption of malignant tumors by inoculation with the germs of erysipelas, or by hypodermatic injection of the sterilized products of cultures of that germ.

In the meantime let us hold the advantage we have gained and try to improve it, as can undoubtedly be done. The first step toward the improvement of these results must come through the family physician—the general practitioner. Not until he is fully convinced that operation will cure the disease if attacked in the early stages, and not until he is able to make an early diagnosis, can we secure the full value of this method of treatment. On him depends the entire question. Winter[2] interrogated fifty-six patients with uterine cancer applying at the Frauenklinik, in Berlin, and found that forty-seven of them had first had advice upon their symptoms, which were often vague enough at the beginning, from their family physicians, and yet only one-third of the number reached the clinic in time for useful operations. The reason was evident on closer questioning, for in only one half of the cases had the attending physician made an immediate examination of the parts, and in one-third of them no examination whatever had been made. It is not surprising that of this last set of fifteen cases, only three were found suitable for an attempt at operative treatment.

The same holds true of the breast. In a very considerable proportion of cases seen by me the patients have told me that their physicians examined the tumor in the breast, and declared that it was of no importance, that it would pass away, or would not grow larger, or even advanced that everlasting false explanation "it is the change of life." Now, it appears improbable that all of these physicians are so ignorant or so negligent as not to consider the possibility of cancer, and I believe that the chief reason for delay and neglect in such cases is the lack of faith in operative treatment, which will not only prevent the physician from urging early operation, but will act indirectly and lead him to neglect the proper study of a disease which he considers incurable, or at least to slight the examination and diagnosis of the cases in which he suspects it.

That this state of affairs is improving has also been shown by Winter, who states that, whereas in 1883 only nineteen per cent. of the cases of uterine cancer were considered to have enough chance of cure to make an operation worth while, in 1891, thirty seven per cent. of the cases were operated upon, and solely because the patients came at an earlier period of the disease. But it requires much further improvement before really good results can be obtained. The delay on the part of the physician occurs most often in waiting to have his diagnosis made certain, waiting for evidence of growth in the tumor, or for glands to enlarge, before he has the courage to suggest operation. As a matter of fact his attitude should be the reverse, and whenever he is not absolutely certain that a tumor is innocent, he should recommend operation, or at least seek the advice of those experienced in such diseases. Now that we are able to so easily remove small portions of a growth, and have an authoritative opinion upon its structure, a positive diagnosis can usually be made comparatively early, and the physician should remember that the very symptoms which he waits for in order to make a diagnosis, are usually such as indicate that the disease has already passed the favorable time for treatment—involved glands do not indeed contra indicate operation, but they show that it has probably gone so far as to greatly diminish the chances of cure.

The ignorance and cowardice of the laity will, of course, always limit our efforts to obtain more favorable conditions for really curative operations, but improvement in this respect is also largely in the hands of the profession, whose power and duty it is to educate the public, to show them the importance of having competent advice and prompt treatment for all swellings, tumors, warts, ulcers. and slow healing wounds, no matter how painless or trifling they may appear.

[1] Article "Sarcoma" in supplementary volume, Buck's Reference Handbook of the Medical Sciences.

[2] Winter. Berlin, kl. Wochenschr., 1891, No. 3.

SHOULD THERAPEUTIC FASTING BE TERMED STARVING?—ITS EMPLOYMENT IN TYPHOID FEVER AND OTHER DISEASES.

By CHARLES E. PAGE, M.D.,

BOSTON, MASS.

THERE is a tendency among medical men to fall into ruts—the employment, for example, of a selected few of the all too many drugs at our disposal; the use of the milk diet for all diseases, or the "hash" and hot-water regimen (so efficient in appropriate cases), etc.—a tendency which is well illustrated by the story of the specialist who gave all his patients something to throw them into fits because, he said, he was "death on fits!" I have always regarded this story as probably apocryphal, until within a few months having read of a series of experiments (*The Post-Graduate* for August, 1893) in the "Treatment of Inoperable Sarcoma by the Toxic Products of Erysipelas," I think the "fits" story may be gospel, pure and simple.

One physician will bowl along for a time with quinine, antipyrine, morphine, and two or three other drugs, and pat himself on the back for his success, if he has chanced to have a run on a class of patients who were too tough to kill; but by and by he happens upon a succession of tenderlings, signs a lot of death-certificates at short intervals, when he begins to take a lively interest in the advertisements of the newer "specifics."

It is this condition of affairs, chiefly the fault of the medical schools, as it seems to me, that has cast the deepest shadow upon the bath-treatment (Brand), its advocates being regarded as faddists by the great body of strictly medical men. Only the rare few, the thoughtful students of methods, understand the true nature of this remedy. Only these can comprehend why it is any less queer to invariably employ the bath in fever than to use an antipyretic drug as constantly, viz., because the bath strengthens, while the drug weakens, the patient's vitality; the one helping, the other hindering, the living organism in its efforts at elimination or vital house-cleaning.

No class of men are better able to appreciate the hindrances to the adoption of any radical innovation in medical practice than the present stanch advocates of the Brand bath in typhoid fever, and I trust that these, at least, will grant sympathetic attention to the writer's earnest advocacy of even so radical a prescription as that of the fasting cure for fevers, and other appropriate cases, to be as rigidly enforced as the bath itself, to say the least. The fasting cure, no less than the bath method, outranks in the matter of age all the drugs at present employed in the treatment of disease. and I feel sure that the two will survive them all.

Moderate feeding does not answer the full purpose. though of course less harmful than constant slopping. The fever patient's comfort is promoted in every instance by absolute fasting during the first few days, fresh water meeting best every craving of the stomach, and hourly half-teacupfuls of hot water supplying every require-

ment of the circulation, and if this plan be pursued faithfully but few baths will be needed; whereas, on the stuffing plan, the inevitable indigestion promotes the disease and renders necessary a great many baths. Indeed, after an experience in private practice of many scores of fasts, from two days' to two weeks' duration, I have come to feel almost complete relief from anxiety as to the outcome (in all these acute sicknesses which we all recognize as critical, yet possibly curable) as soon as my patient stops eating. I do not mean by this the mere skipping of a meal or two when nausea or lack of appetite causes the patient to dread the ingestion of food, although even this is a relief to the system, but I mean the total discontinuance of feeding until the purpose in view has been accomplished, viz., the practical abortion of the disease. This may mean a rest of the stomach for thirty six hours, or possibly several times as long, according to the early or tardy beginning of the fast, or the malignancy of the original disease.

The conclusions of Dr. Anton Gluzinski, of Cracow, after extended experimentation, seem to me worthy of very careful consideration in this connection. He says: "1. During the whole course of the fever (except in the convalescent stage of typhoid fever) the gastric juice contains no hydrochloric acid. 2. The gastric juice digests neither in the organism—since it contains no peptones—nor outside the organism. 3. With the disappearance of the fever, or somewhat later, the gastric juice becomes capable of digestion, both within and outside the organism."

This, as I contend, is the first moment in acute febrile disease where anything but harm can result from feeding. This opinion is based, not simply upon theoretical grounds—though it would indeed seem a most natural conclusion that undigested and unassimilated, and therefore fermenting, food must constitute a poisonous nuisance; but upon the results of the careful study of many victims of the feeding plan, as well as, in my own practice, my experience with a large number of persons who live to thank me for what antagonistic onlookers choose to term my "starvation" treatment.

It is my firm conviction that every case of perforation of the bowels, and, indeed, every long drawn-out sickness in typhoid fever, is a protest against the usual method of feeding and drugging; while every recovery serves only to illustrate the marvellous powers of the living organism to contend with disease-producing influences—a triumph of nature over bad living-habits and mistaken medical treatment. My own invariable practice is to withhold food until my patient is convalescent and unmistakably hungry, the test of hunger being a piece of stale Graham bread "dry on the tongue." At the right time this is delicious to the patient, and as useful as agreeable. Then, from day to day, careful increase, keeping rather hungry till all anxiety is past.

Under this plan we know practically nothing about relapses or any serious set-backs. Once on the mend progress toward restoration is sure and steady. For a time this "diet" of fresh air, soft water—nothing is more essential than that the water be soft—and the waste and effete matters of the body, "agrees" with the patient absolutely, and any sort of bathing demanded may be given at any moment without the least fear of provoking an attack of indigestion. In health we all eat too much, and one of the brightest physicians the world has ever known once remarked that if everybody knew enough to stop eating when they began to feel ill, one-half of all the doctors would be driven out of business.

In the matter of citing cases from my own record-books, as to the value of fasting in sickness, I am embarrassed with the wealth of such literature, and I hardly know where to begin. My own family furnishes a complete refutation of the charge that "doctors never take their own medicine," for this remedy is the one specific upon which we all chiefly rely. It is always exhibited so early in the case that it is commonly a question of a meal or two skipped; but in a very severe attack of "summer diarrhœa" that struck my little two year old son last August, the patient took nothing but water for about sixty hours. In a previous attack he got out of it very nicely with a thirty-six hours' rest from feeding. His little sister, during her three and a half years in a world where she has had "enough to eat," has had several fasts of twenty-four to forty-eight hours, and in none of them has the remedy disappointed me.

No simple diarrhœa can withstand the effects of a thirty-six hours' fast, while even moderate feeding, the patient being hungry or not, may provoke a constant flux for many days and produce, finally, an alarming, even fatal, disorder.

It should be remarked that the bowels closed by fasting will usually remain closed for some time after feeding is resumed, and no purge nor other means should be used; for there is a normal "constipation" after purging, whether the latter has resulted from food or physic. In a recent case of typhoid fever my patient had a perfectly natural movement on the fourteenth day, the first ten of which were fast days.

In the case of one young man, now enjoying perfect health, in three sicknesses during his boyhood—one of scarlet fever and two of rheumatic fever—there were fasts of eight to ten days in each case, and the entire treatment (including, of course, appropriate water-treatment) was entirely satisfactory to the lad and his parents, as well as to the doctor himself, except in so far as concerns the imminent danger of this young man's being henceforth practically his own physician, a state of affairs that might seem appalling to any young practitioner engaged in building up a strictly local practice!

Neither of the two "runs" of rheumatic fever above referred to were attended by serious pain such as always attends such attacks under the prevailing treatment. Fasting, hot-water drinking, and moderate cooling of the affected joints brought him shortly to a state in which he hardly lost any sleep.

A cousin of the above, a lad, aged nineteen, was attacked in April of the year 1893 with jaundice of the worst type, and enjoyed a fast of eight days, the first two being self-imposed (before I was called), from his familiarity with his cousin's experience in scavenging on his own body in sickness. Result, rapid recovery with no sequelæ.

The aged grandmother of these lads was attacked with a critical sickness—excessive vomiting, excruciating pain in stomach and liver. The fast in her case was of ten days' duration, and although her extreme age (seventy-four), her general ill-condition—very feeble, very stout (near two hundred pounds, at about five feet in height)—and the severity of the attack, would to most medical men of experience, I feel sure, have made the prognosis extremely dubious at the start, she was shortly convalescent and went on to complete recovery without a break, reaching finally a higher condition of health than she had previously enjoyed. There is not a trace of doubt in my mind but that any kind of feeding during the first few days of that illness would have been fatal to her chances of recovery. Even the employment of so-called nutritive enemata would have endangered her life, in my opinion.

In this case, as in every other case of fasting, the patient, while of course being allowed fresh water as desired, was required to take every hour or half-hour (according to complexion of the urine) a small half-teacupful of hot water (with placebo) throughout the daytime, when awake. It is essential that the fluidity of the blood be maintained, and there is only one substance that can accomplish this, viz., soft water.

The writer strongly desires to impress upon the minds of his readers the fact that, with the element of fear removed, death by starvation, with sick or well persons, is a very slow process, and that, therefore, no shade of anxiety need be felt by the physician in ordering any reasonable rest for the stomach. Not only have I personally superintended many scores of fasts for curative

purposes, with never an "accident," but I am in correspondence with several thoroughly trustworthy physicians who hold the same views from personal experience, and I have taken great pains to verify the truth as to quite a large number of reported fasts, accounts of which have from time to time appeared in the newspapers, of professional fasters, cranks, insane persons, and sick persons who had become tired of living in pain and have ended their own lives, or tried to, by voluntary starvation.

The fasts of Tanner (forty days), John Griscomb (forty five days, in Chicago), Succi, the Italian (forty-five days), and others of this class are well known to all the world, though the real value and significance of these tests seem to be comprehended by few even in the profession. These were robust men who had the courage of their knowledge, and I shall never forget the glow of satisfaction with which I read the Paris cablegram of the lamented J. Marion Sims to Dr. Tanner, at the time of the celebrated New York fast, the concluding sentences being as follows:

"Your experiment watched here with great interest by scientists, ridiculed only by fools. Hot weather is against you. Courage, brave fellow, hold on. Wish you success.—J. Marion Sims."

I will mention the case of one poor bedridden woman, already considerably wasted by disease and forced feeding, who in her despondency wished to die, and only succeeded after fifty-five days of abstinence from all food save water.

In 1882 I reported for the *Boston Journal of Chemistry* the case of an Irishman, aged seventy, who had been declining with consumption for three years, coughing, raising a great deal, often choking with phlegm, in spite of no appetite compelled to eat because no one interested in the case was wise enough to give his stomach a bit of rest, until finally he got angry with his disease, his nurse, and the doctor, and swore that he would never swallow another mouthful till he got hungry and could take food without hurting him. He fasted absolutely for forty-three days, when, his cough having ceased and his appetite restored, he expressed a desire for food. He began eating moderately of Graham bread and fruit. He soon began to gain a little in strength, and within four months was up about the house and grounds, shovelling snow, lugging in coal, visiting his neighbors, and I received a copy of the local paper containing an editorial notice of "Terence Connolly's remarkable cure of consumption from fasting." I corresponded with Mr. Connolly's brother in-law for several months from the expiration of the fast, advising as to the diet during convalescence, and until his health was fully restored, and his weight, which during the three years had fallen from about two hundred pounds to near one hundred pounds, and during the fast some twenty-five pounds more, brought to about one hundred and fifty pounds.

As for minor cases of fasting I will only remark that I am constantly directing stomach rests of a day or two for even the leanest persons when nausea, or lack of appetite, or other indications, point to the need of it. I will mention a few cases of very stout persons who have found great help from short fasts.

Mrs. R——, aged seventy-one, height five feet three inches, weight two hundred and four pounds, came to my office in a state threatening pneumonia. I directed her to return at once to her home, take a small half teacupful of hot water (in which was to be put my favorite placebo) every hour, fasting, during the balance of the day and the day following, till she should again, if able, present herself at my office, which she did in just twenty-four hours. She could now breathe with entire ease, and was delighted with the change, naturally. She weighed on my scales four pounds less than on the previous day. I placed a heavy cold compress over her chest on the first day named, directing her to freshen it on arriving home, and every few minutes during the balance of the day, in bed, or until fully relieved from the terrible pressure at the lungs. She had something like an hour of this active in-and-in cooling (compress wrung tightly from ice-water every two or three minutes), obtained satisfactory relief, and rested well that night. Next day, as stated, she called again, having walked over a mile with greater ease, she declared, than the single block from the street-car the day before.

A popular young physician consulted me for advice as to reducing his excessive weight. On one of his visits he was in a very serious bilious state, and for this I urged him to fast for thirty-six hours at least, with free hot water drinking (according to special directions), and I remarked quite seriously that if he made it a full week he would be the greater gainer thereby, little thinking that he would go the full limit. This was on July 7, 1890. On the 15th he again presented himself, remarking that he had just taken a light breakfast, the first morsel of food during the eight days. He now weighed three hundred and thirty-five pounds against the last weighing of three hundred and forty-nine and one-half pounds, a reduction of fourteen and one-half pounds, and he assured me that after the first two days he felt no inconvenience from abstinence, and that in no week for years had he attended to his very exacting practice so easily and with so nimble a step as during the week just passed. He was wonderfully improved in appearance, and was highly pleased with his improved condition.

Was this man starved during his week on a water-diet? Was he not fed, and better fed, than if anything had been added to the water, air, and foul matters, which constituted his evidently ample regimen?

Mrs. B——, aged forty, weight, July 24th, two hundred and twenty-one pounds, including a regain of five pounds from "visiting" friends and non-attention to diet. She felt, as she expressed it, "all bloated up," the garments recently taken in were again too tight. She was sent home with my "favorite prescription," to be taken for at least thirty six hours. Four days later, at about the same hour, she again stepped on my scales, having fasted the entire ninety-six hours, "because," she said, she "was feeling so much better," and her weight proved to be just ten pounds less than before. She had walked with ease nearly five miles to my office, and said she "felt like a new woman."

The physician who practises this method of "feeding" in appropriate cases will do well to be on his guard against surreptitious feeding, to which there is a strong tendency with most patients, encouraged by friends and attendants (victims, all, of false views, for which physicians must themselves be held responsible). The patient is not hungry, but there is a "gone" feeling, she gets impatient, "so long since I've had anything in my stomach," "so empty," etc. She is doing finely; only comfortably sick; temperature keeping down satisfactorily; strength increasing every day; but that does not suffice. She insists upon having a little gruel or some other slop, or perhaps takes a little "tea and toast" on the quiet. The physician, knowing that his patient, who has been mending every day, should be a little better this morning, finds her in fact restless, perhaps in pain, the temperature 102° F or more, instead of 100° or 101° F., as on the previous day, and he learns that she has been vomiting during the night! In fact, she has just the sort of set back, more or less serious, that is the common lot of all fed patients in similar cases, because she has violated orders and has been fed.

Sometimes, by no means always, the patient gets the needed lesson from the first punishment for disobedience, confesses, sticks to the regimen, and has no more "relapses." But, whether by the doctor's direction or the patient's own fault, every "cold" (a stupid misnomer, by the way), or simple fever, is likely to "run into typhoid," on the common plan of feeding, appetite or no appetite, regardless of the question of digestion and assimilation.

To the writer's mind the most pathetic thing, next to that of a deserving person's starving to death for want of food, possible to imagine, is for such a person to be

stuffed to death. Indeed the latter is by far the most painful method of the two, as it is the more frequent in every civilized community. It is both the kindest and the cruelest phase of "kicking a fellow when he's down." The motive makes it kind, while the results are so painful that the most inhuman person might well be content to witness the death-struggle, long drawn out, of an enemy dying from constant feeding. The most incorrigible hater of the Union cause during our civil war might well, if he could have comprehended the matter in all its bearings, have wished for Lincoln the prolonged and horrible death of Garfield, concerning whose taking off one of the most useful physicians in all England, as well as one of the noblest of men, the late Professor John Kirk, of Edinburgh, said at the time: "The most flagrant illustration of the abandonment of common sense and the following of absurdity is now being given in the case of the President of the United States of America. His feeding is perfectly monstrous, and shows that at least in high quarters ignorance and noise have all but supreme sway for the time. As it was in the case of Lord Beaconsfield, it is in this case—How much can he be got to swallow? It does not seem to be imagined that digestion, and, still more, assimilation, are more important than swallowing! But surely men need not be fools? They are not shut up by fate so that they shall think only transparent nonsense. Only just let in a very little of the most humble light, and surely you will see that assimilation—that is, the changing of food into healthy flesh and bone and nerve—is more essential to cure than swallowing the least adaptable substances without regard to such assimilation.

It does not require the wisdom of a sage to see that feeding, on the one hand, so as to load the system with inassimilable substances, and draining off pus, on the other hand, is the sure way to finish a patient's career."

Herein, I believe, is the true explanation of the old disease, under the new name, "blood poisoning," toxæmia—the sepsis—of which the freshest medical student now speaks as flippantly as though it furnished the solution of many riddles, if not the one most important of all, in this connection, viz., that of the sepsis itself! Sepsis is defined as "putridity or putrefaction, decomposition, rot."

Fermenting food putrefying in the stomach and bowels—decomposing, rotting—with all the vile products thereof—what student, blessed with a reflective mind, requires more than the simple presentation of this matter in this connection to settle for him the question of blood-poisoning, to the exclusion of the theory of "germs," or the reabsorption of foul matters that are working their way to the outside world.

In conclusion, I will relate an incident that came under my observation a few years since, one of many similar cases that are constantly occurring, the case of a lad of thirteen, sick with typhoid fever, who, while in his right mind begged to be spared the excessive feeding with milk, beef-tea (practically identical with urine), brandy, etc., and in his delirium fought with desperation against the ingestion of food. The physician in charge, one of the foremost in Maine, and justly regarded as one of the most skilful surgeons in this country, remarked that the loss of two teeth was a most fortunate circumstance, and the parents of the poor boy felt thankful enough for it, for by having the little patient held—hand, foot, and head—the various slops could be easily turned down.

This patient lasted about three weeks from the beginning of the attack, which was mild enough to constitute a good case under water-treatment, and who shall say that he did not, in that brief time, exhibit enough vital force in contending with drugs, and food, which for want of digestion was worse than many drugs, to have made his recovery a matter of certainty could he have been allowed to follow his own inclination, even as to diet, and been given a few life-saving baths, with freedom from all poisonous drugs.

867 Boylston Street.

THE LOCAL TREATMENT OF CHRONIC COUGHS.[1]

By E B BAYLISS, M.D.,

Dayton, O.

Mr. President and Gentlemen: In presenting to your notice the subject of local treatment as applied to chronic coughs, I feel that my feet are treading on a portion of scientific ground which has not been sufficiently worked over; which is not understood as well as it might and should be, and one the cultivation of which will be sure to lead to the happiest results to our patients and then, of course, to ourselves.

I have given my paper the title it bears for the reason that, while I believe that some of my cases were tuberculous in character, still, not having had a microscopic test made, it is impossible for me to affirm that such is the fact, or to defend the position, were I certain enough of the correctness of the diagnosis made from symptoms only to advance it.

Of course, the cases with which my paper has to do can be subdivided into bronchitis, laryngitis, tracheitis, etc., but as cough is the leading symptom in them all, and the one that is the most troublesome, it is the one that we are most solicitous about treating—the one whose successful treatment is most gratifying to all concerned.

Not all, perhaps not the majority of coughs have their origin in the lungs, for many times, it must be remembered, cases of this kind that are chronic and most distressing have their seat in the upper air-passages, the lingual, faucial, and pharyngeal tonsils being often responsible. These coughs, too, are the most difficult ones to master, the ones most refractory under constitutional treatment.

The relation between cause and effect in these patients is not always clear, but it is certain that these throat troubles have often the same bearing on a cough that a sensitive turbinate has on an asthma; indeed, they may themselves be the starting point of this latter trouble.

Every one of us has had under his care at different times cases of chronic cough, many of them of long duration, some even which have persisted many years; the patient being credited with having a wonderful constitution, since he has been able to live so long with consumption. Some of these cases have even been known to spit blood, and many of them have, no doubt, been allowed to die, not from phthisis, but from atony of the lungs, if so it might be called, resulting from a lack of exercise of the lung-tissue.

It is not my purpose to propose the supplanting of constitutional means by local ones, but simply to try to show that in these local measures we have an efficient help to the general remedies, so long tried and often so signally successful.

First among the local measures should be placed forced inhalations, either of pure air, or air medicated by one of many good and meritorious drugs. This method of treatment has had more advocates among the laity, I believe, than among the profession, yet of late it is being more thought of, as witness a paper lately published in the *Medical News*, by Dr. Kuhs, of Chicago, on the "Topical Treatment of Bronchitis," though this article has reference more to acute than chronic forms; also a reprint of an article by Dr. Thompson, of Cincinnati, on "Gummata of the Lungs;" a short paper lately published in the Medical Record, entitled "The Tooth-pick in Respiratory Disease," and others bearing on this subject.

In my boyhood days a travelling preacher used occasionally to visit my father's house, who gave credit for his cure from consumption to the use of copious draughts of fresh morning air through a tin horn, many years before. The horn, he told me, was ordered by his physician, but whether for mental effect, of course, cannot be told. And whatever virtue there may be in a

[1] Read before the Montgomery County Medical Society, January 19, 1894

prominent "consumption cure" that is now being quacked through the country, will, in my opinion, be found to be largely due to the inhaler, which is the most prominent part of each outfit.

Two cases of mine may be of interest just at this point.

Case I.—George B——, aged thirty; shoemaker; treated about 1888. This man was sober and industrious; the father of two healthy children; an American by birth and ancestry. He had the ordinary symptoms of a beginning phthisis—cough, loss of flesh, night-sweats, hectic, and signs of consolidation in left apex. He was put on the approved general treatment, was advised to procure a "jack" and work standing up, and in addition was told to go to a neighboring hill every morning, walk to its summit, and take long, deep inhalations of air. The number of these inhalations was carefully prescribed. Six months of this treatment made a perfectly well man of him, at least for three years, after which I had no news of him.

With compressed air quicker results may be obtained, as is shown in the following case:

Case II.—J. S——, aged about thirty. This man is a saloon keeper and has been known as a consumptive for years, having had severe hemorrhages and all the other classical symptoms of that disease. In habits he is fairly regular. He was referred to me for treatment by Dr. Hooven last July, at which time his cough was very severe. He had chronic laryngitis, was expectorating more or less blood, and was unable to obtain necessary rest on account of evening chills and fever, together with morning cough. He was treated by applications to his vocal cords, cauterization of the lingual tonsil, and forced inhalations of creosote mixture. The improvement was rapid, with entire disappearance of all symptoms, so that he was free from his cough for the first time in ten years, gained twenty five pounds in weight, and retains all that he gained. It should be added, too, that after he finished taking what sirup of hypophosphites he had on hand he took no more constitutional treatment.

Other cases could be mentioned, among them one of tracheitis. In this case the relief was pronounced, but, as the patient went some distance from the city to teach school, I am unable to state whether or no it has remained permanent.

The explanation of the efficacy of this line of treatment is, I think, to be found in the exercise of the lung-tissue that it causes, and in the consequent increased flow of blood into these organs, which results in its more complete and thorough purifying. We all know about the tidal air, the supplemental air, and the residual air, and can very easily understand how an increased movement of all three must be beneficial in these cases. Though the medication is, no doubt, also helpful. Combined with the inhalations in many cases it has been found that cauterizations are of service.

As I remarked earlier in the paper, many times the cause of a cough is an enlargement of one of the tonsils. Although it cannot, of course, be held that enlarged tonsil always makes trouble of this kind—indeed, we know it does not—still, when it does, a judicious reduction of it by galvano-cautery will work wonders in the way of a cure. This I had the pleasure of seeing clearly shown in the case of a bright boy in the Brooklyn Nose and Throat Hospital, six cauterizations of the left faucial tonsil entirely curing an obstinate, rebellious cough of over a year's duration. It has also been shown to be of value in several cases lately under my care. Indeed, in one case, which is at this time remaining under observation, though not receiving active treatment, this method was almost totally relied on. This was also a referred case, and the result of treatment was one most pleasant, and of course very gratifying, to the patient and her friends.

Applications to the vocal cords and upper trachea seem to me to be of least importance, yet in cases where there is a thickening of the vocal cords with hyperæmia or ulceration, there can be no question of their usefulness as palliative, if not curative, agents. It should not be forgotten, too, that an enlarged palate may call for a cutting operation, as may enlarged faucial, or more likely, pharyngeal, tonsils.

In closing, it may be well to state that diagnosis is most important, especially when one is contemplating the use of the cautery, and in this diagnosis the ability to handle the laryngoscope is a prime necessity. While, as I said before, this line of treatment is intended to be used only as an adjuvant to constitutional measures, it is my opinion that a thorough investigation of its merits will well repay one for the time involved.

1535 East Fifth Street.

FRACTURE OF NECK OF FEMUR IN SENILITY.

By A. T. HUDSON, M.D.,

stockton, cal.

In the Medical Record of September 16, 1893, Dr. Allis remarks: "Fractures of the neck of the femur in the aged should be managed by treating the patient and not the fracture. Leave off apparatus, use sand-bags, do everything that will make the patient comfortable and prevent bed-sores."

Two unsightly deformities must inevitably result from Dr. Allis's non-treatment of the disabled leg. These are shortened limb and everted foot. These five cases which follow go to show that both the patient and fracture can be treated at the same time with success, and without detriment to the former.

This injury follows so slight an accident—a trip of foot and fall upon the floor—as to mislead the young surgeon. Then will follow a mistaken diagnosis and defective practice. This is exactly what did happen in the first case my brother, Dr. A. S. Hudson, met with. The error was not his, but it was made by the older physician who was called in consultation.

Twenty years ago this brother worked out a diagnosis of fracture of neck of femur by means of one symptom. It is as follows: A person in good health and over forty receives a fall. He is disabled and cannot get up without assistance. What does it mean? It means nothing less than a broken bone, and invariably a fractured femur at the neck.

Therefore, bear in mind this one symptom alone, *i.e.*, absolute disability after a fall is proof of a broken femur. This is independent of the four signs of the text-books.

Case I.—Mrs. J——, aged seventy-four, of small, spare figure, fell from a porch of two or three steps to the ground. Was unable to rise; was carried into the house. Proofs of fracture of left hip above the trochanter were apparent and conclusive. The simplest dressing was applied, viz., adhesive strips along the leg to the knee, by which to make extension with a weight over a pulley attached to the foot of the bed. Long bags of sawdust were placed against the limb and hip to keep the member in place and in position. At first the case was looked after day by day, and measured to see that there was no shortening or eversion. Time of treatment was eight weeks or more.

So perfect was this recovery that one could not tell from her walk which limb had been injured.

Case II.—Mrs. U——, a fleshy woman, aged seventy-two. Going out of the door she fell one or two steps to the ground. Finding herself helpless she was assisted into the house. Chloroform was given, and a diagnosis of fractured neck of the femur was made. Dressing was applied as in the preceding case. No splints or bandages were used except such of the latter as were necessary to hold the adhesive strips from creeping down. The seven-pound weight brought a sense of relief instead of being a burden. In due time the patient recovered without deformity or shortened limb.

A year or so after, Mrs. U—— got another fall and injured the same hip. At this period she had moved from town several miles into the country. This time she did

not appear wholly disabled, as she could bear most of her weight on the damaged leg. There was no shortening or eversion of foot. So the case was left in doubt, and no treatment adopted. But plain instruction was left to watch events, and if changes in the way of deformity occurred to let me know, so that the injury might receive proper attention. Nearly a year passed and no message came. But by accident the patient was seen and examined. The limb was found to be half an inch short and foot everted. This carelessness of the patient, with such a result, was by no means satisfactory to anybody. It was too late to remedy the condition.

Case III.—Mrs. S——, aged eighty-one; a large, fleshy person. Her foot caught in the tangled grass and falling to the hard ground she broke the right femur at the neck. In none of these examples was there any effort made to determine whether the injury was within or without the capsule. The same simple treatment was adopted by extension, weight and pulley, and the use of sawdust bags. [A pillow under the knee which puts the limb on an incline is restful and sometimes much needed.]

At the time of the accident this patient was suffering from a kidney trouble and rheumatism. Still she made a perfect recovery in every feature. Owing to the rheumatism, she said, the restored broken leg was the best of the two.

Case IV.—Mrs. F——, aged eighty two; had a heavy, fleshy figure. She stepped on a rolling stone and was thrown to the hard ground. This fall broke the right femur at the neck. Wholly disabled, she was helped into the house and to her bed.

The diagnosis was easy and without perplexity. The same dressing by weight, pulley extension, and sawdust bags was employed. In ten weeks she left her bed and walked about. Though this was the oldest of the five cases, and all women, she made a good recovery. There was no shortening of the limb and no deformity.

Case V.—Mrs. W——, aged sixty-six. Habit robust and fleshy. For twenty years she had been lame from an injured ankle, which had made the limb three-fourths of an inch short and somewhat stiffened. She tripped her foot in a floor rug, fell on the carpeted floor, and fractured the neck of the femur on the right side. Unable to rise she was assisted to her bed. Soon there followed the usual shortening of the injured member.

By slow and careful extension the leg was brought down to its normal position by weight and pulley, or, as Bryant calls it, "elastic pulley." The hip and leg were adjusted and supported by sawdust pillows, which afforded ample relief. No splints nor perineal band were used. But a most important and convenient fixture was supplied. That was a long piece of wood, three inches by two, extending from the head to the foot of the bed, and within her reach. On this level bar was a rope or hand-piece for the invalid to lay hold of in order to turn and raise herself, change position, and afford some exercise, without calling on others for assistance. This patient gained several pounds in weight during her nine weeks' confinement to bed.

In all the above cases elevation of the foot of the bed was sufficient to obtain counter-extension.

If in these injuries, after dressing is done, the injured limb has the same length and pose as its fellow, and the patient feels easy and comfortable, you may be sure that everything is right and the patient is safe to leave. But whenever there is pain or suffering of any kind, there is something wrong, and it must be looked after and the mischief corrected. To insure a perfect cure without fail, the case should be looked after every day or so, for a week, then every few days or weeks.

In view of the benefit to the sufferer these few cases convey, and in view of the fifty-two successful cases out of one hundred reported by Bryant, it seems to me the surgeon is remiss in his professional duty not to give the unfortunate the advantage of such measures. For those invalids are to go through the balance of their lives limping, and in more or less pain. Immunity from this perpetual pain alone is ample reason for justifying our assistance.

A NEW AND ORIGINAL METHOD OF CORRECTING THE "REVERSE" OF THE POSITIVE STATIC CHARGE; WITH FURTHER PRACTICAL SUGGESTIONS.

By S. H. MONELL, M.D.,

NEW YORK.

It is well known that the static electrical machine occasionally reverses the position of its positive pole. To prevent this occurrence Holtz introduced his ingenious diagonal conductor, a device which does not wholly remove the fault, though it greatly increases the stability of the electrical charge. When this occurrence takes place in practice it is usually accepted as being without a remedy, no matter how much it may inconvenience the physician. In my own past experience, when my machine has reversed, I have made fruitless inquiries of the manufacturing firms and of the various workmen who construct the Holtz apparatus, and have consulted every accessible authority on the subject of static electricity. I find no mention of any known way to restore the lost position of the positive charge, and am conclusively informed that no way exists. Owing to the situation of available space and the relation of certain office accessories, it is frequently a practical necessity to have the positive pole at a particular end of the machine, where the physician becomes accustomed to its use. This being my own case, a reversal of polarity operated as a decided hindrance, and I therefore investigated the conditions which appeared to influence the shifting charge, with the result that I have discovered a method, successful with me, which I desire to report so that it may be generally tested and serve others who are inconvenienced in the same manner. The method is as follows, viz.: Discharge the machine; place the sliding poles in proximity; strike a few sharp taps with a hammer on the outer end of the brass cross rod supporting the upper set of diagonal combs, and recharge the machine. The ornamental tip of the rod may be removed for this purpose. On a "good day for static" the process will not be so simple, as the charge seems then more tenacious. I have then been obliged to remove a door and tap the rod and diagonal conductor inside the case, and repeat the attempt a number of times with some degree of patience before success resulted. As a further aid the prime conductors may also be struck in the same manner if the result is not speedily attained.

If one attempt fails, try again. A machine is almost certain to be found reversed after any repairs have been made to it, and at such times a way to correct the trouble is of practical service. In my own hands I believe the method will repeat the desired result whenever occasion requires, as I have now a record of eight tests made on various days, and see no reason why it should hereafter fail. I have spoken above of "discharging" the Holtz machine. It is done in the following manner: Place the sliding poles about half an inch apart. Revolve the plates backward until only a residual charge is left, and draw this off with a grounded electrode. On a "good day" this may require opening one end of the machine, but may usually be accomplished with ease. When occurring by accident, this was formerly one of the bugbears of every static operator. The cat-skin excitor, which was far from a perfect reliance in recharging the Holtz machine, especially under unfavorable conditions, has, however, given place to a miniature Wimshurst charger now furnished by leading makers, and one great source of annoyance has disappeared. To lessen the liability to inopportune discharge when the machine is not in action, the poles of the prime conductors should be drawn wide apart and left so. Inasmuch as the pole of chief importance in the administration of static electricity is the pos-

itive, and as many physicians find it necessary to distinguish this pole from the negative without any familiar means of doing so. I will repeat here the two simplest methods that I am in the habit of using: Start the machine into action with the sliding poles in contact. Draw them apart until the brush discharge remains upon one pole only. This will be the positive. The brush, or broom, at this pole also possesses a short handle, similar to the short handle of a whisk-broom. This handle is a stream of continuous sparks, at the end of which the discharge bursts into the bluish luminosity called the "brush." The broom handle is lacking at the negative pole. This method is best applied in a somewhat darkened room, but as most physicians' office work is done in morning hours, I then adopt a method serving equally well in the brightest daylight. Starting the machine into action with the poles placed so that a bright stream of sparks—say two inches long—will be thrown between them, I intercept this stream with the head of an ordinary match. When the current is thus obstructed at its point of origin the stream will be dispersed. By slowly drawing the head of the match around the surface of the ball from which the discharge leaps into the air-space between the poles, the broken spark-stream may be attracted at will through a radius of perhaps half an inch. When the match is placed in contact with the opposite ball, and in the line of the sparks, no effect on the continuous volley is observed. Remembering that the current flow of frictional electricity is the same as the current flow from a chemical battery, *i.e.*, from + to —, it is clear that the pole to which the spark-flow comes in an undiverted stream is the negative, and the ball from which the flow is impeded, scattered, and broken by the obstructing match, is the positive. It may be mentioned in passing that this test is made without igniting the match or producing any "shock" or sensation in the operator's hand. It is done almost in an instant, and is as accurate as it is simple.

Another minor point which may interest a number of readers relates to the grounding of the inactive pole of the static machine and the electrode used in the treatment of a patient. If a water-pipe or gas-fixture is not handily situated, the unused pole may be satisfactorily grounded by running a chain or wire from it to the register of a furnace. This is much better than to simply drop the chain upon the floor. My excuse for presenting the above items of what may be considered merely technical information, is to be found in the meagreness of literature upon the subject, the largely increasing number of physicians who, while becoming interested in the operation of the static machine, may lack opportunity of fully familiarizing themselves with the minor details of its management, and the fact that personal experience has demonstrated both the practical value of what I here narrate, and the dearth of similar information in medical writings.

665 Lexington Avenue.

The Strongest Man at Harvard.—A new strength record has been made at the Hemenway gymnasium, Harvard, by Edward Klein, '95, of Deerfield, Mass. The best previous record up to this time stood to the credit of S. L. Foster, '85, in 1884. His total strength was 1,348.8 points. Klein's total of 1,445.6 points is made up as follows: Strength of lungs, 23; strength of back, 340; strength of legs, 740; strength of upper arms, 201.6; strength of right forearm, 78; strength of left forearm, 63. Klein's record is likely to stand for some time, unless he himself improves upon it. His total last year was 1015.2. By Dr. Sargent's system of measurements, the total is determined as indicated above. The strength of the upper arms is calculated by adding the number of times the man pushes himself up on the parallel bars, or, in other words, the number of times he dips to the number of times he pulls himself up on suspended rings, and by multiplying this sum into one-tenth of the weight.

Clinical Department.

THE ACTION OF ELECTRICITY ON THE PNEUMOGASTRIC—IS IT OF VALUE IN CHLOROFORM NARCOSIS?

By A. D. ROCKWELL, M.D.,

NEW YORK.

On December 28, 1893, a child, aged six, was brought to my office with a large nævus materni or erectile tumor upon the cheek. She was chloroformed and needles introduced into the enlargement preparatory to the electrolytic action of the current, when suddenly the respiration ceased, the pulse became imperceptible, and the only evidences of life were very faint and convulsive heart-beats. A faradic apparatus was at hand and one pole was immediately placed at the junction of the clavicle and the outer border of the sterno-cleido mastoid muscle, and a vigorous current applied. Evidences of returning vitality were seen almost immediately, and within a few moments the heart was again beating regularly. Did the electricity accomplish the good in this case, or, as some might claim, did the heart, unaided, resume its normal action? The question as to the influence of electricity on the heart through its action on the pneumogastric, is certainly a very interesting and a very important one. It has been claimed that in chloroform narcosis electricity will do more harm than good, since its tendency is to stimulate still further the inhibitory function of the vagus. My experience, however, is that ordinary external applications affect the inhibitory fibres of the vagus that go to the heart in no such degree as they affect the accelerating fibres which in great measure constitute the branches that supply the respiratory organs. The very remarkable effects of the faradic current in keeping up the respiration in cases of opium-poisoning are known to all. In one case of this kind that I saw, where the current was continuously employed for six or eight hours, the respiration would sink to two or three a minute, and the heart-beat manifestly weakened whenever the action of the current was interrupted.

Immediately on resuming the current the respiration would increase to eight per minute, and as the effects of the opium gradually wore away, the frequency of the respiratory act increased.

Now, in this case and in others of a like character that have fallen under my observation, it is fair to conclude that the current affected the accelerating fibres of the vagus controlling respiration, and not to any considerable extent the inhibitory fibres controlling the action of the heart. In chloroform-poisoning, of course, a different condition of things prevails. The heart is under sedation, and any increase of the inhibitory effects of the pneumogastric might be dangerous. Fortunately there is little danger of this in the use of the induced current, at least in ordinary percutaneous applications.

According to Von Ziemssen, who made many carefully conducted experiments by means of cardiographic tracings, induced currents have absolutely no influence on the frequency or force of the cardiac contractions, and from that fact the erroneous conclusion has been drawn that induction currents were valueless in threatening death from heart-failure. The facts are that electricity does good in increasing respiratory activity, the strength of current necessary for this purpose being insufficient to materially interfere with the movements of the heart, through its action on the inhibitory fibres of the pneumogastric that control it. Dr. George F. Shrady reports the case of a boy where death was imminent after the administration of chloroform. Respiration ceased and the pulse could not be felt, but through prolonged artificial respiration the life of the patient was saved. This confirms the report of the Hyderabad Commission, "that it is of primary importance to keep track of the respiration in administering chloroform: if this is kept up the heart will give no trouble."

A CASE OF ROUND-CELLED SARCOMA OF THE OVARY.[1]

By G. H. MALLETT, M.D.,

HOUSE SURGEON WOMAN'S HOSPITAL IN THE STATE OF NEW YORK.

SOLID tumors of the ovaries are much rarer than cystomata. The great majority of authors place their frequency at five per cent. of all cases of ovarian growths submitted to operation, while of this number about one per cent. are sarcomata.

Sutton thinks that many of the specimens found in museums labelled fibromata of ovaries are in reality fibrosarcomata. Of the two varieties of sarcoma the spindle-celled occurs more frequently than the round-celled.

Solid growths of the ovary are more often bilateral than cystomata. This is particularly true of carcinomata and sarcomata. Sarcomata of the ovary differ from sarcomata generally in that they frequently occur primarily in both ovaries, and in the circumstance that masses of tissue which under the microscope are indistinguishable from sarcomatous tissue occur not infrequently in association with ovarian dermoids. They are usually moderate in size, seldom larger than a cocoa-nut. They are generally much less irregular than are cystomata and have fewer adhesions.

That they have few adhesions is thought to depend upon their smaller size and upon the frequency of ascetic accumulations. The surface of sarcomata is smooth as a rule, and of whitish or pinkish-white color. The consistency of the spindle-celled variety is quite firm, while that of the round-celled is soft and brain-like.

A comparatively large proportion of cases occur in early life. The three cases that have come under my observation were in young unmarried women.

Among the 37 cases reported by Olshausen 5 were under twenty years, 9 between twenty and thirty years, and 18 between thirty and forty years, and 4 between fifty-eight and sixty-seven years. The course and duration of the disease varies considerably; some terminate in a few months, while others have had a duration of nine years. The diagnosis is very difficult to make, as the symptoms arise from the ascites and from pressure.

The following case of round celled sarcoma I report by the courtesy of Dr. Clement Cleveland:

Miss F. H——, aged twenty, admitted to service of Dr. Cleveland, May 16, 1893. First menstruated at thirteen years. Type, 28 days. Scanty flow for one day with pain. Last menstruated, May 7th. Three months before admission she noticed an increase in the size of her waist. Two weeks previous to entrance to hospital she felt a sharp pain in right iliac region, for which she consulted a physician. A tumor was then discovered. Since then she has been able to appreciate it herself.

Physical Examination: Patient well nourished, slightly anæmic. Large tumor felt through abdominal wall occupying right side of abdomen, filling the pelvis and extending up to the liver. By vagina, mass felt to right side and back of uterus. Uterus normal size; position forward and to left; cervix normal. Upon admission patient had temperature of 100° F.; pulse, 94. This continued until May 21st, when the temperature rose to $104\frac{5}{10}$° F., where it remained until the following day, when she was operated upon.

Operation, May 22d: A median incision was made which extended from symphysis to about two inches above the umbilicus. A large, solid tumor presented immediately below peritoneum. It was so friable that it was removed with difficulty; no adhesions. The pedicle was so large that it was found necessary to quiet it with the ligature. The stump was cauterized and a glass tube inserted into the cul-de sac. Abdominal wound stitched with silkworm-gut and dressed with wet bichloride gauze. Patient removed from operating-room in good condition. At time of operation temperature was $104\frac{5}{10}$° F.; five hours later it reached 106° F.; pulse, 124; respiration, 32. From that time it went steadily down. With the exception of a sinus which followed the use of the drainage tube, her recovery up to the present time seems to be complete.

Pathological Report.—*Macroscopic Examination.*—Bilobed lobulated mass of an oval shape, measuring 22 ctm. in length, 16 ctm. in width, and 10 ctm. in thickness. *Microscopic Examination.*—Small, round-celled sarcoma.—G. F. Freeborn, Pathologist.

The points of interest in this case seem to be as follows: The excellent general condition of the patient, she having suffered no emaciation and was not cachectic. She suffered no inconvenience from the mass until two weeks before admission to the hospital. The high temperature and apparently necrotic condition of tumor. There was no ascites. The disease was unilateral.

[1] Read before the Society of the Alumni of Charity Hospital.

COMPOUND COMMINUTED FRACTURE OF THE SKULL, WITH REPORT OF A CASE.[1]

By WILLIAM H. SHIPPS, M.D.,

BORDENTOWN, N. J.

INJURIES of the cranium may be classed under five heads, viz.:

1. Simple fracture without depression.
2. Simple fracture with depression, but without symptoms of compression.
3. Simple fracture with depression and symptoms of compression.
4. Compound fracture with or without depression.
5. Compound fracture with or without symptoms of compression.

As subdivisions of these, we have what is rarely met with—fracture of either the internal or external table alone. Such, in brief, is the classification of Gross, accepted with slight modifications by most surgeons to day.

While it would doubtless be interesting and instructive to take up in detail the study of the various forms of cranial injuries and note their distinctive features, both as regards the character of the wound and the accompanying symptoms, our time will allow but a hurried glance at a single subdivision of the subject, namely, compound fracture of the skull with and without depression of bone.

Compound fracture of the skull is always a grave injury; it is rendered doubly so when there is associated marked depression of bone, together with the characteristic signs of compression—coma, convulsions, and paralysis. Compound fracture of the skull as occurring in early childhood is a rare accident; thus of 504 cases of fracture treated in the Children's Hospital, Philadelphia, but 6, or a little over one per cent., were of the cranium. Beck's record of 204 cases of fracture in the Children's Hospital at Basle shows but 2.8 per cent. to be of the skull.

Compound fracture of the skull without depression of bone may or may not be accompanied by a train of symptoms demanding operative interference. If after such an injury the patient shows no evidence of cerebral complications, such as coma, paralysis, or convulsions, no immediate operation is called for. This is in opposition to the teachings of the older writers, who advised operation in all cases of compound fracture, whether accompanied by evidence of compression or not. Even when slight depression exists in compound fractures it is an open question whether trephining should be resorted to in the absence of positive evidence of compression. Ashhurst,[2] in a most excellent article on cranial fractures, says, "The rule which I adopt in depressed fractures is that when the fracture is impacted, even if compound, there is no occasion for trephining as a primary operation. If the depression is only of such extent that the outer table of the depressed fragment has not been forced below the inner table of the surrounding skull, the depression is

[1] Read before the Burlington County Medical Society, January 16, 1894.

[2] International Clinics, 1892.

necessarily slight. The brain cannot be much pressed upon, for there is normally a certain space between the brain and the skull filled with the subarachnoid fluid. There can be no direct pressure upon the brain by a depression of this moderate character."

When it comes to compound fracture with marked depression associated with unmistakable signs of compression, the duty of the surgeon is clear; in fact operation with elevation of the depressed fragments is the only alternative. Sometimes this can only be accomplished by the trephine; in other cases simply removing the loosened fragments of bone allows of the introduction of the elevator and restoration of the depressed bone. Neglect to operate under such circumstances places the patient's life in jeopardy, and not unfrequently leaves him the victim of epileptic attacks the balance of his days. In proof of this, allow me to cite one of two cases that came under my notice during the past six months.

Nellie B——, a young woman, nineteen years of age, has been the subject of epileptic seizures since early childhood. At four years of age she received a violent blow upon the head from a brick, fracturing the skull; the wound was dressed by the family physician and in due time healed. Soon afterward, however, she was seized with convulsions, which have continued at frequent intervals ever since. My attention was directed to the case by a relative who was then under my care, with the request that I prescribe for her ailment. On examining the head there was noticed a marked depression of the anterior portion of the left parietal bone, fully two inches in length, and a half inch in depth. At the time of the accident the depressed fragments of bone were evidently undisturbed, at any rate restoration was but imperfectly accomplished, with the result as I have pictured.

The case I am about to describe, and which forms the text for the preceding remarks, presents the following history:

On Christmas day, I was summoned to go some distance into the country to attend a little patient said to have received a severe injury to the head. It seems the little fellow, with one or two playmates, was engaged in the dangerous pastime of placing nails upon the railroad track in front of his house, with the idea of having them flattened out by the approaching train, then in sight. As the train, running at the rate of twelve or fifteen miles an hour, passed by, the boy crouched to the ground to guard against injury. Unfortunately he sprang to his feet too soon, for the next instant the step of the caboose struck him squarely upon the top of the head, knocking him senseless. He was picked up, carried into the house and placed upon a settee, where I found him on my arrival several hours later. A neighboring physician previously summoned was washing the blood from the child's face and head—there had been considerable hemorrhage—the patient was in a semi-comatose condition; this, with extreme pallor of the face, cold extremities, frequent and feeble pulse, dilated pupils, and paralysis of the right upper extremity, indicated some grave injury to the central nervous system. Examination revealed an open wound three quarters of an inch in length, situated about the middle of the left parietal region; the wound was filled with clotted blood, which was removed. Introducing the index finger, I found the skull fractured, with decided depression of the fragments. I at once advised an operation, which was acquiesced in. The patient was quickly put under an anæsthetic and placed upon a table, the scalp being thoroughly cleaned and shaved, the wound was freely enlarged and the fracture brought to view. In outline it was almost ovoidal, two and one-half inches in length, and three-fourths of an inch in width, and split up into three fragments, the smallest of which, triangular in shape, measured three-fourths of an inch at its widest part, and one inch from centre of base to apex, its apex tilted upward, its base pressed downward upon the brain [specimen exhibited]. Without much difficulty it was removed by the forceps, leaving an opening corresponding in size and shape to the portion extracted. The brain, now plainly visible, was found intact. With an elevator the depressed fragments were brought into position, loose spiculæ of bone removed, the wound cleansed with bichloride solution, and the edges of the scalp approximated by silk sutures. Contrary to the rule adopted by many, no drainage-tube was inserted, a small opening being left at the most dependent portion of the incision for drainage if necessary. Iodoform was freely dusted over the surface, carbolized gauze and absorbent cotton applied, and the whole firmly held in position by a recurrent bandage. My reasons for not using a drainage-tube were, that the healing process is delayed thereby, there was no injury to the brain substance, and, finally, experience shows that cases of scalp injury unaccompanied by serious contusion of the muscular substance, heal with little or no suppuration, provided due attention is paid to modern antiseptic methods. The following day I again saw the patient and found him resting comfortably, intelligence perfect, movements of the arm normal, and his general condition all that could be desired.

No nourishment whatever was given for the first twenty four hours; for the following three or four days liquids only were allowed, afterward a gradual return to his customary diet was permitted. On January 4th, the date of my last visit, and ten days after receipt of injury, the child was sitting up out of bed. On removing the dressings the wound was found healed its entire extent. Not an untoward symptom followed the operation. The case is of interest from the facts, 1. That compound fractures of the skull occurring as a result of force directly applied by a moving body like a train of cars, usually terminate fatally. 2. The rarity of the injury in early childhood. 3. The prompt disappearance of all unfavorable symptoms after operation. 4. The rapid and satisfactory recovery of the patient.

Progress of Medical Science.

The Pathology of Bronchitis.—The relation of bacteria to bronchitis has been elucidated by two recent writers, Marfan and Claisse. A large division of bronchitis comprehends specific infectious forms; another division, the non specific bronchitis. Every bronchitis, however, according to Marfan, is infectious. The specific forms attend measles, whooping-cough, small-pox, influenza, etc., and are dependent on the microbe that causes the disease. These forms are "exogenous" or "hæmatogenous;" the germ is brought by the air or by the blood. Most bronchites are exogenous, but those of small-pox, glanders, malaria, and secondary syphilis are hæmatogenous. The non specific infectious bronchites constitute a large and important class. Under this head are included common bronchitis (*a frigore*), the bronchitis that attends chronic naso-pharyngeal affections, chronic affections of the lungs and pleura, hay fever, gout, heart disease, Bright's disease, etc. To this division is assigned the bronchitis which is present as a complication in all adynamic and cachectic states, as in infectious endocarditis, diphtheria, typhoid fever, diabetes, etc. Bronchitis is the rule in typhoid fever, but it is only a secondary element, and is not due to the presence in the bronchi of Eberth's bacillus.

Marfan's explanation of bronchitis from "catching cold" is substantially as follows: Acute bronchitis is sometimes occasioned by the respiration of a cold atmosphere which penetrates the bronchi suddenly and violently. But it is not by the direct contact of cold air with the mucous membrane of the respiratory passages that bronchitis is ordinarily produced. It is generally by a sudden chilling of the cutaneous surface, and especially when the body has been overheated by prolonged exercise and is perspiring. Marfan remarks that some persons have a susceptibility to cold when this is limited to certain anatomical regions; for instance, one will have

bronchitis if the feet are allowed to become cold, another, if he remains an instant with arms or chest bare, etc. Moreover, cold and damp climates and chilly seasons have a great influence on the development of bronchitis *a frigore*. The same may be said respecting sudden changes of weather. Infants, old people, and feeble cachectic subjects are particularly susceptible, for reasons which are sufficiently obvious. But how does a chill act in provoking an inflammation of a mucosa? The old medical writers supposed that the sweat-glands were closed by the cold and that the excrementitious matters of perspiration were retained in the blood. Hence, a general toxæmia, with inflammatory manifestations in parts of least resistance. This notion is now abandoned. Experiments have shown that in animals which are overheated, there is considerable dilatation of the cutaneous vessels; the blood circulates there with force and abundance. If now a sudden chilling is brought about, the blood which distends the peripheral vascular network is cooled in mass and by repercussion cools the organism. This sudden loss of heat causes profound disturbances in the internal organs. Severe congestions result. But the experimentation stops here, and cannot explain why the fall of the internal temperature engenders bronchitis. The bacteriological study of the sputa completes the data furnished by experimentation. Note in the first place, that the upper air-passages and bronchi contain microbes independently of any pathological state. Among these the four following species have been observed which have pathogenic properties: the staphylococcus pyogenes (aureus et albus), the streptococcus pyogenes, the pneumococcus, the pneumo-bacillus of Friedländer. Let now a bronchitis of whatever nature supervene, and it will be seen that these microbes are more abundant in the sputa; new species appear; proteï which are pathogenic and even pyogenic when inoculated in animals; two saprogenous microbes, the one resembling Eberth's bacillus, the other, the bacterium coli commune. Cornil and Babes remark that these microbes are found in all the bronchites; in bronchitis *a frigore*, in influenza, tuberculosis, morbillous bronchitis, etc. Marfan, besides those above mentioned, has also found the pneumococcus in the exudation of almost all the bronchites which he has examined. Pausini declares that the streptococci are the only micro organisms met with constantly in the sputa, both in bronchitis and in health. He describes eight different species of these streptococci, several species of fungi, twenty-one species of bacilli, ten species of micrococci. Frick has studied the chromogenic bacteria which give to sputa their green color. Marfan, in summing up these bacteriological results, asks what conclusion can be drawn therefrom concerning bronchitis *a frigore?* Although the direct demonstration has not been made, it is difficult not to think that all these microbes have a real pathogenic influence. Whether they live normally in the respiratory passages, or whether they come from the atmosphere, it must be admitted that the cold favors their fixation and their pullulation in the mucosa of the bronchi. The solution of the problem then consists in knowing why the perturbation caused in the organism by the cold favors this development of micro organisms. In the normal state the system defends itself against microbes by the bactericidal properties of the serum and the phagocytic properties of the anatomical elements. These two sets of properties are in part dependent on the nervous system. It is very likely that the profound perturbation produced by the cold on the internal calorification, brings about a disorder of the vaso-motor innervation which causes congestion and places the organism in a state of lessened resistance, and just in those localities (respiratory passages, skin, intestine) where microbes are normally present we see inflammations set in of microbic origin which are properly designated infectious, non-specific. It is easy to conceive that a first attack of bronchitis diminishes the power of defence of the bronchi and leaves behind certain microbes that are more virulent, and this naturally favors recurrences. What is said of bronchitis *a frigore* is just as applicable to coryza from cold, and when the two coexist the explanation may be as follows: Either the cold acting in the same manner on the nasal and bronchial mucosa, favors the microbian invasion, simultaneous or successive, of the two mucosæ; or the coryza alone is produced by the cold, and the microbes having acquired their virulence in the nasal fossæ, invade later, by simple propagation, the tracheo-bronchial mucosa. There is nothing at the present time that indicates which view of this pathogency is the more correct. Certain it is, however, that bronchitis *a frigore* is generally preceded by a coryza; and it is regarded, from a clinical point of view, a descending bronchitis

The article of Claisse adds to the above statement the notion of intoxications by microbe secretions. The presence of the microbe in the bronchi manifests itself by local effects on the tubes and by general toxic effects. The local effects are expressive of the secretory reaction of the bronchial tree; this, in certain conditions, may lead to a more or less extensive obliteration of the air-passages and give extreme gravity to the prognosis. But the bronchial secretions may also have a marked toxic influence; this is a pathogenic factor that has been too much overlooked. The toxæmia explains the general phenomena, the temperature, and, to some extent, the dyspnœa. Claisse has made some interesting experiments to determine the nature and quality of these toxines, and has worked out the bacteriological problem with considerable success; but the details of these researches may be considered later.—*Boston Med. and Surg. Journal.*

The Value of Creosote in Gastric Fermentation.—Creosote has been so largely used within the last few years in the treatment of bronchial or general pulmonary disease, that many of us have forgotten the valuable results to be obtained by its employment in the treatment of gastro intestinal troubles associated with fermentation. As is well known, the name of the substance is derived from the fact that it was found to prevent decomposition of nitrogenous matter, and that it therefore acted as a distinct antiseptic. There are two classes of cases of indigestion or disorder in the alimentary canal in which creosote is of great value. Aside from those instances of persistent vomiting, where by its local action it often renders us great service, it is also useful in those cases of fermentation or chronic indigestion in which there are formed large quantities of flatus some time after eating. Whether the distention is caused by the fermentation of starches or the decomposition of nitrogenous materials, a minim or two of creosote half an hour or so after eating, or immediately after eating, will often help such cases. Another instance in which creosote is of value is in a case of severe acute gastro-intestinal fermentation, which is often manifested, in the more severe cases, by an actual attack of cholera morbus. The administration of creosote in such an instance not only tends to prevent the vomiting, but to inhibit the production of poisonous products which are developing from the bad food that the patient has been unfortunate enough to take. Here, again, the dose of from one to three minims of creosote, well diluted, proves of value. In those instances in which the vomiting is too intense to permit the swallowing of much liquid, it may be administered in the dose of from one half to one minim in a tablespoonful of water, milk, or brandy, a few drops of this mixture being given at a time. Notwithstanding the laudatory statements which have been made as to the value of thymol, naphthaline, and other gastro-intestinal antiseptics, we believe that creosote is the best one which we can employ, and we doubt, if it is administered carefully, that it is as apt to produce disturbance of the digestion by irritation of the mucous membrane, as some of the more highly praised and more expensive remedies. It is hardly necessary to add that it is important to use the beechwood creosote, and not that derived from the mineral kingdom.—*Therapeutic Gazette.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street.

New York, February 24, 1894.

THE SCIENTIFIC VINDICATION OF SPANKING.

IN Lombroso's work on "Les Applications de l'Anthropologie Criminelle," nearly the whole of a chapter is devoted to the Elmira Reformatory of New York. This institution is characterized as representing "the most powerful effort yet attempted for the individual reform of young criminals." It is, according to Lombroso, a practical application of the modern doctrines of criminology, and the most enlightened experience in penology. Lombroso modestly claims that Mr. Brockway, the Superintendent, got his idea originally from the author of "Uomo delinquente." However this may be, the methods of the institution are warmly endorsed. The Elmira Institution has also been described and praised by M. Dubois, in the *Revue pénitentiaire* for 1890; and it has served as a model for other reformatories in Massachusetts, Pennsylvania, Ohio, Minnesota, Kansas, Texas, and California.

Such being the reputation of the Elmira Reformatory, it was no doubt a surprise to all interested in this subject to learn that it had been made the object of newspaper attacks, and finally of a formal legislative investigation; and that charges of cruelty, inhumanity, and stupidity were made against the managers and officers.

In the report of the Board of Managers for the year 1893, the other side of the story is told to us, and we are free to confess that their statements are most convincing. The story of the origin of the complaint and outcry against the institution shows that it was begun by a criminal, who, while out on parole, was arrested and brought back because of criminal acts. This man enlisted the aid of a sensational newspaper, and every possible means was used to discredit the workings of the institution.

The report gives a full explanation of its methods, the class of criminals it receives, and the results which have been obtained. In the charges made, special stress was laid upon the practice of "paddling," or spanking; and perhaps—to parents at least—the most interesting and practical feature of the report is its defence of this procedure. It seems that after every possible moral means of securing good conduct has been tried, there still remains a small percentage of refractory persons who will not obey the rules. For these some form of physical punishment was found necessary, and they selected "paddling," or "spanking," as the most efficient. The report says: "The Managers are familiar with the various forms of compulsory discipline advocated and used by prison governors, now and throughout the history of prison management, and, with this knowledge, they have, from the conviction that it is the most salutary, and at the same time the most humane of them all, adopted and approved that known as spanking. The Managers, notwithstanding the newspaper and other allegations, unhesitatingly affirm that the true history of this treatment at the Reformatory will show that the proper subjugation of the prisoner, by this means, has been accomplished with celerity, and with the least of necessary severity."

They add that "the spanking treatment, if wisely used, especially for youthful impulsive prisoners, neither tends to physical degeneration, nor, as it has been administered at this Reformatory, has it, in any instance, contributed to a sense of moral degradation or hurtful self-depreciation. On the contrary, the records are replete with instances where a trifling spanking has initiated a course of improved conduct and better character-growth, wonderfully like what is ordinarily termed moral regeneration. Many young men, now useful and prosperous citizens, can date their first observable upward progress from the time when they were thus arrested and their activities turned into new channels."

These statements give a certain scientific basis to the still regnant household custom of "spanking." It may be said to illustrate also, in a very persuasive manner, the fact that the inductions of science often corroborate and place on a sound and unsentimental basis certain traditions which have been gradually evolved from the common-sense of mankind. The Elmira Reformatory speaks a word of instruction and comfort to parents, but furnishes a menace tinged with the glow of possible gluteal rubescence to wayward youngsters. For the Elmira Reformatory believes in spanking, and shows by statistics that eighty per cent. of its paroled prisoners are reformed and useful citizens.

PHYSICAL EXAMINATION OF PLAINTIFFS IN ACCIDENT CASES.

THERE has been of late considerable discussion concerning the propriety of insisting upon a physical examination of plaintiffs in damage suits for injury, and much has been said *pro* and *con* regarding the justice and utility of the measure. The statutes provide that such examination should be made when demanded. The subject in the present case happens to be a female, and hence on sentimental grounds the attention of the public is focused upon the individual rights of the plaintiff as a modest and shrinking subject of the law. In spite of the foolish talk in this connection concerning the liberty of the person, the violation of individual rights under the Constitution, and the additionally absurd claim that unnecessary exposure is required, we cannot see how any hardship, or even cruelty, may be the result of such proceedings. It is well known that in almost countless cases of trumped-up damages the actual knowledge of the physical examination of the plaintiff has been the only item of fact upon which a just judgment might have been founded. It is, in reality, the essential element in helping a verdict as to actual damages sustained.

There is always a disposition on the part of the one seeking redress for injuries to exaggerate the degree of

disability, which is in proportion to the amount of damages expected. This is human nature the world over. The sympathies of the jury naturally look upon the object lesson of the enfeebled victim as an impressive and moving one. That such a practice is the encouragement of the worst form of malingering everyone who is accustomed to witness such trials can abundantly testify. In most cases there is no proof of lasting injury and permanent disability save the testimony of the interested party. The evidence is generally quite direct under the skilful coaching of the prosecuting attorney, and the jury is generally on the side of the alleged sufferer. Happily, however, the statute now comes to the rescue in the impartial presentation of the other side. There is no other reasonable way of getting at the real facts. The objection that the obtaining of the same is a blow against individual rights is absurd. In a properly conducted examination there is no more danger of outraging delicacy, or otherwise harming the subject than if an ordinary consultation were held. The mere fact of being a male or a female does not alter the real point of issue, as both are well protected against undue annoyance, unwarranted exposure, and irrelevant interrogation. It is sufficient for the court and jury to know the real extent and nature of disability. Nothing more and nothing less. The only plausible and just way of discovering it in the true interests of justice is by such an examination as the statute directs.

THE SIGNIFICANCE OF YELLOW FEVER AT RIO DE JANEIRO.

The cablegrams published by the press of this city, announcing the appearance of yellow fever on the men-of-war in the harbor of Rio de Janeiro, to the medical mind indicates a condition far too serious to be passed over in silence.

Rio de Janeiro is as essentially a yellow-fever port as the port of Havana. We must remember that for many months the city of Rio de Janeiro has been in a state of siege. Yellow fever to the Brazilian is a home product necessarily familiar. Public health, even in times of peace, is a mere secondary consideration. Given increased filth decomposing under a tropical sun, and we have new foci of disease apart from yellow fever. The latter being recognized as an endemic disease that yearly assumes epidemic character during its season, the hot season now on.

Among the many foreign men-of-war in the beautiful harbor of Rio de Janeiro, the United States has five of her crack ships; yellow fever has appeared on one of the latter, the Newark. The captain of the Austrian man-of-war already has fallen a victim to yellow jack—the scourge of all shipping in yellow-fever ports. Assuming that the many telegrams published are accurate, it means a general diffusion of the yellow-fever poison among the vessels.

The "up anchor" and away now is a trifle late. In any tropical temperature over 65° F. yellow jack can continue its death-dealing mission. In short, several vessels are infected. That such is the case will surprise no student of the disease; the matter of surprise lies in the fact that it has not appeared sooner. All the vessels doubtless have been in daily communication with the shore for mess supplies, etc. The city is an infected centre.

The vessels at Rio have been exposed to a common danger. While we are concerned in the welfare of mankind as a whole, we are particularly concerned in all matters of health relating to the *personnel* of our navy and our new and valuable ships. We know but too well that a ship once thoroughly infected with yellow fever, as a result of months in a yellow-fever port, generally retains the poison for years. We have in mind the Jamestown, her experience at Panama in 1868, and several years later, when she was sent from high to warm latitudes, the disease appeared *de novo*.

If we, as a nation, must mount guard over all the family squabbles of our Spanish-American neighbors, we must be prepared to pay the price in human lives and infected ships. Our brave officers and men must be exposed to the most insidious and dangerous of foes, yellow jack. Standing *in loco parentis* to our tropical brethren is a very large undertaking, and we have yet to learn that yellow fever is an article of international comity.

THE INCREASE OF VASCULAR DISEASES.

During the past decade, in New York City, there has been an apparent excessive increase in deaths and presumably sickness from diseases in which the circulatory system is especially involved.

These diseases are mainly included under heart disease, aneurism, apoplexy, and Bright's disease. The latter class includes probably some cases of local kidney disorder, but, as a rule, Bright's disease means arterial sclerosis and cardiac changes. The mortality in this city from the above causes was in

	1884.	1892.
Heart disease	1,645	2,330
Aneurism	75	56
Apoplexy	628	1,194
Bright's disease	1,928	2,395
Total	4,276	5,975

This shows an increase of 1,701, which is two-fifths of the angiopathic mortality of 1884. The total death-rate increased from 35,044 to 44,329, or about one-fourth. Part of this increase was due to the extraordinary death-rate from pneumonia in 1892, nearly 6,000 persons having succumbed in that year. Leaving out this unusual and accidental factor of increased mortality, the relative increase in serious angiopathies is quite a considerable one.

Some allowances must be made for changes in classification, but the figures we produce are certainly suggestive. It is often asked upon which of the "systems" the stress of modern life most tells. Generally, writers appear to think it is the nervous system, but it may yet turn out to be the emunctories, the chylopoetic, or the vascular apparatus.

St. Mark's Hospital, New York.—The Board of Managers and the Ladies' Auxiliary Society of St. Mark's Hospital gave a reception at their new building, 177 Second Avenue (near Eleventh Street), Saturday, February 17th, from three until six o'clock. An address was made by ex-Judge Noah Davis. A leading feature in the entertainment was a previous understanding that no donations would be solicited.

News of the Week.

Fellow of the Royal Geographical Society.—Dr. Wolfred Nelson, of this city, has been elected a Fellow of the Royal Geographical Society in recognition of his literary labors on Climatology and Physical Geography. This high honor, so well earned, carries with it the congratulations of his friends here and in Canada, his native country. Dr. Nelson is well known to our readers as a frequent and valued contributor to our pages.

Hudson River State Hospital for the Insane, at Poughkeepsie.—At the last meeting of the Board of Managers Dr. J. E. Courtney was appointed First Assistant Physician to succeed Dr. Russell, who resigned.

High Buildings in New York.—We are glad to learn that the subject of high buildings in this city is being discussed with a view to remedying what will shortly be an unmitigated nuisance. Mr. George B. Post, the eminent architect, and himself the designer of many of the tall structures, strange to say, is the one who is first in denouncing the system. The whole matter resolves itself into questions of air and light for surrounding buildings, particularly in narrow streets. Many of the latter are deprived of sunlight entirely, while apartments are so darkened as to require artificial light, and the ventilation is so defective as to cause sickness among the occupants. Every sanitarian must agree that the only remedy is a suitable legal enactment to prevent the erection of buildings beyond a suitable height, consistent with abundance of light and air for the neighborhood. We have small enough air-space in the city already, and we shall have less and less if the present state of things continues to exist.

Death of Dr. James Mitchels.—Dr. James Mitchels died on Monday, at his home in this city. He was born near Vienna in 1812, and was graduated from the University at Prague, and became circuit physician there. Later he was also graduated from the University of Vienna. He came to this country about fifty years ago. Dr. Mitchels was interested in charitable and mutual benefit societies, and organized several in this city. He was a Free Mason and an Odd Fellow, and a member of many other societies. He belonged to the Medical Society of the County of New York, and other medical organizations. He leaves a widow, a son, and a daughter.

Death of Dr. J. E. Wendel, of Murfreesboro, Tenn.—Dr. James E. Wendel died at Murfreesboro, Tenn., on December 21, 1893, aged eighty-one. He graduated from the University of Pennsylvania in 1839, and was continuously engaged in the practice until stricken down, about ten days before his death. Age had not impaired any faculty; his eye was undimmed, his hand steady, and his voice clear and strong. He was actively engaged during all these years and until his last illness. He ministered to five generations of several families here.

The Toledo Medical College and the Illinois State Board of Health.—The Committee on the Administration of the Medical Practice Act submitted their report to the State Board of Health of Illinois, at its recent meeting held January 30th, recommending the recognition of the Toledo Medical College as in good standing before this Board, for the purpose of the Medical Practice Act. The report was unanimously adopted, and it was ordered that the Secretary recognize the diplomas of said college as the basis upon which to issue the State certificates entitling graduates of that college to practise medicine and surgery. The explanation for this is that the Board on a former occasion refused recognition.

New York Medico-Historical Society.—At the anniversary meeting of the New York Medico-Historical Society, held February 12, 1894, the following were elected: *President*, Ellsworth Eliot; *Vice-President*, W. E. Griffiths; *Secretary and Treasurer*, Gordon Frazer; *Editor*, John Shrady; *Diarist*, L. S. Horton; *Committee on Publication*, S. S. Purple, L. S. Horton, H. E. Crampton, with the President and Editor, *ex-officio*.

Lectures on Electricity and Magnetism.—While the application of electricity to the aid and support of medicine is extensive, and electro-therapeutics is daily rising into prominence, there still exists a lack of the technical electrical information which the physician can avail himself of in becoming familiar with the physics, the principles, and the measurement of electricity. In this regard it may interest our readers to learn that, at the request of a number of prominent physicians, Mr. A. E. Kennelly, Vice-President of the American Institute of Electrical Engineers, New York, and Chief Electrician of Mr. Edison's laboratory, has prepared a new series of ten lectures devoted to this subject, which will be delivered weekly at the Mott Memorial Hall, 64 Madison Avenue, City, on Tuesday evenings at 8 P.M. The lectures will be illustrated with lantern and apparatus, and the number of subscribers will be limited to forty.

Trouble in the State Board of Health.—Senators Smelzer, Stapleton, and O'Donnell, the special committee appointed by the Senate, have been directed to investigate the administration of affairs in the State Board of Health. For the past year or so there has been anything but a good understanding between the members of the Board and its Secretary, Dr. Balch, and this is the main reason why an investigating committee was appointed by the Senate. This executive committee of the Board, comprising Dr. W. E. Milbank, of Albany, Dr. F. O. Donohue, of Syracuse, and Dr. H. C. Wolcott, have sent a letter to the special committee in which they say that they will render it all the assistance in their power in making a thorough examination of the Board and its workings. President Donohue's report shows that the registration of deaths was nearly two years and two months behind, and the registration of births two years and seven months behind. Indexing was correspondingly in arrears. Not a single registrar had done the full quota of work. All were more or less behind, some considerably more than others. Yet, in face of this, they were allowed to do extra work, for which they drew extra pay. Copies of cards are given showing that one of the registrars received $2,750 for work which could be done by the piece for $1,665, a loss to the State of $1,085. Another registrar received $2,750 for what should cost only $1,678, a loss to the State of $1,072. After citing a number of these cases the report says:

"The work actually accomplished, for which these clerks were paid big salaries, could have been done for nearly half. To be more particular, there were written up 13

books and 187 pages of deaths, 9 books and 78 pages of births, and 5 books and 56 pages of marriages. At the rate of $200 a book for the births and deaths, and $225 a book for the marriages, the entire cost of the work would be $5,860. There was actually paid for the work $10,750; difference, $4,890. The financial condition of the Board is such that immediate attention must be given to it. For the fiscal year commencing October 1, 1893, there was an appropriation of $40,000, with an unexpended balance on food and drug and tuberculosis appropriations of last year, which were all gathered into one, making an available sum to draw upon for all purposes for the year of $42,836; but on December 14th there was only remaining to the credit of the Board $25,603.65. Over $17,000 had been expended in two months. Of this $6,000 was expended for a general State sanitary inspection, in view of the anticipated visitation of Asiatic cholera, a contingency which was not provided for by the Legislature in its appropriation. If such a condition is allowed to continue, the funds appropriated for the use of the Board will soon be exhausted."

At a meeting of the State Board of Health held in New York on February 9th, it was resolved that: "All registrars shall, as compensation for services to be rendered, receive the sum of $1 per page for registering certificates of births and deaths, and $1.25 per page for registering certificates of marriages." The Board thinks that the orders recently issued will enable the records of vital statistics to be kept up to date hereafter.

The New Reception Hospital for Contagious Diseases.—The new reception hospital of the Health Department, at the foot of East Sixteenth Street, is now ready for occupancy. A year ago the old hospital, which had been used nearly twenty years for the temporary accommodation of patients stricken with contagious diseases, was burned down to make room for the new structure. The new hospital is of brick, is one hundred and forty feet long, and fifty feet wide, and is two stories high. The interior is of glazed brick and it has tile flooring. The cost, including the interior furnishings, was about $85,000. The building itself cost $61,310. Patients will be admitted in the course of a week.

The Freedmen's Hospital.—Dr. Daniel H. Williams, of Chicago, was yesterday appointed by Secretary Hoke Smith as Surgeon-in-chief to the Freedmen's Hospital. Dr. Williams is the leading representative of the colored race in Illinois. He is a graduate of the Chicago Medical College, has been a surgeon of the Chicago City Railway Company, was surgeon of the Provident Hospital for two years, and was physician to the Chicago Orphan Asylum for nine years. As Surgeon-in-chief of the Freedmen's Hospital, he hopes to be in a position to establish and maintain a training-school for colored nurses.

Boxing and the Death of a Student.—The Harvard student injured in a friendly boxing-match is dead. Another victim of athletic sport. The friend who inflicted the blow is now very sorry, and so are all the friends of the dead man. Who will be the next victim? Football has a rest while we are waiting for the answer.

The International Sanitary Conference.—The International Sanitary Conference, now meeting in Paris, has formulated important measures to prevent the Mecca pilgrims from spreading cholera. They comprise a system of inspection and quarantine of all persons going to or from that city. The bearing of European emigration upon the spread of the disease will be duly considered from different aspects, and an exhaustive report thereon will soon be prepared.

A Special Vaccination Train.—The Pennsylvania Railroad Company has sent out a special train with two physicians, who are to go over the whole line to Chicago and vaccinate at each station all the switchmen, sectionmen, gate-keepers, and other employees.

The Berlin Medical Society.—The annual meeting of the Medical Society was held on February 10th, when Professor Virchow was again elected President, and Professors v. Bergmann and Siegmund, Vice-Presidents. From the report it appears that the membership at the end of the year was 914, as compared with 889 for last year. The income of the Society was 28,000 marks, and the expenses 23,000, and the total assets of the Society amount to 90,000 marks.

The Press and Quackery in Medicine.—Not long since, large meetings of women were held in San Francisco for the purpose of protesting against the so-called medical advertising of the daily press. There is a field in this city for the same kind of work. When the ladies of the Health Protective Association have finished their present tasks, perhaps they will turn to medical advertisements.

Permanganate of Potash as an Antidote to Certain Poisons.—It has long been known that permanganate of potash is an excellent germicide, and in some instances an efficacious antidote to snake-venom. In addition to these properties, an Alsatian pharmacist, M. J. Anstal, has, writes the *Journal de Pharmacie* of Alsace-Lorraine, discovered, by means of a series of experiments on dogs, rabbits, and frogs, that it acts as an antidote to the following poisons: phosphorus, muscarine, strychnine, colchicine, oil of sabine, and oxalic acid. Of course, the permanganate must be administered at once to prove efficacious.

Dissection in Public Schools.—The Boston Common Council passed a vote recently forbidding all dissection of animals in the public schools. They subsequently modified the order so as to allow of the dissection of cold-blooded animals.

The Tri-State Medical Journal is the title of a new monthly published at Keokuk, and edited by Dr. James Moores Ball. The three States are Iowa, Indiana, and Mississippi.

Berlin University has just received a bequest of 100,000 marks from the late Dr. A. Düsterhoff.

The State Hospitals for the Insane.—On February 15th, the New York Senate Finance Committee gave the Hospital Managers and Superintendents a chance to answer the statements made last week by the Commissioners in Lunacy. There were present for the Utica State Hospital, Dr. G. Alder Blumer, Superintendent; Trustee George E. Dunham, and F. G. Finks, Counsel; from the St. Lawrence State Hospital, Dr. P. M. Wise, Superintendent; George Hall and George F. Darrell; from the Buffalo State Hospital, ex-Senator MacMillan, from Buffalo. Dr. Wise said the hospital had entered upon a new order of affairs last October with a disposition to overlook any friction that might arise. The commis-

sion, he claimed, had exceeded its legal authority in its interference with the affairs of the hospital. He claimed that the commission discriminated between the different hospitals, and forced the purchase of supplies from certain firms. Speaking of the purchase of wine and cigars in the St. Lawrence Hospital, he said none had been bought at the expense of the State except for entertainment on two occasions. One was the visit of Governor Flower, when there was furnished two kinds of wine, and he directed the steward to buy another. On that occasion two of the Commissioners had been present, and had expressed themselves as much pleased with the entertainment. Commissioner Carlos F. MacDonald, he declared, had told the Superintendent to have a stock of beer on hand, saying estimates for the same would not be stricken out, yet such an estimate was objected to. Neither Dr. MacDonald nor Mr. Brown has scrupled about drinking beer at the hospital.

Ex-Confederates and the Pension Office.—It is stated that the United States Commissioner of Pensions has ruled that no ex-Confederate physician is eligible for appointment as a pension-surgeon. Texas is aroused over this and the Austin District Medical Society has passed the following resolutions with an eloquent preamble:

"*Resolved*, That it is the sense of the medical profession in this section of the loyal State of Texas, as represented by their delegates to the 25th quarterly meeting of the Austin District Medical Society, held in the Capital City of Austin, December 21, A.D., 1893, that the ruling of United States Commissioner of Pensions Lochren that 'no one who was connected with the late Confederate army shall be eligible as Medical Examiner on any United States Pension Board,' is a species of political proscription long out of date, and unworthy an enlightened *free people*, uncalled for, unwise as a policy, unjust to a large class of worthy people innocent of any political sin or offence whatever, a gratuitous insult to the medical profession—a reflection on the honesty, integrity, and capacity of every ex-Confederate surgeon now living; contrary to, and in conflict with, the spirit and pretensions of the Civil Service Reform, and calculated to reawaken bitter sectional feeling, and antagonize an element whose mission on earth is 'peace and good will toward men,' and who, even during the heat of the unfortunate strife, now happily long past, were noncombatants, intent only on deeds of mercy to friends and foes alike.

"*Resolved*, That the Austin District Medical Society hereby protest against a discrimination so causeless, unwise and unjust; and that we call on our distinguished President to either redress the wrong or let the world know why we are thus disqualified."

What Becomes of Physicians' Case-books?—The question has been recently asked, in terms of anxiety not unmingled with suspicion, What becomes of the case-books of a consultant after his death? It is impossible for us, of course, to say what means have been taken to secure secrecy in all such cases, but we may safely infer the general practice from particular cases. The care which is taken by all physicians in large practice to protect their notes from curious persons is seen in such precautions as the private drawer and the padlocked cover. The disposal of such records after the death of the consultant is, no doubt, carefully regarded in all cases. Sometimes the records are made over to a son, or other successor in practice, either to be used for the benefit of the patients, who may return for subsequent consultations, or for the purpose of scientific investigation, as in the instance of the notes of the late Dr. Williams. In two other cases well-known to us the note-books were consigned to a medical friend for scientific uses, and in a third the volumes were consigned to the furnace of the plant houses by a member of the family.—*British Medical Journal.*

New York's Medical Libraries.—It is almost a pity that the two great libraries of the New York Hospital and that of the Academy of Medicine, are not united under one building. That wish has been expressed by some of the Governors, at least of the New York Hospital, in days past. Perhaps the New York Hospital will conclude to build a large library building on Forty-third Street, so that the two collections will be equally convenient to the numerous students.—*Post-Graduate.*

Chemical Congress.—There is to be a Chemical Congress at Brussels in August next.

Dr. E. L. Trudeau, of Saranac Lake, has been given $10,000, with which to build and equip a laboratory for the experimental study of tuberculosis. He has, as well, a fund of $1,500 per year for carrying on the work. With such a scientist as Trudeau at the head we shall expect tangible additions to our knowledge of this most important subject.

Modern Realism in Spanish Literature.—Dr. G. W. Courtney, of Roxbury, sends to the *Boston Medical and Surgical Journal* some excerpts from a modern Spanish society novel literally translated. The following is one of the paragraphs. "All, all had she suffered with resignation up to that moment; the auscultations, the palpations—which she considered shameful—of the accoucheur; the explorations to which she submitted her denuded body and enormous belly, in the lateral or dorsal decubitus, in order that this unknown man might examine the sides or fundus of the uterus—as he said—that he might profane her body! as she felt assured; the stethoscope constantly fixed upon her abdomen in order to perceive and count the fœtal heart; the spiderlike tickling in the innermost parts of her belly, so persistent and annoying that it produced spasms, a species of incessant convulsions; the vomitings; the bulkiness, the monstrous tumefaction of the breasts, with pains so acute that they made her cry to heaven; the unwieldiness of her belly, rounded, fluctuating, convex, really incommodious, which impeded the liberty of her movements; the insupportable tremblings of the fœtus in its prison, at times more constant and brusque; the varicose and œdematous condition of her lower limbs and of her vulva, which made her think of death with pleasure; the vaginal granulations so profuse that they had made of her parts a deposit of pus rather than the external genitals of a woman; . . . the leucorrhœal flow, abundant, viscid, trickling down her thighs, staining the sheets."

Deaths from Carbolic Acid in England.—Between February, 1892, and November, 1893, there were two hundred and thirty deaths in England due to taking carbolic acid. One hundred and seventy-four were suicidal.

Reviews and Notices of Books.

A Treatise on the Science and Practice of Midwifery. By W. S. Playfair, M.D., LL.D., F.R.C.P., Physician-Accoucheur to H. I. and R. H., the Duchess of Edinburgh; Professor of Obstetric Medicine in King's College, etc. Sixth American from the Eighth English Edition. With Notes and Additions by Robert P. Harris, A.M., M.D. With five plates and two hundred and seventeen illustrations. Pp. xx, 697. Philadelphia: Lea Brothers & Co. 1893.

From the editor's well-known interest in obstetric surgery, especially in the operations of Cæsarean section and symphyseotomy, the reader will infer that his notes and additions have been confined principally to these subjects; which is the case, though he has also made useful additions to other chapters, such as those on occiput-posterior positions, extra-uterine pregnancy, rupture of the uterus, etc. A considerable degree of conservatism is still maintained by the author, who is satisfied to allow the chapters on normal pregnancy and parturition to remain practically unchanged. For example, scant mention is made of Hegar's sign of pregnancy (page 157), and the author still seems to give only a partial assent to Schroeder's well-established statement that the *caruncul æ myrtiformes* represent the remains of the hymen after delivery, rather than after simple rupture from coïtion (page 53). On the same page is retained the oft-criticised definition of the perineum, which "separates the orifice of the vagina from that of the rectum," one that was rejected years ago.

The chapter on extra uterine gestation has been brought up to date, and the author takes a sound surgical position with regard to the treatment of carcinoma and ovarian cyst complicating pregnancy. The section on fibroids (page 233) is too condensed for the practical reader.

In the treatment of incomplete abortion the author thinks "a well-prepared sponge-tent the most effectual" (for dilating the os), a statement which will meet with the cordial disapprobation of American obstetricians, as well as the suggestion of allowed retained secundines to remain within the uterine cavity under any circumstances, and, above all, after they have begun to decompose.

In the directions concerning the aseptic management of normal labor a vital point is overlooked—thorough cleansing of the internal, as well as the external, genitals before the initial examination is made. The expression "unnecessary exposure of the person" (page 297), so familiar to us in our student days, has become obsolete to us in this country. How such exposure is lessened by placing the patient on the side, especially when forceps are used, will probably never be comprehended by us.

Few intelligent practitioners would now think of delivering a primipara in any except the lateral posture.

Fig. 111 (page 304), representing "the usual method of removing the placenta by traction on the cord," is unnecessary, since it is hardly applicable to modern practice. We recommend also a further revision of the paragraph on management of the membranes (page 306), in which we are still advised that "they should be twisted into a rope, and very gently withdrawn, so as not to leave any portion behind." It is better not to make any traction whatever, but to wait until the relaxation of the uterus permits them to escape from the grasp of the cervix.

In a note by the editor appended to the chapter on anæsthesia in labor, we read this surprising statement: "In the United States the dangers attending the use of chloroform in obstetric practice have, in large measure, banished it from the lying-in chamber." We do not know on what basis this is stated, but it is certainly incorrect, at least with regard to practical obstetricians in New York. We can hardly believe that this dogmatic assertion is supported by extensive or accurate data. An editorial note on page 314, in which the reader is advised to change a normal pelvic to a cephalic presentation by external manipulation, will hardly be regarded as safe teaching for the general practitioner.

The chapter on occipito-posterior positions is disappointing, in view of the fact that this important subject has received a good deal of attention of late; the note by the editor does not add to its value. The paragraph on the treatment of accidental hemorrhage (page 432) is rather weak. Here, too, there is room for improvement in the light of recent progress in the application of the *accouchement forcé*. The author does well to state that he has had no personal experience in the use of the gauze tampon in the treatment of post-partum hemorrhage, or he would not say that "it is clearly one which can only be resorted to in very intense cases of hemorrhage, when all other means have failed." The ultra conservatism which would prompt such a statement is on a par with the "old-fogyism" which still recommends the use of iron as the most efficient agent for controlling such hemorrhage, contrary to all the rules of modern aseptic surgery.

Transfusion is so obviously an operation of the past, that the reader will marvel to see that an entire chapter is still devoted to it, the only recognition of the modern method of saline infusion being in a short, and not very lucid, paragraph on page 569, supplemented by a still briefer note by the editor.

The author is far from being at home in the more scientific methods of preparing milk for bottle-fed infants. The important chapter on puerperal septicæmia has been revised, but it cannot be said the attempt to "put new wine in old bottles" is altogether successful as regards the paragraphs on treatment.

The separate chapter on pelvic cellulitis and peritonitis is retained, though the author recognizes the fact that a sort of apology is due his readers for its antiquity. It furnishes rather curious reading by the light of modern pathology. The inherent excellencies of Playfair's treatise are so well known that we need not refer to them. It is a matter of regret that in this keen, practical age, the present edition should not be more nearly abreast of recent work in a department of medicine in which theories have begun to melt away under the cogent force of carefully observed and applied facts.

A Dictionary of Medical Science. By Robley Dunglison, M.D., LL.D., late Professor of Institutes of Medicine and Medical Jurisprudence, Jefferson Medical College. Twenty-first edition. Thoroughly revised and greatly enlarged by Richard J. Dunglison, A.M., M.D. 8vo, pp. 1181. Philadelphia: Lea Brothers & Co. 1893.

Dunglison's Dictionary needs no introduction to our readers. It has been the standard of reference for medical scholars for over a quarter of a century.

The twenty-first edition comes to us thoroughly revised and greatly enlarged, with new features treating of punctuation, accentuation, and derivation of terms. Covering the entire field of medicine, surgery, and the collateral sciences, its range of usefulness can scarcely be measured. Perhaps the most valuable feature in the present work is the addition of a vast amount of practical matter bearing upon chemical terms, formulæ, properties, diseases, symptoms, treatment, prognosis, drugs, preparations, doses, effects, medicinal plants, derivatives, effects, poisons, their symptoms, treatment, and antidotes. Also important elaborations have been made under antiseptics, bacteria, eruptive diseases, urine, localization of lesions, ptomaïnes, and leucomaïnes. Judicious condensation and the omission of obsolete terms, have given the volume a reasonably compact form, while the type is commendably clear. We congratulate the present author on the faithful discharge of his onerous duty, and predict for the book another term of future usefulness.

Society Reports.

MEDICAL SOCIETY OF THE HOSPITALS (PARIS).

Hepatic Abscess.—Dr. Petit described the case of a patient who had been operated on for a post-dysenteric hepatic abscess eighteen days after the appearance of the first symptom. The pus from the abscess was perfectly sterile, and no micro organisms could be discovered by a most careful bacteriological examination. The observation would tend to prove that the absence of micro-organisms in the pus of hepatic abscesses of dysenteric origin is not characteristic of chronic abscess, for the same peculiarity may be observed in connection with acute abscess.

BIOLOGICAL SOCIETY (PARIS).

Toxicity of the Urine after Thyroidectomy. — Dr. Masoin presented some conclusions of toxicity of the urine after thyroidectomy. From a large number of experiments he concluded with Dr. Gley that the toxicity of the urine was increased after thyroidectomy. If the animal experimented on is taken with epileptiform attacks the toxicity is augmented during the duration of such attacks. A strict milk diet in no way influences the toxicity of the urine in animals that have had thyroidectomy performed. Dr. Gley contends that these facts prove that the function of the thyroid body is an excretory one, and that it separates certain substances from the blood which, when the thyroid is removed, must be thrown off through other emunctories.

The Innocuousness of the Pneumococcus of Friedlander in the Rabbit.—Dr. Roger, in presenting this subject, said that the general belief in the innocuousness of the pneumococcus of Friedlander for the rabbit was erroneous. He had experimented with two specimens—one taken from a patient who was suffering from what had been diagnosed as acute aortitis; the other had been sent to him by Dr. Netter. He found that peritoneal inoculation killed rabbits in from two to ten days. Intra-venous injection of a very virulent culture caused a mortal septicæmia and death in from twenty-four to thirty-six hours. The autopsy in these cases showed intense congestion of the abdominal viscera, extensive superficial ecchymoses, and infiltration of Peyer's patches. With a less active culture the symptoms ran a subacute course, and were principally those of albuminuria and nephritis, death following in from seven to nine days. These results simulate those obtained from the injection of the bacillus col. commune, but he does not claim their identity. He considers it far from correct to say that the pneumococcus is inoffensive to the rabbit; and he believes, further, that there is a great number of encapsulated bacilli described as a special species that represent simple varieties of the pneumococcus.

PARIS CHIRURGICAL SOCIETY.

Hysterectomy in the Treatment of Prolapsus Uteri.—At a recent discussion of the question of hysterectomy in the treatment of prolapsus uteri, Dr. Schwartz remarked that he had performed the operation once, and although the immediate results of the operation were satisfactory, he desired to call attention to the fact that vaginal hysterectomy is not always such a simple and uncomplicated operation as it is attributed to be. In his own case hemorrhage was stopped only with great difficulty. Dr. Routier remarked that a serious objection to hysterectomy in cases of prolapsus uteri is the tendency to hemorrhage, and that he had abandoned hysterectomy in the treatment of prolapsus uteri for perineorrhaphy and anterior elytrorrhaphy. Dr. Reclus had performed the operation three times for prolapsus uteri, and although he did not look with much favor on the operation from a therapeutical point of view, he had never found the operation a very difficult one; particularly in regard to hemorrhage, which could always be checked by the application of ligatures and artery forceps. In the majority of cases hysterectomy is to be performed, not as the sole curative factor in the treatment of prolapsus uteri, but as a preliminary operation which is to be followed by colpo-perineorrhaphy. Further, he is not at all sure but that the latter operation is, in itself, sufficient in the greater number of cases. It is only in women in whom the uterus is greatly hypertrophied, or the seat of cancerous or fibroid growths, that the preliminary hysterectomy is absolutely necessary.

Trephining.—Dr. Chauvel reported a case of fracture of the skull treated by trephining by Dr. Chupin. The patient, who received a revolver bullet in the occipital region, presented no symptoms on examination. There was found a depression at the seat of the lesion, and a trephine applied there showed that the internal plate of the skull pressed considerably on the dura. The patient recovered.

PARIS ACADEMY OF MEDICINE.

Puerperal Fever.—Dr. Riberolle presented some conclusions concerning an endemic of puerperal fever which he had recently studied. Puerperal fever has existed endemically in the high tablelands of Auvergne for the past fifteen years. The symptoms generally show themselves four to six days after delivery; they are of great severity, and always accompanied by the development of a miliary eruption on the skin all over the body. The patients succumb very rapidly. The disease is communicated by direct or indirect contagion, but as it shows itself only in the form of sporadic cases, the writer concludes that there must be other means of conveying the poison than by the midwife or obstetrician.

THERAPEUTIC SOCIETY (PARIS).

Discussion on Hypnotics.—Dr. Bardet opened a discussion on the comparative value of hypnotics. He classified them as, 1, ethers, of the hydro-carbon group, which includes sulfonal; 2, derivatives of aldehyd, such as paraldehyde, methylal, chloral, chloralose, etc.; 3, aromatics, such as hypnone, whose actions resemble the narcotics; 4, vegetable, such as piscidia. Sulfonal produces sleep without producing anæsthesia, and does not disturb the alimentary tract. Paraldehyde gives good results in the insomnia associated with alcoholism. Methylal he thought very highly of, but its action is fugitive; but it is preferable to chloral, insomuch as it causes no after-dulness and stupidity as does chloral. It is particularly useful in women and children. Chloral, in addition to causing disagreeable after-effects, is often responsible for a cutaneous erythema and irritation of the digestive tract. The derivatives of chloral, such as chloralamid, chloralose, chloral antipyrin, etc., have the advantage that they do not cause this irritation. Chloral, however, is the effective element in these compounds. In concluding he recommended the use of the volatile hypnotics, as they give rapid results and are not followed by gastro-intestinal disturbance.

Treatment of Simple Chancre with Di-Iodoform.—Hallopeau and Brodier claim that the use of di iodoform in simple chancre is attended with as good results as the use of iodoform, and that it is devoid of the drawbacks attending the use of the latter, particularly the smell. It is not irritating, and it should be dusted on several times a day.

ACADEMY OF SCIENCES (PARIS).

The Liquid of Albuminous Periostitis.—Dr. Hugounenq, in reading a paper on the above subject, said that although many communications had been made on this subject since it was first described by Ollier, as yet neither the etiology nor the nature of the disease have been eluci-

dated. An analysis of the liquid taken from two cases which he had recently seen, showed the liquid to be transparent, colorless, or slightly yellow, highly albuminous, of a specific gravity 1.025 to 1.035. It coagulates at 80° C., and in it are seen a number of globules resembling fat. Exposed to the air, it does not putrefy. Chemical examination showed the presence of two proteids, nuclein albumin and serum albumin. The extractives were represented by a very small amount of urea, and four or five times as much succinic acid. No leucin, tyrosin, uric acid, or peptone was found. The liquid of this form of periostitis closely resembles that of hydrarthrosis, and from this it is impossible to distinguish it.

MEDICAL SOCIETY OF LONDON.

Extract of the Thyroid Gland in Skin Diseases.—Dr. P. Abraham reported the results of the use of the extract of the thyroid gland in skin diseases. The extract had been given in 65 cases of psoriasis, 5 of lichen planus, 7 of eczema, 2 of chronic urticaria, 5 of lupus, 1 of prurigo senilis, and 1 of a peculiar papular eruption which superficially simulated adenoma sebaceum. Of the psoriasis cases, 17 might be thrown out as being under treatment for too short a time. In the remaining 48, some definite improvement was noted in 18, but only 7 of these were under treatment with thyroid alone. In 16 the result, as regards the eruption, was practically negative, and in 15 there was actual increase of the eruption while the extract was being given. In 28 patients distressing symptoms were complained of. Of the 5 cases of lichen planus, there was marked improvement in 3. Of the eczema cases 3 were benefited. Neither of the cases of chronic urticaria derived the slightest benefit. Two of the lupus cases showed improvement. The conclusions he reaches are: 1. The ingestion of the thyroid gland has no constant effect in psoriasis, and many other diseases of the skin. 2. In a large number of the cases the results are negative, and in a few the cutaneous lesions are aggravated. 3. In a certain number there is a distinct and marked curative effect. 4. At the present time there are no prior indications as to which cases its administration is likely to benefit. 5. In a considerable number of the cases disagreeable constitutional effects are induced. 6. Age and sex have nothing to do with the action of the remedy.

Fractured Patella Treated by Incision and Wiring.—Mr. Ballance showed two cases of fractured patella in adults, which had been treated by immediate incision and wiring. He had operated in seven cases, all of which were entirely successful. Passive movement should be begun in these cases in from ten to fourteen days, and at the end of a month the patient should be allowed to go about.

Exfoliation of the Mucous Membrane of the Bladder.—Mr. Hurry Fenwick showed a specimen of this condition. The patient had been operated on for acute cystitis by perineal section. The entire mucous membrane of the bladder was withdrawn through the perineal opening, as a white phosphate-encrusted slough. The patient recovered. Cases of this kind are one of the three following subdivisions: 1, Membranous cystitis, in which lymph is cast off from the surface of the bladder and passed in the water; 2, burrowing of tuberculous deposit under the mucous membrane, with shedding of portions of the mucous coat; and 3, entire casting off of the mucous coat of the bladder, together with some of the muscular fibres.

OBSTETRICAL SOCIETY OF LONDON.

Pregnancy and Bright's Disease.—Dr. Herman, in a paper on pregnancy and Bright's disease, said there are two kinds of Bright's disease to which a pregnant woman is especially liable. The first, a fulgurating form occurring with slight premonition, is attended with extremely scanty urine, heavily laden with albumin, and greatly deficient in urea. It occurs principally in primiparæ, and is accompanied with rapidly recurring fits. It runs a favorable course, as a rule. The other is a disease having premonitory symptoms of long duration. Like the first form, it often leads to intra-uterine death of the child. It is accompanied generally by increase in quantity of urine, considerable albumin, and diminution in amount of urea, but not so great as in the first form. Delivery is followed by temporarily increased enuresis, and increase in the urea elimination. When this increase is considerable the patient gets well; when it is not the patient passes into chronic Bright's disease. The cases in which the albumin in the urine is mainly serum albumin generally die; where the albumin is paraglobulin the prognosis is favorable.

SOCIETY FOR INTERNAL MEDICINE (BERLIN).

Stenosis of the Pylorus.—Dr. Landgraf presented a specimen of stenosis of the pylorus following an old ulceration, taken from a man aged fifty-eight. When the patient entered the hospital the symptoms were those indicative of a tumor of the pylorus, but examination of the gastric juice showed the presence of hydrochloric acid in liberal amount. As the patient refused to have an operation performed, lavage of the stomach was practised for relief of the symptoms of indigestion.

Attacks of jaundice alternating with anuria followed, the patient gradually growing weaker. A gastro-enterostomy was then performed, but the patient died in collapse three days later. On post-mortem examination the pylorus would barely admit a sound. It is quite probable that an early operation would have been beneficial.

Lesion of the Heart without Murmurs.—Dr. Leyden showed two heart specimens. One showed aortic insufficiency with extensive changes in the aortic valve; during life no diastolic murmur could be heard. The other preparation showed endocarditis and dilated heart from a patient who died from puerperal sepsis. The clinical symptoms in this case had been very severe, but no heart-murmur could be heard.

Dilatation of the Stomach.—Dr. Boas showed a patient with acute dilatation of the stomach. The man was a gymnast, aged twenty, who after dietetic errors had an attack of acute dyspepsia attended with diarrhœa, vomiting of large quantities of sour material, followed by great thirst and constipation. Examination showed extensive insufficiency and dilatation of the stomach. The patient recovered, and the speaker was of the opinion that in these cases the stomach frequently returned to a normal state.

MEDICAL SOCIETY OF HAMBURG.

Treatment of Empyema in Children.—Dr. Achütz, in presenting a paper on the treatment of empyema in children, emphasized the necessity of costal resection, a procedure which he had practised eighteen times during the last three years. Of these eighteen cases sixteen recovered. The two youngest who were operated on died, one from a broncho-pneumonia of the side not operated on, the other from pericarditis. As a rule, the drain should be left in the pleural cavity for twenty-four days. The time necessary for complete recovery being about forty-two days. The most auspicious time for the operation is the moment the diagnosis is made. All forms of expectant treatment are to be deprecated. Dr. Schütz insists on the incision in the back near the vertebral column at the bottom of the collection of pus and not in the axillary line. The line of incision should be vertical, and the resection of the rib subperiosteal. The cavity is washed with boric-acid solution and the largest possible drain inserted. The deformity from curvature of the vertebral column has not been marked in any of his cases of recovery. He believes that the danger of death from chloroform and from too rapid emptying of the chest in these cases has been greatly exaggerated.

VIENNA MEDICAL CLUB.

A Case of Basedow's Disease.—Dr. Fraenkel showed a patient presenting typical signs of Basedow's disease, in whom the evidences of heredity were extremely marked. The patient, a woman aged forty, had exophthalmos, tachycardia, struma, tremor of the hands, severe diarrhœa, and premature occurrence of the menopause. The father and the sister of the patient had well-marked exophthalmic goitre, and two of her children had died with severe nervous and mental symptoms.

Lumbar Lordosis.—Dr. Fischer made some remarks concerning a case which he had presented to the society some months before. The case at that time presented great difficulty of diagnosis, the only permanent symptom being lumbar lordosis which came on suddenly. The case was by some supposed to be one of progressive juvenile muscular atrophy, and by others of spondylitis. Later, symptoms of meningitis occurred and the patient succumbed rapidly. The autopsy showed basilar tuberculosis, acute hydrocephalus, and in the posterior surface of the spinal cord, at the dorsal and lumbar segments, a soft mass studded with miliary elevations. The lordosis which existed so long as an isolated symptom, was probably dependent on meningeal irritation, in the same way as torticollis is often caused by meningeal irritation.

SOCIETY OF PHYSICIANS (VIENNA).

Cultures of the Bacillus of Influenza.—Dr. Richter demonstrated cultures of the influenza vibrio which had been propagated on agar plates with a stratum of blood serum. The colonies were no larger than the head of a pin. The vibrio is a bacillus that stains with ordinary color stuffs, the poles taking up more color than the centre.

Traumatic Aneurism of the Axillary Artery.—Dr. Ewald showed a woman who in last November fell with a knife in her hand, so that the point went into the left axillary space. Severe hemorrhage followed, but the wound healed in a week. Three weeks afterward she noticed a swelling which continued to increase, and which was accompanied with pain in the arm shooting into the first three fingers of the hand. When examined there was found in the axillary space, beneath the pectoralis major muscle, a pulsating swelling which extended to the infra-clavicular region, the left radial pulse was delayed. A control ligature was placed around the axillary artery, then partial division of the pectoralis major brought the aneurism into view. After ligating the peripheral and proximal end the sac was opened and cleansed. The wound healed by first intention except where the drainage-tube was placed, and the patient made a good recovery.

Congenital Dislocations.—Dr. Ullman presented a patient showing several congenital dislocations. Anterior dislocation of the wrist could be made spontaneously, so that the inferior surface of the ulna could be distinctly felt. A similar condition existed at the elbow and hip.

MEDICO-CHIRURGICAL SOCIETY (EDINBURGH).

Psoriasis and Lupus Treated by Thyroid.—Dr. Byrom Bramwell showed a case of psoriasis in which complete recovery had taken place under the use of thyroid, and two cases of lupus treated by the same substance, to show the improvement which had taken place since the last meeting of the Society.

Eye-Diseases are very prevalent in the Orkney and Shetland Islands. There is no physician in the islands, and the poor natives are dependent upon charitably disposed practitioners of the mainland.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, February 1, 1894.

D. B. St. John Roosa, M.D., President, in the Chair.

Orthopedic Section.—A report from this Section stated that Dr. T. Halsted Myers had been elected chairman, and Dr. Samuel Lloyd, secretary, for the ensuing year.

Delegates to the State Society.—Dr. L. M. Yale, being unable to attend the coming meeting of the State Medical Society, sent in his resignation as delegate, and on motion by Dr. A. Jacobi, the President was given the power to fill the vacancy.

Bronze Medallion of Louis Pasteur.—Through Dr. Fred. A. Castle, Mr. and Mrs. Samuel P. Avery presented to the Academy a bronze medallion of Louis Pasteur. On motion the gift was accepted and a vote of thanks was extended the donors.

The Prevention of Disease.—Dr. W. W. Potter, of Buffalo, was then introduced by the President in some eulogistic remarks, as speaker of the evening. Dr. Potter had chosen as his subject the "Prevention of Disease," with the hope that further attention might be called to its importance through the large and influential membership of the Academy of Medicine, and that larger audience which it commanded through the various channels in which its transactions were published. The time had fully come for the discussion in all medical societies, by all medical men, of the manifold questions relating to preventive medicine. What he should have to say this evening was not new, and his only purpose in calling attention to the mode of propagation of a few of the more serious infectious diseases, was, if possible, to give further impetus in the prevention of disease.

The first malady, the prevention of which the author then proceeded to discuss, was consumption. This disease had only lately come to be known to the profession as an infectious one. Yet it had destroyed more inhabitants of the globe than almost any other, and only last year proved fatal to more than six thousand residents of New York City. To undertake to prevent its spread by all the means which might be at our command, would involve strict supervision over the food of cows, their stable care, isolation of consumptive persons, especially the destruction of their sputa, prevention of their marriage, etc. It would be especially necessary to prevent the consumption of tubercular meat, whether obtained from cow, fowls, or other domestic animals. The inspection of railway vehicles, steamboats, hotels, would become necessary, and, while at present it would be considered a hardship, yet it was not complained of in relation to small pox and diphtheria, maladies which were less destructive than consumption. It was wrong for a man suffering from tuberculosis to marry a healthy woman and infect her with a fatal malady, and it was equally wrong for a tubercular woman to marry and infect a healthy man. But the dangers of such a marriage did not stop here; children were likely to be born and die of the same malady. He hoped that before long an enlightened legislature would enact statutes prohibiting such marriages. Another step in the direction of prevention was the establishing of separate hospitals and adopting such measures as looked toward the isolation of consumptives. The sputum of tubercular patients must be disinfected as soon as ejected. Martin had examined the dust of one of the most frequented streets of Leipzig, and found the tubercle bacillus in about eighty per cent. of the specimens. Houses, when vacated by consumptives, should receive the most thorough renovation.

Much had already been done toward preventing the spread of tuberculosis, but the author thought the recent reduction in the mortality from this disease was due chiefly to improved sanitary regulations, better nutrition, purer air, and like influences.

Typhoid Fever.—Dr. Potter next called attention to typhoid fever as a preventive disease which carried off

annually a large number of people. In this relation he referred to a fact in history, the first writings of Dr. Austin Flint, describing an epidemic which started from North Boston in 1843. It was due to drinking-water from an infected well. Vaughn had estimated that there were fifty thousand deaths annually from typhoid fever in the States. There was need of further investigation with regard to the mode of its propagation and the best means of prevention.

The two other infectious diseases which deserved special mention on this occasion, because of their widely malevolent influence, were diphtheria and gonorrhœa. Regarding the former, the author thought that if we directed our study to its prevention with assiduity, we might expect success. It was doubtful whether any disease was capable of propagating more sickness and woe than neglected gonorrhœa. Dr. Brewer had reported a case in which gonorrhœal infection, carried by a male for six years, infected a newly married wife; and Dr. Cushing had reported one in which the woman had carried it five years, and then marrying, infected the husband, who had acute gonorrhœa and abscess. It was only during the last few years that physicians had been willing to admit the terrible scourges of this malady. Until recently it had been regarded as a mere trifle, and a chronic gleet was believed hardly to be worth consideration. We must, as a profession, exert ourselves to the utmost to bring enlightenment to the people and enforce the laws of prevention against a disease which he believed to be far more serious than syphilis, and one which played much more dreadful havoc in the community. He appealed to the Academy to formulate and carry out some plan which should have for its purpose the enlightenment of the community, the education of physicians, and the enactment of such statutes as should prevent others than physicians prescribing for, or in any way giving advice as to, the treatment of gonorrhœa.

In his concluding remarks Dr. Potter again appealed to the Academy and its individual members to inaugurate a fashion or crusade which should have for its purpose the prevention of disease, and he would suggest that certain of the general meetings be devoted to this matter to the exclusion of all other scientific work. The example of the Academy was widespread in its influence, and whatever that body asked with regard to quarantine and other sanitary regulations, it could confidently expect would be granted.

The Ocean of Peace.—The President thanked the reader for the felicitous manner in which he had called the attention of the Academy to the need of devoting its general meetings to the discussion of matters relating to prevention of disease. He thought it was quite possible, in the activity of practical work which, as had been suggested, could well be cared for by the several sections, we had at times forgotten the great current, the great stream on which the practice of medicine ought to flow, the one which should lead to the ocean of peace, to the restoration of the community from preventable disease.

Unbroken Mucous Membrane, no Diphtheria.—Dr. A. Jacobi said that of the number of points in the paper highly worthy of discussion he would allude to but one; namely, the prevention of diphtheria. The author had spoken of the law as a means of suppressing contagious diseases, but since in a republic it took much argument to convince the people that, in a given case enforcement by law was not an interference with individual right, he thought physicians should begin by doing what they might in their family practice to prevent the spread of diphtheria, and in thus spreading information among the people they would prepare them for the acceptance of a law which was calculated to lessen suffering and save life. The good which we did the public at large depended upon the good we did the individuals under our care, and since every physician commanded the respect, if not the obedience, of from ten to a hundred families, he could exert a great deal of influence toward the adoption of measures which would diminish the contagious diseases. Dr. Jacobi then dwelt forcibly upon the fact that diphtheria had its origin at the seat of some lesion of the mucous membrane of the throat, nose, or mouth, and that if the epithelium of these parts were kept in a healthy, unbroken condition, the germs of the disease would be thrown off. Diphtheria occurred in persons who had acute or chronic catarrh, so-called tonsillitis, and other conditions in which the epithelium was broken. It seldom occurred in adults, a fact which he accounted for by the comparative absence of hypertrophy of the tonsils at this date. In children suffering from hypertrophy of the tonsils and repeated attacks of tonsillitis, he advised excision. Diphtheria would not occur in the healthy cicatrix.

He gave the same advice with regard to tuberculosis, and even Asiatic cholera, to keep the lining membrane of the air-passages or intestinal tract in a healthy condition, so that the germs of these diseases would be thrown off should they gain entrance.

The Medical Profession can have what Legislation it Wants.—Dr. J. West Roosevelt thought the medical profession could have what legislation it wanted; doctors could do more to shape the policy of state, to preserve the health of the people and of individuals by rational concerted action, than they could effect by any means of treatment which they might undertake. There was, however, one very serious obstacle to overcome, namely, to first instruct the physicians themselves in what they should demand. How many of us considered it worth while to deliberately preach and impress upon the people the fact which had been discussed during the evening? How many of us realized sufficiently the actual dangers of tuberculosis?

Limiting his further remarks chiefly to the prevention of tuberculosis, Dr. Roosevelt did not doubt but what a certain amount of prevention could be secured through legislation, which involved the destruction of tubercle bacilli. Yet, he said, these germs were so numerous and so constantly present that we must look for some more efficient means of eradicating the disease. It was to fortify the body against the development of the germs, should they find access to the mucous tracts.

Dr. S. S. Burt expressed his appreciation of preventive medicine by saying that he scarcely ever wrote a paper without mentioning it. It was as individuals that physicians were likely to do most in this direction. We could not legislate for people before they wanted it. We could not kill all germs, but we could do much to prevent them from coming in contact with the person. He had also felt strongly the importance of building up the system so as to prevent taking disease, and, if possible, to crowd out germs which had got entrance. Indeed, it seemed to him that the best treatment consisted in fortifying the system against further progress of the germs, and making it a poor nidus for those that had entered. He had had a dispensary class for seventeen years, at which he was strongly exposed to the tubercle bacillus, yet he had escaped tuberculosis, a fact which he attributed to keeping himself in good condition. He thought the stamping out of small-pox had been due quite as much to isolation and disinfection and hygienic measures as to vaccination.

Experience as Health Commissioner.—Dr. Joseph D. Bryant said that about four years ago, when he was Health Commissioner of New York City, it occurred to him that it would be a wise thing to open war on tuberculosis, and after consultation with Drs. Prudden, Biggs, and H. P Loomis, a circular was formulated and distributed to the journals and twenty-four leading physicians in the city, asking whether in their opinion, with our present knowledge of tuberculosis, the Board of Health would be warranted in assuming it to be a communicable disease, and in requiring that it be reported like other infectious or contagious diseases, and in taking steps to combat its advance. Of the twenty four physicians to whom this circular was sent, only six replied, some of these after a long period of delay, and only two unquali-

fiedly in the affirmative. The discussion to-night showed what advance had been made. He knew of no physician to day who was not willing to assume that great good would come from isolation or careful surveillance of persons afflicted with tuberculosis. Dr. Bryant said he had also been responsible for the bill requiring the destruction of tuberculous cattle: as a member of the State Board of Health he had induced that body to endorse it, and in consequence it had become a law.

Dr. Potter made some closing remarks. A vote of thanks was then tendered him for his valuable paper.

SECTION ON SURGERY.

Stated Meeting. January 8, 1894.

Joseph D. Bryant, M D., Chairman.

Officers Elected.—Dr. Charles A. Powers, was elected *Chairman*, and Dr. Royal Whitman, *Secretary*, for the ensuing year.

Inguinal Hernia Cured by Macewen's Method.—Dr. F. Kammerer presented a man on whom he had operated for double inguinal hernia by Macewen's method ten years ago. There has been no recurrence. No truss was used.

Gastro-enterostomy for Carcinoma of Stomach.—Dr. Kammerer also presented a woman, past thirty years of age, on whom he had operated about two months ago for tumor, which proved, as had been diagnosed, to be carcinoma of the stomach. Finding it impracticable to extirpate the growth obstructing the pyloric orifice, he united the duodenum with the stomach by an opening about four inches in length, passing three rows of sutures in the manner described by Abbe. There was no doubt in his mind that this was the best mode of performing gastro-enterostomy; it was superior to obtaining union by rings or any mechanical means. The transverse incision through the abdominal walls gave much more room than the longitudinal one, and was resorted to in this instance. Prior to operating, Dr. Einhorn illuminated the stomach for him, which enabled them to define the tumor very well.

Dr. Kammerer also presented two specimens obtained at autopsy, showing the condition of the parts soon after gastro-enterostomy. The sutures had held quite satisfactorily. One patient was operated upon a year and a half ago, and died, not from sepsis or peritonitis, but from exhaustion. The other specimen was from the case of a man operated upon recently, who was very much emaciated, died forty eight hours after the operation, without evidence of sepsis or inflammation.

Pain in Amputation Stump.—Dr. W. W. Van Arsdale presented a boy, eight years of age, who had had his arm amputated after an accident which occurred three and a half years ago. The end of the remaining portion of the humerus pressed upon the soft parts and was twice reamputated. At present the stump was again becoming conical, caused so much pain as to interfere with sleep, and was the seat of sensations of cold.

Conical Stump.—Dr. Shively also presented, in connection with Dr. Powers's paper, a patient, a girl, who illustrated in a marked degree conical stump following amputation through the humerus. In 1890 she was run over by a truck, amputation of the arm was performed, the parents were told that conical stump might develop—this had taken place so that the bone projected two inches or more beyond the healthy skin. The increase in the length of the bone during the four years had been about three inches.

The Modern Treatment of Hemorrhoids.—Dr. James P. Tuttle read the paper. He said he would not have prepared it had not the question been raised lately regarding the comparative value of some of the older operations and newer ones in the treatment of hemorrhoids. Certain forms of this disorder were amenable to the simplest constitutional and local treatment, while others required an operation. Operative measures were more brilliant and more remunerative, and generally were successful, but in many cases, he might say in the majority, they were unnecessary.

Hemorrhoids were either external or internal, the former being in view and connected with the general circulation, the latter occurring within the sphincter and connected with the portal circulation. Some had been denominated mixed hemorrhoids. He divided external hemorrhoids into four varieties, thrombosic, varicose, inflammatory, and connective-tissue piles. In the thrombotic form cold applications had been said to give relief from pain, but he had found sponging with hot water more effectual. The best treatment was excision, laying each tumor open under cocaine, turning out the clot, washing out the cavity with bichloride or boric acid solution, and applying gauze. Pressure would control bleeding.

The varicose form, due to varicose veins about the verge of the anus, seen oftenest in those of sedentary and constipated habit, were often amenable to palliative treatment. Regulate the habit with regard to exercise, diet, and constipation, avoid prolonged stool, lie on the side afterward and apply ice-water, after this apply an astringent ointment on soft lint, retaining it in position over night. The following was a good ointment: Equal parts of officinal ointments of belladonna and stramonium and tannic acid. He had several times cured them by making cross section of the enlarged vein by the cautery at dull heat, but subsequent pain was a serious objection to this method. Operation by crushing was much less painful and quite as successful. He had not tried Kelsey's method by puncture with the cautery, for he had known it to be followed by abscess.

Inflammatory external hemorrhoids were more serious, were more or less club-shaped, single or multiple, and were due to traumatism or irritation proceeding from within or without the sphincter. They developed rapidly and were very painful. Where there was more than one there was apt to be a small fissure between. The treatment consisted in removal of the cause, and operative or antiphlogistic procedure. There was not much choice between ligature, excision, clamp, and cautery methods. If there were also internal hemorrhoids it was generally advisable to stretch the sphincter and remove them first. Leeching and puncturing only added fuel to the flame. Cold compresses sometimes gave relief. Before applying the ointment already mentioned, benefit would be derived from twenty-five per cent. of fluid extract of krameria in water. When pain was severe add a little morphine to the ointment. If an operation were done under cocaine, always be prepared for hemorrhage an hour to three hours afterward.

The next division was that of condylomata, or masses of connective tissue about the margin of the anus, having a mucous, cutaneous, and muco-cutaneous covering, due to irritation, hyperæmia, and hypertrophy of the parts. He had seen them in both malignant and specific disease, but did not consider them as evidence of any particular disorder. They were liable to become inflamed from traumatism or irritation of the anus, then swelled and became exceedingly painful, sometimes ulcerated. The vascular element was very small. Careful regimen, application of cold, and avoidance of injury would keep them quiescent, but would not cure them. If they did not annoy the patient they should be let alone; if they did, they should be removed, and it was better to remove them when quiescent. He operated by clamps, crushing, or by scissors. He preferred palliative treatment until inflammation had subsided, and then resorted to crushing. It was rarely necessary to resort to operative treatment in any form of external piles except the thrombotic; palliative treatment was sufficient.

Internal Hemorrhoids.—These were varicose or capillary. The point of hemorrhage in the capillary form was not often from the summit of the tumor, but from the sulcus, and the author thought it was owing to this fact that cauterization often failed to check bleeding. The

tumors were too small for ligature, clamp, or crushing. The most common method of treatment was the application of nitric acid to the bleeding point. But there was this objection to it, that it was impossible to limit the action of the acid, and it therefore sometimes caused ulcers of considerable size. He had recently adopted in its stead electro-cautery through means of a small, round, platinum electrode, the parts having first been cocainized. He preferred this to the Paqueline cautery or curettement with Volkmann's spoon, two methods which required general anæsthesia.

There was a mixed form of hemorrhoids which often would disappear under local applications and general hygiene.

The operative treatment of internal hemorrhoids consisted of injections, clamp and cautery, ligature, and Whitehead's operation. Regarding injections, the object was to produce inflammatory induration and subsequent absorption. By some, however, it was applied with a view to produce sloughing in the tumor, which seemed to the author unsurgical and dangerous. Thorough antisepsis and cleanliness were called for. The needle should be introduced from the base of the tumor to its centre, point neither downward to the connective tissue, nor ending against the mucous membrane. The blood should be pressed out with the finger. Then inject two minims, never more than four minims, of a solution composed of one drachm and a half of carbolic acid, half a drachm of salicylic acid, a drachm of biborate of soda, and a sufficient quantity of glycerine to make an ounce. The solution was unsafe unless perfectly clear. This treatment caused no pain, did not confine the patient, and if it did not cure it certainly gave immunity for a long time. He had not seen hemorrhage, constriction, or injurious results in any of nearly a thousand injections. He attributed this freedom from evil results to strict antisepsis, the weak solution, and small quantity injected. Only a few of the cases had recurred, even after three or four years.

In some cases a more radical operation was necessary, and the clamp and cautery seemed about to supersede the ligature. The piles should be counted and located before the sphincter was dilated, for after dilatation the whole hemorrhoidal area became so congested and swollen that it was difficult to outline them. Dragging the sphincter forcibly apart with the thumbs was too violent a procedure. He preferred gradual introduction of the fingers into the rectum, which acted as a bougie. The hemorrhoid should be grasped in the clamp parallel with the gut, not across it, then cut off with the scissors, and the raw surface be seared with the cautery at red heat, the object of the cautery being to stop hemorrhage and not to destroy tissue. Deep burning would be apt to produce hemorrhage and sloughing. In over five hundred cases so operated upon the author had not seen hemorrhage of moment, death, or cicatricial narrowing of the gut. The patients usually were not confined more than four or five days. Crushing, without the use of the cautery, was not so safe as the method just described, and was called for only in few cases. As to the ligature, he had had no particular failures with it, but there were disadvantages attending its use. The operation could not well be made aseptic, it required considerable time, it was very painful, the patient often suffered a week or more, often it necessitated the use of the catheter, it endangered secondary hemorrhage when the ligature cut through, it was liable to leave an ulcer, it confined the patient to bed a long time. As between Allingham's operation and transfixion, the latter seemed the less dangerous, the ligature was less likely to slip off.

Excision, or Whitehead's operation, the last candidate for favor, consisted in snipping off the tumors and stitching the edges of the mucous membrane together. But in this area lay the circulatory apparatus of the lower end of the rectum, and he was not convinced that the tissue removed could be taken away with immunity. In patients operated upon by others by the Whitehead method he had seen stricture in two, ulceration in two, prolapsus and erosion in one. It was sometimes followed by apparent drawing upward of the cutaneous tissue, so that it became macerated and caused pain and fetid odor. Its success depended upon perfect asepsis, immediate union, absence of tension, and conditions some of which were liable to fail and spoil the operation.

Dr. Willy Meyer opened the discussion. He preferred the ligature to the clamp-and-cautery method, and said the objections which had been offered to the ligature seldom held. The patient was out on the twelfth day. The Whitehead operation was an ideal one in cases in which it could be practised, that is, with hospital conveniences, but in private practice he would prefer the ligature or clamp method.

Dr. Samuel Lloyd wished to corroborate what Dr. Meyer had said regarding the ligature and Whitehead operation. He was not very favorable to the cautery unless it were necessary to check hemorrhage. Whitehead's operation had been very successful in his hands, and he thought he would prefer it also in private practice. He put in a light ligature and then sutured the mucous membrane on top.

Dr. T. H. Manley agreed with the author that a large proportion of cases of hemorrhoids called only for palliative, not operative, measures. Many cases could be cured without operation, while all operations likewise failed sometimes. Hemorrhoids, like varicocele, was often due to an inherited tendency. Usually cocaine anæsthesia was sufficient. For varicose hemorrhoids he dilated, turned the hemorrhoid out of the anus, and twisted each one on its base and crushed it. Resorption followed. This method was safer than operative procedures, was not, like them, liable to be followed by cicatrization, and was usually efficient. Whitehead's operation was called for only in exceptional cases.

Dr. Kammerer had had some experience with Whitehead's operation, and expressed the opinion that it should be resorted to only in severe cases.

The Chairman, Dr. Bryant, spoke favorably of the ligation method. Of course the mucous membrane should not be removed in the transverse direction, and patches should be left between the excised portions. With such precautions contraction would not follow. If the hemorrhoids were small, he used catgut; if large, and there was likely to be some strain on the ligature, he used silk. As to the danger of Whitehead's operation, it was hardly deserving thought when Whitehead was able to report three thousand operations without a death.

Dr. Tuttle, in closing the discussion, said his main objection to the ligation method was the length of time the patient was confined to the house. He characterized the tube-tampon, which some used to prevent contraction, as the "most damnable thing ever put into one's backside." It was extremely painful and did no good, for contraction did not take place until after a cicatrix began to form.

Further Observations on the Physiological Occurrence of Conical Stump after Amputations in Children.—Dr. C. A. Powers read a brief paper bearing this title. His first observations had been communicated to the Section in March, 1890, at which time he related cases of conical stump after amputations in children which could not be accounted for by any fault in technique, but which was attributed, in accord with the views of Dr. Bull and some others, to physiological growth of the bone in excess of growth of the soft parts. The amendment which he had to offer to the views then expressed was, that inflammatory deposit might take place at the end of the bone from pressure against the skin. This inflammatory deposit, however, contributed only slightly to the length, the main part being due to physiological growth of the epiphyseal cartilage. Additional cases were cited in proof of this view, and photographs were shown. The stump, an inch and a half in length, which had been removed in one case, was examined by Dr. Ferguson, who reported that he regarded the changes in the end of the stump as due to development of the bone in a physiological way, and to pressure upon the soft parts.

We were forced to accept the conclusion, he said, that amputation through the upper half of the humerus or leg of a young child would probably be followed by a conical condition of the stump, and the parents might well be notified of that fact at the time of the operation, and be led to expect in two or three years that further resection of bone would be necessary, and that even this might have to be repeated in the course of time.

Dr. Whitman said he had seen several cases of conical stump.

Dr. Lilienthal said he then had under observation a man, aged twenty-two, who had painful ulceration of conical stump following amputation at the age of fourteen years.

Dr. Van Arsdale asked whether conical stump was the rule or the exception?

The Chairman, Dr. Bryant, remarked upon the rapid growth of the bony stump in Dr. Van Arsdale's case where two resections had been made within a short period; said all doubt seemed to have been removed as to the main growth of the humerus taking place from the upper epiphysis, but the wonder was that all healthy arms were not out at the elbow!

Dr. Powers replied to the President's suggestion by saying that nearly the entire growth of the humerus was from its upper third, and went on to take place when the lower two-thirds were removed, just as it did in the healthy arm, whereas each section of the soft parts, having but its own growth, the third remaining fell behind that of the bone in increased length by two thirds, or in proportion to the amount removed.

Portable Sterilizer for Private Operations. — Dr. Willy Meyer exhibited a portable sterilizer, made of nickeled copper, also one of plain copper, with tray for instruments and pan for towels and cotton. There accompanied it an alcohol-lamp, with half a dozen burners. The sterilizer was long enough to admit obstetric forceps. Filled with all the paraphernalia necessary for an operation at a patient's house, it was put into a canvas cover and transported like a valise. Immediately on arriving at the patient's house two quarts of water, with crystallized soda, were poured in, covering the instruments, while the towels in the pan above were exposed only to the heat of the steam after the lamp had raised the temperature sufficiently high. The whole time required for sterilization was about thirty or thirty-five minutes. A fuller description will be given in a future issue.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE GYNECOLOGICAL SOCIETY — PROTEST OF ITS PRESIDENT—SCHOOL OPHTHALMIA—DANGER OF ITS SPREADING —AN ALARM TO HIGHER SCHOOLS AND THE GENERAL PUBLIC—SPREAD OF SMALL POX AROUND HOSPITALS— DISCUSSION AT THE EPIDEMIOLOGICAL SOCIETY—SPONTANEOUS DISAPPEARANCE OF ABDOMINAL TUMORS.

London, February 3, 1894.

The British Gynecological Society lately celebrated its annual meeting by a dinner, when the President, Mr. Bowerman Jessett, occupied the chair. He ventured, in the course of his speech, to give expression to a feeling often talked of in more private assemblies, viz., the appearance of jealousy in some quarters at the formation of this society. Simple rivalry in such associations may do good, but downright jealousy is absurd, though in this case no doubt it exists. The Obstetrical Society, or rather certain members of it, considered there was no room for the Gynecological, and these members seem aggravated at its success. They seem, too, to have been able to influence some of the journals to exclude reports of the younger society, and against this "boycotting" by the editors in question, Mr. Jessett uttered a quiet and dignified protest which may, perhaps, have the desired effect. The midwifery section of the profession have long been proverbially credited with being the most jealous of each other, and many a joke at the expense of the "ladies' men" has been founded on their assumed sensitiveness. I have occasionally referred to the doings of the Society, which is vigorous enough to maintain its own journal. Dr. Savage has been elected president for this year.

A very grave indictment against the more well-to-do classes has been drawn by Mr. Jonathan Hutchinson. At the last meeting of the Ophthalmological Society he charged them with indifference to the consequence of crowding the children of the poor in schools and workhouses, which has resulted in a great spread of ophthalmia. Mr. Hutchinson has special experience, and while disclaiming all wish to be an alarmist, he raises his voice in serious warning. School ophthalmia, he declares, has at length invaded some of our great public schools, and, unless the greatest precautions are at once adopted, will be disseminated by the boys throughout the middle and upper ranks of society.

Another way in which this disease is spread is the practice of sending home soldiers who are suffering from granular lids, a line of conduct which Mr. Hutchinson calls reprehensible. If the facts be all as set forth, we may soon cease to speak of "school ophthalmia" or of "military ophthalmia," and adopt some more general term, such as family ophthalmia. If the disease owns no predisposing conditions, but attacks indiscriminately those who are exposed to the contagion, there is assuredly no little danger of its spreading throughout the community wherever it finds a lodgement. Obviously, close small rooms, overcrowding, and other conditions hitherto said to be predisposing, are precisely those which favor direct contagion, and the virulence of the contagion in schools and barracks may be accounted for by the habits which prevail in such places. Isolation of every case of inflamed eyes and a careful examination of the lids before the pupil is allowed to return, are the means recommended for prevention by Mr. Hutchinson, and he opposes the breaking up of a school as a measure which would only disperse the disease through the families of the scholars.

Of course, a paper of this importance by an acknowledged expert, would receive the attention it deserved, and the discussion which arose was adjourned to the next meeting. Of those who spoke, Dr. Sydney Stephenson, who has charge of an isolation school for 400 children, said that in June last the number admitted had fallen to 100, and cases were therefore admitted from other districts. He had examined 14,000 children in different schools, and found 94.5 per cent. showed more or less follicular bodies in the lids, only 4.5 per cent. being free. Does not this look as if this slight condition might almost be termed normal? Dr. Stephenson formerly regarded the follicular affection as an early stage of trachoma, but he found this was not so, for follicular conjunctivitis does not develop, and out of all the cases named only 0.5 had true trachoma. Mr. Nettleship thought unnecessary alarm had been raised by the discovery of widespread disease of the lids; but he did not think there was a serious amount in the higher-class schools, and what there was presented a mild form. The systematic examination now common discovered cases which would formerly have been overlooked.

The question of the aërial convection of small-pox from hospitals has been brought before the Epidemiological Society by Dr. McVail in a masterly address, summing up the evidence that has been adduced with judicial care. He was unable to exclude aërial convection from the causes of the spread of the disease, though he thought that in almost all instances personal intercourse concurred in producing the outbreak. Such circumstances as the presence of susceptible persons in the population, the meteorological conditions, and the position and arrangements of the hospital were important—the last perhaps the most important of all. Dr. Savill said that at Warrington, when the cases were transferred to the new

hospital, the distribution of the disease seemed to follow, but bore no relation to other courses, though a very close one to human communication. Dr. Sweeting said that at Fulham, on the admission of small pox, the fever cases were revaccinated, except six or eight, and these took the disease in spite of the utmost precautions, including the use of the telephone to prevent communication between the parts of the building. This discussion was also adjourned.

At the Royal Medical and Chirurgical Society, on January 23d, a paper was read by Mr. J. Greig Smith (Bristol) on the "So-called Spontaneous Disappearance of Solid Abdominal Tumors." Three cases were recorded, the common leading features in which were the presence of a solid tumor in the abdomen, absence of pyrexia, clinical evidence of malignancy on abdominal section, and ultimate disappearance of the tumor with complete restoration to health. The first case was that of a young man aged twenty-five. Intestinal obstruction existed, due to a solid tumor as large as a cocoanut situated in the lower abdomen. The tumor, being on inspection diagnosed as malignant, and being inherent to intestines, was not disturbed. Enterostomy was performed for the obstruction. The tumor slowly diminished in size, and six months later, when the abdomen was opened for the performance of enterorrhaphy, it was found to have disappeared. The patient, after four years and a half, continued in good health. In the second case, that of a woman aged fifty-five, the tumor lay in the umbilical region, and was adherent at and around the umbilicus. It was globular in shape and as large as a child's head at birth. On abdominal section the intestines were found to be adherent to its surface on one side. Diffusing malignancy was diagnosed, and no attempt at removal was made. A small collection of muco-pus at the umbilicus was evacuated, and the slight discharge from a fistula which formed there continued for over two years. The tumor disappeared, the sinus closed, and the patient was now quite well. A girl aged nineteen was the subject of the third case. Here the tumor was as large as an eight-months pregnant uterus, filling and distending the upper and right side of the abdomen, but not dipping into the pelvis. On abdominal section the tumor was diagnosed as malignant and unremovable. A fecal fistula formed, the tumor gradually diminished in size, and ultimately disappeared. The intestinal opening was closed by operation, and the patient was at present in good health. Comparative observations were made on solid tumors of myomatous, tuberculous, and inflammatory nature, which in the writer's experience had been found to disappear after operation. An explanation as to the origin of the tumors in question was made to rest on the process of phagocytosis and the heaping up of embryonic protective cells around a minute fistulous opening communicating with intestine. Cure was accidental, but not spontaneous, depending in one case on a diversion of intestinal contents, and in the two others on an external opening of the fistula.

Dr. Church remarked that it was just in such cases as those under discussion that the quacks made capital. He suggested that some inflammatory lesion or enlargement of a Mechel's diverticulum, might be the cause of some instances.

Mr. Alban Doran said that in cases of chronic peritonitis, accompanied by adhesions of intestine, and by the accumulation of scybala, clinical signs might arise which closely resembled those of solid tumor. Chronic tuberculous peritonitis was not rare in tolerably elderly people, and as a result masses of inflammatory material might be formed on the surface of the intestine; these might subsequently disappear, and the temperature might remain for long periods little if any above the normal. Such inflammatory formations simulated a semi-solid or semi cystic tumor, and were hard to differentiate even on inspection, but cancer and sarcoma did not tend to get better by themselves; when external they might slough, but such a condition occurring within the abdomen would certainly prove fatal. In chronic peritonitis in adults and tuberculous peritonitis in young men or women, the changes in the apparent tumor were most remarkable, and might take place in a very short space of time.

Mr. Bland Sutton said that since 1891 he had had four of these cases of disappearing tumors under his care, but in none of them had he to open the intestine. They had all been associated with the bowel, and he thought that in the manipulations incidental to an exploratory operation, adhesions had been broken down which had prevented the passage of intestinal contents, and, this having been relieved, the inflammation had subsided. He did not believe in the spontaneous disappearance of any connective-tissue or cancerous growths; and the cases spontaneously disappearing of myomata which had been recorded were based on clinical observations alone.

Mr. Barker remarked that most of the disappearing tumors had been referred to the abdomen, but he mentioned one which grew in the neck.

Sir W. Priessley alluded to the well-known changes undergone by fibroid tumors of the uterus. The tumors under discussion turned out to be more benign than had been expected, and thus resembled many tumors and ulcerations of the breast or uterus which bore every appearance of malignancy; and yet, to the surprise of those who had made the diagnosis, they disappeared and the patients recovered. The whole question was as to the nature of the tumor, for as to their existence there could not be a doubt. He knew of no tumors in the abdomen or pelvis, which could disappear in the way described, that were not of inflammatory origin. They need not be accompanied by a high temperature, for large tumors and extensive areas of suppuration might occur without febrile reaction or special local signs.

Mr. Barwell inquired whether odorous pus was found in all the cases. He had seen many cases of chronic peritonitis associated with suppuration, unaccompanied by fever or constitutional disturbance.

Mr. Greig Smith said in reply, that the discussion had helped in the understanding of these difficult cases, and would do away with the theory that solid abdominal tumors might spontaneously disappear after an operation. There was nothing spontaneous about the process, which was simply a question of cause and effect.

OUR ROMAN LETTER.

(From our Special Correspondent.)

HOW TO REACH ROME—RAILWAY TRAVEL ON THE CONTINENT—FEES—CUSTOM-HOUSE EXAMINATIONS—BAGGAGE—SLEEPING AND DINING CARS.

ROME, February 2, 1894.

ALL roads lead to Rome, some almost as the crow flies, others by a more circuitous route, though quite as expeditiously. The sea passage varies, according to the route and boat selected, from six and a half to fourteen days, and the railway journey, from the port of arrival in Europe to Rome, from five to forty-eight hours. The expense of the round trip from New York, including a ten days' stay in Rome, will run from $200 upward. Probably most of those attending the Congress will go and return by one of the Mediterranean lines direct to Genoa or Naples; but for those with larger purses and more time at their disposal it would be more pleasant to go by way of the Mediterranean and return from one of the northern ports (Hamburg, Bremen, Rotterdam, Havre, Southampton, or Liverpool). Most of the steamship lines as well as the railways on the Continent offer tickets to the members of Congress, and in many cases to the families of the members also, at greatly reduced rates—in some cases as low as one-half the regular fare. In order to secure this advantage, however, the member must have paid his registration fee and have secured the necessary documents in proof thereof. If the traveller is sure of the route he will take, some trouble and annoy-

ance may be saved by procuring Cook's or Gaze's tickets for the entire journey from his home to Rome and back. The only objection to this is that the traveller cannot alter the route first determined upon under pain, in most cases, of forfeiting the amount paid for the tickets. He can, of course, make side excursions from any station where a stop over is permitted, but must return to the same station and continue his previously arranged route from that point. Bearing these conditions in mind, the purchase of circular tickets will save the traveller much trouble and inconvenience, especially if he be unacquainted with the languages of the countries through which he must pass. It may be well, perhaps, to say that the holder of a Cook's ticket may travel as he chooses, and need not necessarily proceed with a personally conducted party.

As the conditions of travel in Europe differ in many respects from those in this country, a few hints may not come amiss to those visiting the old world for the first time. And first, as to the question of fees—an annoying but universal custom to which everyone must submit with as good grace as possible. Americans in Europe usually make one of two mistakes: they either fee too lavishly or not at all. The sulphurous fumes of invective that follow the latter in their peregrinations is something too awful for any but those with the strongest nerves and the most profound disbelief in a future life to contemplate. He who fees moderately but justly is fully as well served as the one who scatters gratuities recklessly, and is perhaps rather more respected by the recipients of his bounty. On the steamer the bed room steward, the table-steward, and the boots all expect fees. For a voyage of a week to ten days, $2 to each of the former and $1 to the latter (if he has brushed your clothes or polished your shoes), would be a fair amount if no extra service has been rendered. A man travelling with his wife would be expected to give a little more to each of the stewards, and also to fee the stewardess and the deck steward, who looks after the steamer-chairs and brings meals to those too ill to go down to the saloon. It is unnecessary to buy steamer chairs, as they can usually be hired for the voyage on the pier, or from the deck steward on the steamer. It will be wise, however, to make inquiries concerning this before sailing, for a steamer-chair is a great luxury, if not an absolute necessity, on a long ocean voyage. Upon arrival in port the baggage is examined by the customs officers, as it is also at every frontier station in passing through Europe. This is usually a mere formality, although sometimes a very disagreeable one, if the traveller happen to cross a frontier in the night time. Everyone must leave the car and enter the custom-house whither his luggage is carried by the porters. He must always be present at the examination of his baggage, and can delegate the duty to no one else unless he be absolutely prevented by illness from leaving the car. The examinations are not strict, and as a rule the only things upon which duty may be levied are tobacco and spirits. In most countries a reasonable number of cigars or cigarettes (say twenty-five cigars or fifty cigarettes), or a quarter of a pound of tobacco, will be passed free, but in Italy the legal allowance is only seven cigars, or as many cigarettes as the officials may consider sufficient for a single day's consumption. If the passenger shows a readiness to open all his luggage and keeps his temper, he will almost invariably find the customs officials civil and easy to deal with. The railway porter who carries the hand baggage to and from the examining room, expects a fee equivalent to five cents or more, according to the amount. The same fee is looked for in all stations for carrying luggage to or from the cab or omnibus; if there is also registered luggage, about twice as much should be given.

In some countries the railways carry fifty six pounds (25 kilos) of baggage free; there is always a registration fee of about ten cents a package), but in others every pound must be paid for, except valises and satchels, that can be taken with one into the railway compartment. On through journeys baggage can be checked (here called registered) through to destination and the passenger need have no concern about it until his arrival, except when crossing a frontier, when he must be ready to open it for inspection to the custom-house. When it is not registered he must attend personally to its transfer at every change of cars, and must fee the porters who carry it. From what has been said above, it will be seen that he who travels with little baggage, preferably hand-baggage that he can take with him into the car, will avoid much annoyance and expense.

On most of the night express trains there are sleeping-cars, of which the traveller with first class railway tickets can avail himself by the payment of about twenty per cent. above the ordinary first class fare. On the day express-trains there are dining-cars, in which first- or second-class passengers can breakfast for about eighty cents, or dine for one dollar. Wine is always extra at these meals, and the traveller is expected, though not obliged, to purchase a half-bottle of wine or mineral water. The same is expected of him at all *table d'hôte* meals in hotels or restaurants, except in France, where a mediocre table wine or a syphon of mineral water is included in the price of the meal. The fee to the waiter should be from 5*d*, ten per cent. of the charge for the meal. Dining *à la carte* is usually a much more expensive way, and it is advisable for the traveller to take his meals, as a rule, *table d'hôte* (*à prix fixe* is the more common term in Europe, *table d'hôte* having a slightly different signification).

In most cities where one would be likely to stop overnight, or for a longer stay, each hotel has its omnibus at the station. The fare is usually slightly in excess of the legal rates for cabs, but one who is not familiar with the place and the ways of the cabmen had better take the omnibus, nevertheless. The hotel porter at the station will take the check for registered baggage and see to its delivery at the hotel—for which a charge will be found in the bill. English, French, and German are spoken by the porters of all the first class hotels in the larger cities of Europe, and one who is ignorant of any language but his own can travel very comfortably by the aid of pantomime and a little copper anywhere in Western Europe. A final word concerning railway travel. Everywhere in Europe there are first- and second-class railway compartments, and in purchasing tickets it is necessary to state what class is desired. If there are only men in the party, second class is comfortable enough anywhere for day travel; but if a sleeping-berth is wanted at night, a first-class ticket must be taken, as passengers of this class only are admitted to the sleepers, at least in France and Italy. In Germany and Austria, passengers with second-class tickets are given accommodations in the sleepers upon payment of the extra fare. If ladies are in the party, first-class tickets should be taken in France and Italy, as the second-class compartments are not very comfortable. In Germany and Austria, the second-class cars are comfortable enough even for ladies, though naturally not as exclusive. For long journeys so called, mixed tickets may be taken, that is, tickets permitting of travel first-class in France and Italy, and second-class in Germany and Austria.

Information as to the exact rates on the steamers and railways, and the reduction allowed to actual members of the Congress, as well as to the dates of sailings, and the length of time required by the different routes to reach Rome from any city in America, can be obtained from any of the agencies of Thomas Cook & Son, or of H. Gaze & Co. Those desiring to secure accommodations in Rome should apply at once to Cook's agents, who have secured a limited number of rooms in various hotels and boarding-houses in the city for members of the Congress.

Skin Grafting.—If we wish a skin-flap to adhere to a new surface by first intention, or agglutination, we must be sure that it is free of all areolar tissue and properly fixed in its new place.—Wolfe.

"THE PROFESSOR OF WIND AND WATER" AND HIS MISLEADING STATEMENTS.

To the Editor of the Medical Record.

Sir: I read in the Medical Record of February 3d an item entitled "The Greatest Consultation in History." I regret that you should have fallen into so grave and absurd an error as to believe such news of these poor writers of "the veracious daily press."

I will state that, as a matter of fact, the mother in-law of the Mikado of Japan has not "recently been ill," and that if such were the case, we have in Japan a dozen of the ablest physicians in special attendance on the imperial household, and no less expert than the ablest of American doctors, who would be called to attend her.

From the very commencement of Japanese history, that is, from two thousand five hundred years ago down to the present time, there was never the case of so many physicians being called to consult in even an emperor's sickness.

As to the statement that a "Buddhist priest" attributed the imperial mother-in-law's illness to the introduction of the railroads, I might say (if such statement were true) that the Buddhist priests, as a class, are friendly to the introduction of the railroads. They do not oppose them, but, on the contrary, advise the building of them, and are only too glad to avail themselves of their facilities and conveniences.

Even more than this, the simplest person of our land, the most ignorant of our lowest classes, bears no ill will to so progressive an invention as your iron way.

Japanese statistics of 1892 show that in a land area of 160,000 square miles we have 1,400 miles of railroad laid. There are in process of building, not yet completed, more than a score of railroads.

It seems to me, therefore, that the statement you quote, and which you apply to Japan, must refer to China. In China it is not unusual to have congregated for consultation, in cases of imperial sickness, four or five hundred doctors. But there even, so many are called not for purposes of actual consultation or participation in service to the patient, but for mere ceremonial dignity.

Most of these doctors never know anything of the condition of the patient; they are but actors in a grotesque play of imperial pomp.

The personage whom your item calls "a Buddhist priest," was doubtless, in Chinese philosophy, the figure of mind, the representative "professor of wind and water," classified with Taouism by the common people.

Chinese Taouists claim to be true followers of the very ancient philosopher called Laoutse. The more intelligent classes, those who have studied deeply, do not admit this. As defined by Count d'Escayrac de Lauture the peculiar faith of Taouism is "practically a religion to which belong the doctrines of Confucius and the objects of cult of Laoutse and precepts of Buddha."

In one feature Taouists resemble the ancient Alchemists, they seek to convert common metal into gold and mercury into the medicine of immortal life.

The fundamental principles of this philosophy are those of the five elements, the principles of negation and positivism—water, fire, wood, metal, earth. Phenomena, as well as human fortunes, are analyzed by the motions or the interchanges of these elements. Besides this they believe these elements to have their own spirits or gods, and they fear to antagonize their supernaturalism.

The professor of wind and water is an offshoot from this doctrine. He specially controls the relations between these two elements, air (wind) and water, and all human affairs. He is believed in by most low class Chinamen and the superstitious ones of the high classes. A representative of the professor of wind and water teaches the doctrines I have mentioned, and worships and mediates for the believers to the spirits of these two elements.

Now, the common people of China believe that if they erect edifices—such as tombs, temples, towers, houses, or railroads—in a wrong situation, that is, in opposition to the negative or positive character of the elements, wind and water, of the particular locality, the owner or builder of such edifices will be punished by the spirits with great calamity—perhaps with fire, famine, pestilence, or other misfortunes.

These conditions of superstitious belief of the philosophy of the Chinese are now the greatest obstacle to the building of railroads in that empire. There are but a very few miles of railroad in China, including Formosa, which is the island of China nearest Japan. Against the building of two hundred miles of railroad the greatest opposition was encountered on the part of common people through their belief in the spirits of the elements to which I have referred.

I read often in Japanese newspapers that it is prophesied in China by this wonderful professor of wind and water that the imperial family and that country generally will have some unseen fatality befall it because of the introduction of the railroads.

It is but natural, therefore, that so benighted a people should attribute their emperor's mother-in-law's illness to railroads, for however a Western people may look upon a mother-in-law's sickness, in China it is considered by no means a blessing.

And now, Mr. Editor, I hope that I have made plain the points I wished to enlighten you on; these are, that the foolish news which appeared in your world's medical newspaper did not refer to Japan, but to China, and that the "simple logic" which you cite of railroads being the cause of human illness, did not emanate from the ingenious mind of a Japanese priest of Buddha (learned in Sanscrit lore from which are derived your European languages) but from that of a prententious Chinese Taouist.

Very respectfully,

M. Tsuchiya.

New York Correspondent Tokyo Nichi-nichi Shumbun (Tokyo Daily News).

45 Macdougal Street, New York.

[We make the corrections with pleasure, at the same time assuring our readers that the so-called "Professor of Wind and Water" has properly vindicated his title to at least one of his specialties.—Ed.]

DENTISTS.

To the Editor of the Medical Record.

Sir: The article "Defects in the Dentist," published in the issue of the Medical Record of January 27th, in my opinion maligns too many of the dental profession of to-day. I have no doubt there are defects in the methods of the best of dental practitioners—strange if there were not—likewise has the medical profession some in it who are defective in knowledge, or, if they know, do not make use of all the recent discoveries in daily practice; but why condemn the whole for the sins of a few? That the dental profession does not possess the knowledge wherewith to prevent caries of the teeth is not because they do not desire to. "The mouth is a rich culture-ground for microbes," and despite all the care the patients can possibly give the mouth, the microbes are present, and do their work faithfully and without ceasing.

You do not know, evidently, how carefully most dentists endeavor to render thoroughly aseptic themselves and their instruments, especially after an operation where the least suspicion of specific disease exists. You evidently do not know that many, if not most, of them have their special appliances, for heating water to 212° F. of heat, and their solutions of carbolic acid and bichloride of mercury in constant and intelligent use.

The dental literature is so full of all the modern theories concerning septic and antiseptic conditions, as applied to the oral cavity, that he who runs may read, and as for recognizing either the primary or tertiary stage of syphilis, there are many who would know at a glance all that anyone could know without the aid of the history of the case or a microscopist.

To render the mouth thoroughly aseptic is impossible

except for a very limited time, if at all, and he who would keep it so always must of necessity do little else. The profession recognizes its inability to successfully cope with many of the pathological conditions that exist in the human mouth, and are at work constantly to not only repair the injuries done, but to devise means whereby they can be prevented. They are making rapid progress, and are able to prevent some and materially mitigate the action of others. Sometime ago a filling material was much used that under certain conditions of the mouth had peculiar preservative properties, and by some enthusiasts was said to be sure death to any microbe that might be venturesome enough to attempt to skate across its polished surface.

The profession has many members who are able and intelligent workers, and who give freely of their knowledge; and it is readily absorbed by a large class of workers "at the chair." It is used intelligently in daily practice, and great benefit is being derived therefrom by the public. The clinics of the various dental societies are replete with specimens of all stages of diseased conditions of interest and of value to the dentist.

"Let some one devise a way of making the gums aseptic and prevent caries," and who will not call him blessed? Let some one devise a way to prevent tuberculosis, and who among us would not call him the greatest benefactor mankind has ever known save Jesus Christ? So long as there exists the law of heredity, just so long will we find the various predispositions and idiosyncrasies, and the least of these is not a carious diathesis of the teeth.

WILLIAM E. TRUEX, D.D.S.

FREEHOLD, N. J.

AMPUTATION AT THE HIP-JOINT.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In a letter to the MEDICAL RECORD of February 10th, Dr. John A. Wyeth says, "I have implicit faith in the spirit of fairness which prevails in our profession, and believe that whatever credit I am entitled to for devising and developing the 'Bloodless Amputation at the Hip,' will be accorded me." I fully agree with him in this, and feel sure he will be accorded due credit for developing the method under discussion and for calling the attention of the profession to it; but still, believing in this spirit of fairness, I am equally sure the credit for having originated the method will not be given to him, but to Volkmann.

No one can deny that Volkmann gave to modern surgery a method of amputation at the hip-joint very similar to Wyeth's. That the method published by Wyeth should differ from it in some minor details is only natural. If it was devised without any knowledge of Volkmann's method it would do so accidentally; if it was taken from Volkmann's method it would be modified purposely.

Dr. Wyeth says a discussion of the subject, whether or not the Wyeth method of hip amputation be properly named, has very little personal interest to him. This seems strange coming from a man who is so interested in what he claims to be his method, that he appends a column of endorsements and recommendations to an article upon that subject, as he did in the *Medical News* of December 9, 1893, and from a man who becomes as agitated in the very discussion which has no interest to him as Dr. Wyeth evidently did, to judge from the tone of his communication.

In that article Dr. Wyeth speaks sarcastically of surgical acumen, well-informed surgeons, etc., but does not explain why he failed to find "any mention or description of any such operation" in the works of König and Heinicke, which he claims to have searched. Verily, "there are none as blind as those who will not see."

Dr. Wyeth has presented his case. I will present mine. Dr. Brashear originates a method in 1806. It becomes so completely lost that even Dr. Wyeth does not know of its existence. Volkmann devises the same, or a very similar, method seventy-five years afterward. His method is published in standard surgical text-books and becomes known to well-informed surgeons as Volkmann's method. A very few years later Dr. Wyeth publishes a very like method. His attention is called to the similarity of the methods. He denies that Volkmann originated such a method, and declares he cannot find "any mention or description of any such operation" in certain works. It is proven that a description of such a method is contained in all the works he cites which are at the writer's command, as well as in others he does not mention. Then Dr. Wyeth, becoming agitated, ceases argument and engages in sarcasm. In his agitation, however, he becomes inconsistent. He says, "The only real point of similarity is that the lower extremity is removed at the hip-joint in both procedures." In the very next sentence of the same paragraph he says his first operation "bears a close resemblance" to Volkmann's. Does not his improved operation bear a close resemblance to his first? Are they not founded upon the same principle? If his first operation resembles Volkmann's, does not also the improved? Does not Dr. Wyeth himself virtually admit his method to be an intentional or unintentional modification of Volkmann's?

In the paragraph above referred to he acknowledges his indebtedness to the writer for having cited him to "the operation advised (but never performed) by Volkmann in 1886." Why did he jump at the conclusion that Volkmann had never performed the operation up to that time? I made no such statement, neither is that the fact of the case. I am perfectly willing to permit the members of the profession who have heard the evidence to sit upon the jury, and to abide by their verdict, feeling sure that sarcasm and abuse cannot triumph over indisputable evidence—the description of Volkmann's method in the works cited by me in my communication of January 27th, and Dr. Wyeth's own admission that his first operation bears a close resemblance to it.

W. H. BUECHNER, M.D.

YOUNGSTOWN, O., February 12, 1894.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 17, 1894.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	2	4
Scarlet fever	153	19
Cerebro-spinal meningitis	2	5
Measles	535	27
Diphtheria	151	47
Small-pox	23	5
Cholera	0	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0

Pathology as She is Wrote.—The following, under the caption of "Snakes in the Blood," is a reporter's idea of Filaria Sanguinis Hominis: "A discourse on the disease of which King Herod died entertained the doctors who gathered at the Section on General Medicine. It was read by Dr. G. Laussure, of Charleston, S.C. In the disease described, little white snakes get into the blood and wriggle about until the patient dies. Several of these were exhibited. The doctors call the disease Filaris Hominis Sanquinis, and it occurs at the present time only rarely. The snakes, which are long, white substances, retire to the secluded organs of the body in the day when the subject is moving about, but come into the veins and arteries at night when he is sleeping."

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 45, No. 9.
Whole No. 1217.

NEW YORK, MARCH 3, 1894.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

NOTES ON THE PHYSIOLOGICAL ACTION OF OZONE PREPARATIONS.[1]

BY W. GILMAN THOMPSON, M.D.,

PROFESSOR OF PHYSIOLOGY IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE CITY OF NEW YORK.

My attention has been called to the physiological action of hydrogen peroxide and ozone by the prominence given of late in medical literature to the clinical use of active oxidizing agents, and by the increasing number of alleged ozonizing nostrums which are offered to a credulous public. The experiments here recorded I have recently performed in the Loomis Laboratory, with the object of determining the maximum effect produced upon certain bodily functions, and upon the blood, by the injection in various ways of such preparations. The ingenuity of the manufacturers is exhibited in the coining of such names as aquozone, bi-ozone, pyozone, ozone-inhalers, electrozone, liquid oxygen, glycozone, therapol, etc., which agents, though they differ somewhat in process of making, all have the same object in view when given internally, namely to increase the quantity of oxygen carried by the blood, and to promote greater activity of tissue oxidation. We know that the hæmoglobin of the blood is so nearly saturated with oxygen in ordinary respiration that it is practically impossible to cause it to convey any more, and further, that under conditions of atmospheric pressure compatible with life, the blood plasma cannot be made to absorb from the inspired air an excessive quantity of oxygen even though that air consist wholly of oxygen.

We may state on *à priori* grounds: First, that it certainly is not possible to introduce additional oxygen more readily into the blood by way of the alimentary canal than through the lungs. Secondly, the total quantity of oxygen which can be swallowed in fluid of any kind must always bear a very minute proportion to the amount inhaled in a few additional respirations. Thirdly, should we, for argument's sake, admit that a very little nascent oxygen or ozone is of more value to the tissues than the ordinary respiratory oxygen, does it not immediately exhaust its nascent energy upon the alimentary epithelium, or, if it could enter the blood, upon that tissue itself, leaving none free for general tissue oxidation?

The very great value of hydrogen peroxide and of some other ozonizing preparations as local antiseptics and cleansing agents is freely admitted. It is abundantly proven by constant clinical experience and record.

The problem under discussion merely concerns the possibility of getting ozone into the body by its internal administration, and its immediate effect upon the tissues. The animals were all anæsthetized throughout the experiments.

EXPERIMENT 1.—A dog weighing 20 pounds was etherized and a close fitting tracheal cannula was introduced which could be completely closed by a stop cock. On suddenly closing the cock, the animal continued breathing (using the residual or reserve air in the lungs) for a minute and a half. Air was then allowed to enter freely, and the experiment was repeated several times to establish this period (one minute and a half), as the normal one for cessation of respiratory effort. One pint of fresh, fifteen volumes per cent. hydrogen peroxide (made for me by a reliable firm), was then injected slowly through a cannula into the right femoral vein. The injection was completed in twenty minutes. Five minutes after the injection was commenced the tracheal cock was again turned, and this time respiration did not cease for two minutes. The blood throughout the arterial system immediately became absolutely black. In ten minutes respiration did not cease after closing the cock until four and a half minutes had elapsed, and this remained the average time during the whole experiment. Meanwhile a small quantity of arterial blood was withdrawn and found to coagulate in about half the usual time, and with much greater firmness than the ordinary dog's blood-clot. Examined microscopically the corpuscles were all found crenated, or greatly shrivelled and disorganized, and a large quantity of free pigment was contained in the plasma. The animal lived for two hours under ether, the respirations appearing normal in depth, but slow, while the cannula remained open. The dog was then killed, although still in good condition. All the viscera appeared as absolutely blanched as if the blood had been washed out by normal salt solution.

This experiment is of great interest in demonstrating that an agent which thoroughly disorganizes the blood, may yet convey enough oxygen to the respiratory centre to maintain the normal respiratory rhythm and even to prolong the period of rhythmic respiratory effort when the air-supply is cut short.

EXPERIMENT 2.—A healthy young bull-dog, weighing 22 pounds, was etherized and a tracheal cannula with a stop cock was inserted as in Experiment 1. It was ascertained by repeated trials that after cutting off the air-supply, normal respiration ceased in two minutes. One ounce was then injected slowly into the left femoral vein of a sample of hydrogen peroxide (made for sale and not prepared especially for me, as was the peroxide used in Experiment 1). This preparation is advertised as "absolutely harmless for internal use." The dog immediately stopped breathing and died. Considerable free gas appeared in the blood-vessels, and the blood from the carotid artery was almost black. The omental vessels were quite empty, while those of the intestinal wall were greatly congested with very dark blood, blacker than ordinary venous blood. The red blood-corpuscles everywhere were crenated or disintegrated. The experiment illustrates the variability of the peroxide preparations, this sample being much more potent and fatal (possibly from acidity) than the one used in Experiment 1.

EXPERIMENT 3.—Young dog, weight 15 pounds, etherized. Conditions identical with Experiment 2. Half an ounce of the same sample of peroxide used in Experiment 2 was injected in the right femoral vein, and death ensued in two minutes, all the blood being black and disorganized.

EXPERIMENT 4.—Mongrel dog. Weight 19 pounds, etherized. Conditions identical with Experiments 1, 2, and 3. Before injection, on closing stopcock, breathing ceased in two minutes. Five and a half ounces of fresh hydrogen peroxide (identical with that used in Experiment 1), were injected at intervals during one hour, and on closing the cock the respiratory movements continued for four and a half minutes. During the injection muscular tremors and convulsive movements ensued. During the experiment the rate of respiration fell from

[1] A paper presented before the American Physiological Society, December 28, 1893.

72 to 24 and the pulse rate rose from 180 to 220. The animal died at the expiration of one hour. The omentum was blanched, the liver and spleen were engorged and deeply pigmented, the kidneys anæmic. The peripheral veins were almost empty. The heart was dilated and full of very dark uncoagulated blood. The red blood-corpuscles were disintegrated.

Experiment 5.—Mongrel dog, weight 27 pounds; etherized. Conditions same as in Experiments 1, 2, 3, and 4. After closing the tracheal cannula breathing ceased in one minute and a half. Seven and a half ounces of another sample of fresh hydrogen peroxide were injected slowly during the course of an hour in the left femoral vein. Frequent convulsions occurred, many of which were excited by slight external stimulation, movement of the legs, etc. Respiratory movements continued for five minutes after closure of the cannula. The animal was kept alive under ether for two hours, and during this time the rate of respiration fell gradually from 70 to 30, and the pulse rose from 180 to 200. Examination of the viscera and blood showed the same conditions described in Experiment 3. A stream of oxygen gas, passed through the black arterial blood, failed to restore its color, as it usually does with venous blood.

Experiment 6.—Dog, weight 17 pounds, etherized. Conditions same as in Experiment 1. On closing stopcock respiratory movements ceased in three minutes. Seven and a half ounces of peroxide solution, fifteen volumes per cent., were then slowly injected into the femoral vein during a period of forty minutes. In this time respiration fell from 96 to 72 and the pulse rose from 180 to 204. On closing the cock respiratory movement ceased in three and a half minutes. The shed blood began to coagulate in one minute, and set firmly in six minutes.

In all the above six experiments the peroxide was used in the same strength, fifteen per cent. (*i.e.*, each pint of the solution contained fifteen pints of ozone) and was slowly injected in considerable quantity directly into the circulation. Two of the animals died at once. In both these the same preparation was used, which was obtained in open market. In the four other dogs a preparation was used which was furnished to me by the manufacturers expressly for experimental research. In all these animals there was decided effect upon respiration, the rate being several times reduced by fully one half, and the duration of respiratory efforts, when the air-supply was cut off, being at times more than doubled. Moreover, respiration and circulation both continued for from one to two hours in spite of a condition of disorganization of the blood itself which must have immediately destroyed the oxygen carrying power of the red discs. The conclusion would seem to be that the peroxide furnished sufficient oxygen to the respiratory centre and to the tissues to maintain their functional activity after the blood itself had become useless. The duration of life with the maintenance of considerable vigor, far exceeds any results which I have been able to attain by replacing the blood of the dog by normal salt solution (injected in a similar quantity in a vein to replace blood drawn from an artery).

Experiment 7.—Young dog, weight 14 pounds, etherized. Artificial dyspnœa produced by section of both vagi. Respiration fell from 75 to 30, deep and labored. One ounce of peroxide solution, fifteen volumes per cent., was injected into the left femoral vein in order to ascertain if the vagus dyspnœa was relieved. No improvement in the breathing resulted and the animal soon died.

Experiment 8.—A vigorous young bull dog, weighing 25 pounds, was etherized and the stomach was exposed and thoroughly washed out from the cardiac end. The pyloric end was then ligated and three ounces of fresh hydrogen peroxide, fifteen volumes per cent., were injected into the stomach. In five minutes minute bubbles of gas were visible, rapidly flowing through the gastric blood-vessels. Their appearance was followed by extreme congestion of the gastric veins, accompanied by intense ecchymosis. The stomach itself became greatly distended by gas. An hour and a quarter after injection of the peroxide the animal, though in good general condition, was killed. It was found that one ounce of the fluid had been absorbed, but the mucous membrane of the stomach was reduced to a pulp of disorganized epithelial cells and granular detritus. The entire organ was very dark and congested.

Experiment 9.—Dog, terrier, weight 20 pounds, etherized. Isolated loop of small intestine ten inches long isolated by two ligatures; after thoroughly washing its mucous surface, one ounce of hydrogen peroxide, fifteen volumes per cent. solution (a new preparation sent as sample for medical use and warranted "harmless"), was injected with a rubber syringe into the lumen of the loop. In two minutes bubbles of gas were seen in the vessels of the omentum, which soon filled them and replaced all the blood, leaving the omentum completely blanched. At the same time the relaxed intestine swelled and became as tight as a drum-head. In five minutes the bubbles of gas began to exude on the omental surface of the gut, so as to cover it over with a thick white froth. In ten minutes the gut ruptured from the pressure of the gas within, which escaped with a loud report. On examining the inner surface, the mucous membrane was found reduced to a pulp, which was readily scraped off with the finger-nail. In places the intestinal wall was eaten through the muscular layer as well.

Experiment 10.—In the same animal a fresh loop of intestine eight inches long was similarly isolated by ligatures after cleansing, and an ounce of a 1 to 100 dilution of the fifteen volumes per cent. solution was injected. The omental vessels soon showed bubbles of gas, although they were less abundant than in the previous experiment, and a few bubbles made their way through the thinned and stretched intestinal wall to its external surface, where they were plainly seen. The specimens of peroxide used in this and the two preceding experiments (8 and 9) gave a very strongly acid reaction with litmus.

The last three experiments (8, 9, and 10) demonstrate that hydrogen peroxide, if given in excessive quantity, enters the blood-vessels from the stomach and intestine, but it disorganizes the mucous lining with evolution of free gas, which passes in visible bubbles into the smaller vessels. In the intestine the same thing occurs even when the solution is diluted 1 to 100 in water.

Experiment 11.—Small dog, weight 18 pounds, etherized. Conditions same as in previous experiment; three ounces fresh hydrogen peroxide injected into stomach. Immediately bubbles of gas appeared in vessels of gastric wall and spleen, and other abdominal vessels became very dark and engorged. In three-quarters of an hour, two ounces more were injected, and the respiration gradually fell from 60 at the beginning of the operation to 30, but it remained deep and regular. The pulse, on the contrary, rose from 160 to 245 after two ounces more were given, making seven ounces in all. It also became very weak and irregular. After one hour the animal grew so feeble that it was killed. The stomach wall was œdematous, and the mucous lining was softened and covered with a pulpy mass of disintegrated cells and mucus. The red blood-discs everywhere were crenated and greatly shrivelled, and there was free pigment in the plasma, but none in the urine; three and a half ounces of the peroxide were found to have been absorbed during the hour.

The effects of ozone in considerable quantity in the strength of fifteen volumes per cent., acting on mucous membranes and directly upon the blood, has been shown by the four preceding experiments (8, 9, 10, and 11) to be very destructive and hazardous. It is advertised of one of the stronger preparations of hydrogen peroxide that it may be swallowed with impunity in half-pound doses. If this be true it cannot contain the percentage of ozone which is claimed for it. Of another preparation of hydrogen peroxide which I know to be extensively prescribed, and a sample of which I experimented with, it is stated that "taken in excess it will do no harm, since the sys-

tem will appropriate only what it can use at the time," that "it is safer to give too much than too little," and that "an adult man, as an experiment, imbibed one pint of a fifteen volumes solution at a single dose without experiencing a single untoward symptom or any notable discomfort." This may have been due to the extremely rapid deterioration which a stale or uncorked bottle of hydrogen peroxide undergoes.

EXPERIMENT 12.—A bat's wing was exposed on the microscopic stage, and the smaller blood-vessels were brought into view with a low-power lens. The epithelium was then denuded in the neighborhood of the visible vessels, but not immediately over them. A drop of peroxide solution of fifteen volumes per cent. was placed upon the denuded area, and bubbles of free gas were immediately seen circulating in the vessels among the blood-corpuscles. The latter became greatly impeded in their movement, and in two or three minutes many grew shrivelled and disintegrated. Observations with microscopic fresh human blood demonstrated the same destructive action. Added to blood in the proportion of 1 part peroxide (fifteen volumes per cent.) to 16 of blood, violent effervescence ensues.

EXPERIMENT 13.—A different solution of peroxide from any previously used was obtained from a sample sold for medical use. It was found that a solution of fifteen volumes per cent., and also the same solution diluted 1 to 100 in water, immediately disorganized fresh arterial dog's blood, with lively effervescence and production of a deep black color. The shed blood still coagulated, beginning to "set" in one minute, and in five minutes became sufficiently firm to allow of inverting the glass cup in which it was contained. (This is about the ordinary time for coagulation of venous dog's blood.) The clot was fairly firm, despite the fact that it contained numerous gas-bubbles.

EXPERIMENT 14.—A solution of hydrogen peroxide, fourteen volumes per cent., was obtained from a bottle from which a druggist had been dispensing it for internal use and added to fresh arterial dog's blood. The reactions were identical with those described in the previous experiment (13). The solution itself gave a strongly acid reaction with litmus.

EXPERIMENT 15.—The preparations used in Experiments 13 and 14 were added to fresh dog's bile, which immediately changed from a dark red-brown hue to a vivid light green, showing decided oxidation.

EXPERIMENT 16.—Dog, weight 20 pounds, etherized. Thirteen ounces of a solution, advertised to contain ozone in considerable amount, were injected into the femoral vein. No decided effect upon either pulse or respiration. The animal lived in good health for ten days. This preparation was certainly not as strong in ozone as it was represented to be.

The observations of enthusiasts for the medicinal use of ozone and those of most physiologists seem, unfortunately, at variance. Thus, we are confidently told by the former that the internal use of hydrogen peroxide "seems to supply oxygen to the blood and so act vicariously to a small extent for the purpose of respiration,"[1] and "daily inhalations of ozone increase the quantity of oxyhæmoglobin in the blood from one to four per cent. in a short time."[2]

Dr. Lee[3] says: "For internal treatment my experience taught me that the medicinal peroxide, given in cupful doses of the strength of four per cent., or even much stronger, was a better antiseptic than any other drug known in the treatment of cholera." He also recommends, in this disease, irrigation of the intestine "with one or two gallons of warm water containing four per cent. of peroxide of hydrogen."

Dr. William J. Morton refers to the successful internal use of ozone in the MEDICAL RECORD, June 10, 1893, p. 733.

[1] R. W. Richardson: Paper read before Medical Society of London, March 23, 1891.
[2] A. Caillé: MEDICAL RECORD, May 14, 1892, p. 553.
[3] Clinical Review, Chicago, 1893.

One writer (Wallian) goes so far as to claim from its internal use, the cure of sterility (!). It is clearly unsafe to give large internal doses of strong hydrogen peroxide. In small doses of an ounce or two, or in diluted strength of say five or ten volumes per cent., the quantity of ozone imbibed must be inconsiderable. There is some dispute as to the *modus operandi* of hydrogen peroxide, but it is generally claimed that on coming in contact with a mucous membrane the peroxide is split up into free oxygen (or ozone) which is absorbed, leaving water behind. If it be oxygen (O_2) which is liberated, surely this can be of no more value than so much air in the stomach, where it is certainly out of place, for although simple oxygen (O_2) may be absorbed from the stomach wall, far more of it can be got into the blood at any time by taking two or three additional respirations of pure air. Simple oxygen, however, could not disorganize the blood and tissues, and affect the bile as the gas in question does. If it be really nascent oxygen (O_1) or ozone (O_3) which is liberated, what must of necessity occur? We know that "ozone" is the most difficult to preserve of all gases, it "explodes" back to simple oxygen so readily.[1]

It cannot exist an instant in the presence of any oxidizable substance or of any organic cells without combining with their protoplasm. When swallowed, therefore, it is immediately decomposed by the mucus and lining cells of the mouth, œsophagus, and stomach. That oxygen gas of some sort, whether simple nascent oxygen or ozone, does enter the blood-vessels liberated from solution as a result of this sudden molecular dissociation, has received abundant ocular demonstration in the foregoing experiments (8, 9, 10, and 11). If this gas on entering the blood be simple O_2 it is of no more value to the system than if it entered in the usual way through the lungs. But from its disorganizing effect on the corpuscles it must be stronger than O_2. If it be ozone, O_3, it immediately decomposes the blood, at first locally, and if it be liberated in large enough amount, then all the blood in the body is disorganized. Bunge[2] says, "*a priori*, there is no point in trying to trace ozone in the body. Many litres of oxygen containing ozone might be pumped into the blood and yet we could not pump out a single molecule of ozone."

If the absorbed gas is in small amount, it is soon exhausted locally on the blood in the nearest vessels, and is never carried far in the circulation (certainly not to the lungs to destroy tubercle bacilli, or to the liver to modify the glycogenic function which has been claimed for it). If absorbed in very large amount (or put directly into the blood as in the experiments above recorded) it destroys more and more blood, and if carried in the circulation it eventually reaches remote tissues. In order to affect them in the slightest degree, it has destroyed permanently all the blood en route. The same line of reasoning applies to the inhalation of ozone. There are few topics in therapeutics about which so much fallacy has been produced as regarding the oxidation of the general body tissues by "ozonizing agents," and, in fact, by the use of pure oxygen inhalation, except where it is of undoubted value in certain forms of dyspnœa.[3]

Our knowledge of the ultimate oxidations of the tissues, and, in fact, of the exact form and method of liberation of the oxygen carried by the hæmoglobin of the red blood-corpuscles is still under discussion. Foster,[4] after considering the peculiar nature of the combination of oxygen with hæmoglobin, says: "It has been supposed by some that the oxygen thus associated with hæmoglobin is in the condition known as ozone, but the arguments urged in support of this view are inconclusive." Schönbein, who discovered ozone, suggested this possibility. Free oxygen cannot be found in protoplasm or tissue at any given moment, for while there seems lit-

[1] Lancet, July 22, 1893, p. 210.
[2] Bunge: Physiology, Pathology, and Chemistry, p. 270. 1890
[3] W. Gilman Thompson: The Therapeutic Value of Oxygen Inhalations, MEDICAL RECORD, 1889.
[4] Foster: A Text-book of Physiology, p. 463, ed. 1891.

tle room for doubt that in some of the digestive and tissue chemical changes in the body nascent oxygen (O) is liberated, it is immediately re-combined, and not conveyed for any distance in the circulation to affect remote parts of the system. Halliburton[1] says: "Thus, in the lactic and alcoholic fermentation, and in putrefaction, there is a liberation of hydrogen, and this nascent hydrogen combines with an atom of oxygen from ordinary oxygen, O_2, to form water ($H_2 + O_2 = H_2O + O$). The nascent oxygen (O) thus liberated, oxidizes any oxidizable substance present, or it may unite with hydrogen to form water or oxygen to form ozone (O_3). It is probable that some of the changes occurring during the nutrition of living cells are similar to these fermentations." Hoppe Seyler and Baumis[2] have previously advanced similar views. MacMunn[3] prepared a substance closely resembling the normal pigment of the urine (urobilin), from the action of hydrogen peroxide on acid hæmatin. Bunge[4] argues ably that "the third oxygen atom in the molecule (O_3), which causes the powerful oxidations, can have no other property than that of nascent oxygen" (O), and "ozone is never formed in the body though we meet with energetic processes of oxidation." Neither is it of avail to try to get it into the body, where it can only do more harm than good.

Bunge[5] further says, in speaking of the normal rapid oxidation of food stuffs which takes place in our tissues. "We must, however, not forget that the participation of active oxygen in the process is at present only an hypothesis and that the facts are capable of another explanation."

This view is also held by Pflüger. No substance exists in the blood capable of acting as an ozone carrier, to convey an unaltered molecule of ozone from one part of the system to another. Brunton,[6] in referring to ozone, states that "it has a curious action upon albumin (in preventing its coagulation) and decomposes blood. As might be expected, it is exceedingly poisonous to low animals and is fatal also to the higher animals."

Its effect appears to be due, in great measure, to its having such a powerful irritant and even destructive effect on the albuminous tissues of the respiratory passages, that it causes reflex depression of the heart and interferes with the ordinary respiration in the lungs. It thus diminishes instead of increasing oxidation.

Rice, in reporting some favorable results from the use of ozone inhalations, says that even when dilute, it produces "mild smarting of the nose lasting for several hours," with "increased mucous secretion lasting eight to ten hours," and congestion of the nasal mucous membrane. Some patients acquire headache from its use, and he refers to one instance of "aphonic laryngitis" caused by the inhalations. These effects certainly show that it should be employed very cautiously and properly diluted.

Jacobi[7] calls attention to the injurious action of peroxide of hydrogen in destroying epithelium when employed too vigorously in diphtheria.

Sonntag,[8] after elaborate investigations, declares ozone to be useless even as a disinfectant.

Until the problems of tissue oxidation are more definitely formulated, it is well to be very cautious in claiming phenomenal nutritive or healing powers for an agent which must of necessity act deleteriously upon the blood before it can reach the tissues. I have observed the effect of the internal administration of some of these "ozonizing agents" in various cases, especially of phthisis, and am convinced that whatever benefit they may be said to possess, when given in reasonable dosage, is solely from local antiseptic or anti-fermentative action.

Conclusions respecting the effect of ozonizing agents when given by the stomach or injected directly into the intestine or the blood:

1. When injected in the circulation in full strength, *i.e.*, fifteen volumes per cent., they have a very destructive action upon the blood, thereby ultimately having the effect of reducing rather than of oxidizing agents for the tissues.

2. Acting through the stomach or intestine, they may similarly affect the blood, and in addition they destroy the gastric and intestinal mucous membrane.

3. Given in medicinal doses by the stomach, their only benefit, if any, consists purely in their local action in the alimentary canal, in possibly preventing abnormal fermentations.

4. If so used, care should be exercised, owing to the great variability in strength of different preparations.

5. Ozone is of no real value to the tissues, whether inhaled or drunk in fluid preparations, and it may be exceedingly harmful.

[1] Halliburton: Text-book of Chemical Physiology and Pathology, p. 158. 1891.
[2] Beaumis: Nouveaux Éléments de Physiol. Humaine, i., p. 324.
[3] Journal of Physiology, vol. x., p. 112.
[4] Loc. cit., p. 269.
[5] Loc. cit., p. 274.
[6] Brunton: Pharmacology, Therapeutics, and Materia Medica, p. 458.
[7] Boston Medical and Surgical Journal, May, 1892.
[8] Zeit. f. Hygiene u. Infectionskrankh., Leipzig, Bd. 8, 1893.

CONTEMPORARY UNI BILATERAL STETHOKYRTOGRAPHICAL EXAMINATIONS.[1]

By RICH. HOGNER, M.D.,
BOSTON, MASS.

Measurements of the chest have been taken to considerable extent by different examiners for scientific and practical purposes, both in long series to collect material, etc., and in single cases to confirm a diagnosis and—as is now quite universal—to make medical examinations for life insurances. Every method of measurements formerly employed has, however, its weak point, either being too complicated, impractical, inaccurate, or not capable of taking unilateral registerings simultaneously on both sides.

The ideal chest-measuring apparatus is one that is capable of giving results for both sides simultaneously, for each one separately (contemporary uni-bilateral); which can be placed anywhere whatever on the thorax, is easily operated, and which, moreover, is accurate.

The stethokyrtograph in question is, even in some purely scientific respects, incomplete, but is sufficient for all practical purposes.

The properties of the apparatus and the rules for its use have been deducted from two hundred and three cases, including about sixteen hundred measurements (ranging from two measurements in one séance to eighty four in fifteen séances in fourteen days), after which other persons were added to the cases previously mentioned—in all, six hundred and thirty-six persons. The result of the measurements, being formulated into fourteen tables, form the basis of the following remarks. These measurements have, moreover, been daily corroborated, so that faith in the apparatus rests upon nearly four thousand measurements made on about twelve hundred persons.

The Stethokyrtograph.—The stethokyrtograph consists of a double slot of metal (see illustrations) in which two self registering cylinders of equal weight run side by side by means of cords and metal disks, which can be adjusted on suitable places around the thorax; also of a neck-band in which the apparatus hangs over the sternum. (See Fig. 1.)

The double slot is 145 mm. long, 38 mm. broad (each slot 18 mm., besides the thickness of the partition); at the upper end provided with a hook to attach it to the neck-band, also with a pair of fixed disks to guide the cords from the perpendicular to a more or less horizontal position. At the foot of the apparatus is a small catch to hold the registering paper underneath the slots in a firm position. (See Fig. 2.)

The registering paper is double, consisting of an underlayer of thick, ordinary drawing-paper, and also of an upper layer of thin, white tissue-paper, the latter of

[1] The following article is only an extract of several chapters from a longer work. For that part, "saltus in demonstrando," intended to be amplified in a succeeding treatise, especial indulgence is craved.

which is found to be especially sensitive to the black lead which is employed here. The thicker paper is used only to stiffen the tissue-paper and keep it in place and



Fig. 1.

smoothly spread out, and to secure this result the tissue-paper is folded over the upper and lower ends of the

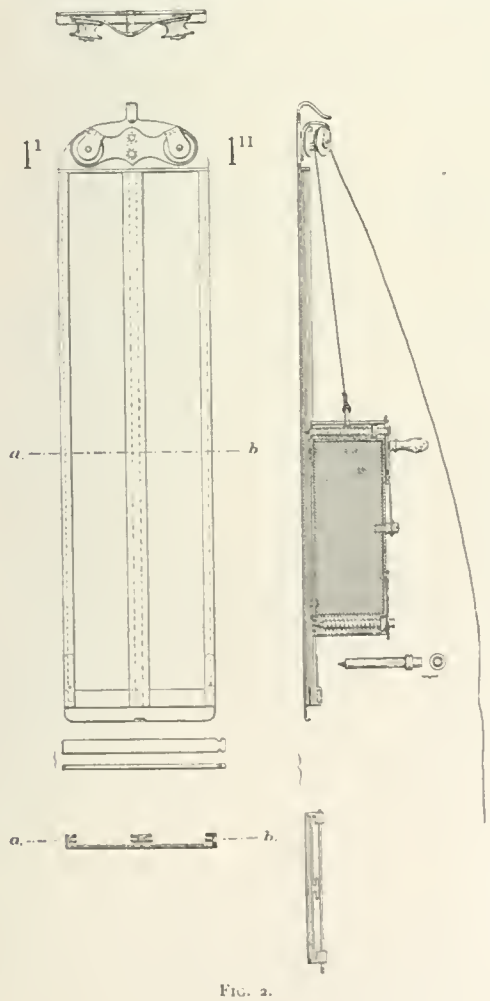


Fig. 2.

thicker paper, and is thus pushed to the upper end of the slots, after which it is fixed, together with the thicker paper, with the finger-nail or a knife-blade pressing it under the catch at the lower edge of the apparatus. The thicker paper can be used for a long time, whereas the tissue-paper must be renewed for every new examination made. The tissue paper is of sufficient length to receive registrations of the difference in two series of deep inspirations and expirations, plus one or two shorter ones; adequate, therefore, for the examination of one person. (See Fig. 5, Case XXXIX.)

The cylinders are 58 mm. long, 20 mm. in diameter, filled with lead; each is 175 grammes in weight, and in the upper and lower ends they are supplied with registering pencil, also each cylinder moves in its own slot on four feet or projections. (See Fig. 3.)

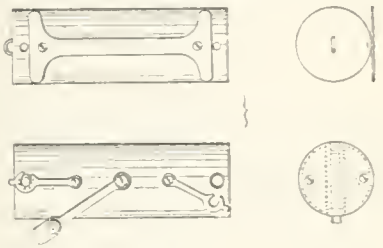


Fig. 3.

The pencils, one at each end of the cylinders (thus four in all), are of black lead (Faber W. 6), set in a holder which can be raised or lowered by means of a spring and lever, according as one wishes the pencil to be in motion or at rest. (See Fig. 2.)

In the upper ends of the cylinders the running cords are fastened. These consist each of silk threads 55 ctm. long, overspun with metal (so called gimp No. 5), which, after a little use, run easily and evenly. The "gimps" are joined to round leather strings, the thickness of a darning-needle, and 50 ctm. long, which, held together on the patient's back, form a chain around the same. The leather strings are only a sort of grasping medium, while the gimps are too fine and smooth to be held comfortably together and in place while the cylinders are in motion.

The disks over which the gimps glide are, besides the above-mentioned (1^{I} and 1^{II} sitting firmly at the upper end of the slot), twelve detached and movable ones (2^{I} and 2^{II}, 3^{I} and 3^{II}, etc.), designed to be placed around the body so the gimp will run freely on them without hurting the front or sides of the chest. On the back—the least movable part of the thorax—the leather strings and the gimps are allowed to rest directly on the skin. The disks have a radius of 3.5 mm., and sit generally so low on their axis that they move evenly and freely—the stationary ones from the apparatus, the movable ones from the large foot—20 by 20 mm.—which is more or less bent according to the form of the human body. Only the 2^{I} and 2^{II}, 3^{I} and 3^{II} movable disks, nearest the apparatus, which, in measuring the upper half of the chest are placed on the *regio subclavicularis*, are more elevated on the axis (6

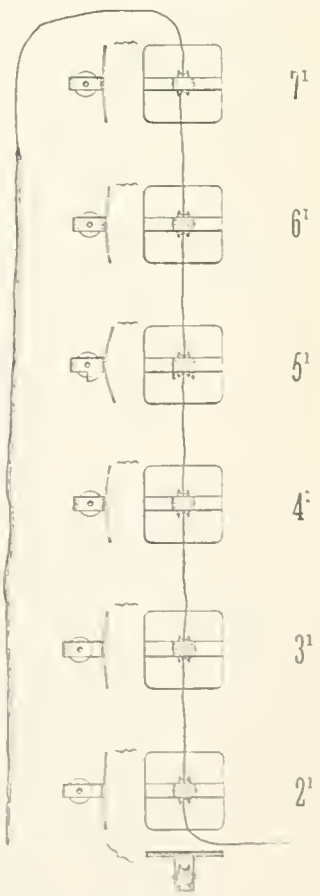


Fig. 4.

to 7 mm.) (see Fig. 4), so the gimp can be somewhat higher on them, or, at least, as high from the thorax as when they leave the disks fastened to the double slot. Were this not the case, the subclavicular disks would not lie close to the body, perhaps only swing in the air and not pass along the gimp, and then undoubtedly would not convey the right impression to the gimps and cylinders of the real dilatation in their respective regions. Of the remaining disks, the next, 4^{I} and 4^{II}, 5^{I} and 5^{II} are designed for the forward axillary region, the 6^{I} and 6^{II}, 7^{I} and 7^{II} last for the posterior, and the latter "anterior axillary disk" 5^{I} and 5^{II} has a little projection which keeps the neighboring disk from coming so near that the free motions are disturbed. The movable disks are as narrow as possible, and yet broad enough so that the gimps shall not be pressed into the rather deep groove; while the stationary disks are somewhat broader, with somewhat more shallow grooves; while the gimp, in order to change its direction from vertical to horizontal, needs greater space here. It is of the greatest importance that the stationary disks should have the proper position in relation to the double slot, so that the gimps will not scrape against any edge or corner, and thus their gliding motion be hindered.

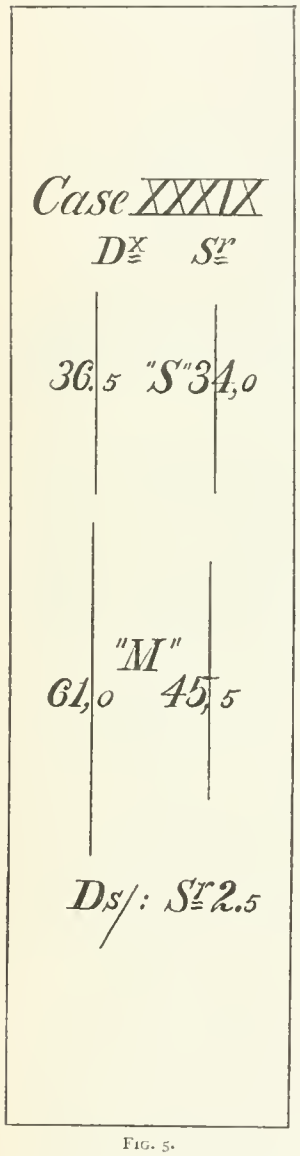


Fig. 5.

The neck-band is provided with a hook and rings for fastening it around necks of different size; also with a little linked chain in which the apparatus can be fastened higher up on the upper portion of the chest or lower down in the mammillary region without it being necessary to remove the apparatus.

To the apparatus belongs a little metal pin, large enough to push out the pencil, and which is fastened in a little wooden bar which is used partly for keeping the apparatus lying firmly in its case, and partly, when measuring, as an assistant to the double slot, so that its upper end will rest against the sternum. Finally, there is a tin-plate according to which the paper strips are cut. That the under-side of the double slot is covered with woollen to take away the uncomfortable chill of the metal apparatus, hardly needs mentioning.

The Method of Using the Stethokyrtograph.—After one is assured that the apparatus is in order, that the gimps are not knotted, that the black leads simply write when the lever is in place, and that there is no greater friction than is necessary,[1] the "patient" has to disrobe to the waist. The physician places himself, be he right-handed, on the right side of the patient, finally also far enough forward to be able to see the left shoulder and the part of the chest lying under it during the examination.

The neck-band should be fastened closely around the neck, so the apparatus can come as high up as possible, then command, "hips firm," which preparatory position is modified, however, by holding the hands loosely against the hips (the thumbs always backward), held there almost entirely by the weight of the upper arm, and always in precisely the same bilateral position with the elbows pointed outward and the hands equally bent, dorsally, on both sides. The "patient" should stand firmly, the feet somewhat apart; should not contract the muscles, either in the armpit or elsewhere, also hold the head still, bent forward and downward. "Immovability" is of especial importance. With the movement of the head backward, for instance, the volume of the throat is increased, it seems to dilate and elongate in front, at which the apparatus is simultaneously lifted and a too high result is obtained. When one shoulder is lifted the corresponding side of the chest is more raised, and the result is relatively too high for this side. When the head or the body is turned or the hands moved, the result will be likewise unreliable.

The apparatus is to be hung on the neck-band, generally in the first ring, high enough for the stationary disks to come between or immediately under the collar-bone in the regio interclavicularis, after which the end of the chain is fastened under the neck-band so it cannot hang down in the way. The gimps and disks must be disentangled, if necessary, and be carried backward on each side of the chest, grasped with the left hand, held against the "spina dorsi," and held together rather tightly at the back. The movable disks must now be pushed to their places and are duly adjusted on exactly corresponding points on both sides of the body: 2^{I} and 2^{II}, 3^{I} and 3^{II} disks in front on the chest, in the regio subclavicularis; 4^{I} and 4^{II} immediately in front of the forward fold of the arm-pit with the foot of the 5^{I} and 5^{II} following, the last "anterior arm pit disk" which is placed over or around the most prominent part. (It is in order to hold itself up and keep its place that this latter disk, not only receives its sharply bent feet corresponding to the axillary fold, but also must be pressed close or be held down by the preceding.) 6^{I} and 6^{II} disks on the posterior axillary fold, and the remaining 7^{I} and 7^{II} disks immediately behind it.

The gimps and disks must be set in as straight and unbroken a line as possible, generally, in order to enable the disks to stand in position from the interclavicular fossa downward and backward in a slanting line.

After the disks are firmly in place, the gimps are made even tighter by drawing up the cylinders to the required height, and a glance is cast over the whole to see that the gimps do not touch the skin (except in back); that the disks are placed firmly and in corresponding points; that the muscles are relaxed; that the head is bent down (to keep this in mind it is best for the physician to allow his disengaged hand to rest on the top of the patient's head during the examination); that the position in other respects is the correct one.

If the double slots at the upper end should not lie close to the wall of the chest, caused by the fact that the apparatus is straight while the breastbone is often convex, then a little prop[1] is placed under the lower end of the slot, so that the upper part slants in (which often will not happen till the cylinders have been drawn up more) and comes so near the breastbone that the gimp lies somewhat lower on the stationary than on the nearest movable disk (without which, as already stated, the gimp will not perform its proper functions).

If all is now in order, the levers are attached carefully, so that the cylinders' steady position be not disturbed. (In order to place the upper pencil, grasp the lever between the thumb and fore-finger, the support being on the ring-finger; in order to place the lower pencil, grasp the lever between the ring finger and thumb, the support being on the fore finger), and command the "patient" to breathe quietly and deeply or "as usual," "little deeper,"

[1] The black leads should be pointed at the same time, even if only one be dull, so that they may all be of equal length and pressure.

[1] For the prop the little wooden bar with the metal pin, which belongs to the box, can be used.

etc., according to the examination, also without raising or thrusting forward the shoulders, pulling, jerking, or in any way changing his position. During the deep breathing—"breathe slowly and very deeply"—it is best for the physician to breathe in and out to show his meaning. The patient sees, or more correctly hears, how it should be, and, as a rule, follows, so the examination is soon done. After two or three inspirations and expirations the levers are cast out quickly with a little side-motion of the finger-tips between the grasping points, and the registering pencils have ceased their operations.

The first registration of difference is now acquired on the "subclavicular plane" (s), or more correctly, on the infra-clavicular, axillary, and lower scapular plane, the regions on which the disks have been placed. If room remains on the paper for another examination on the same plane, the cylinders are lowered somewhat and after renewed manipulations a second registration is immediately made. It is most convenient to find the difference during surface breathing (in order to have a starting point, as it were, and to accustom the "patient"), and afterward during very deep breathing. If these two registrations agree as to quality and the breathings have been made according to rule, then the apparatus is moved down and a new registration is made with the lower pencils on the same paper; this latter of the difference between the greatest inspiration and expiration on the mammillary plane (m). If, on the contrary, the first and

Examples of Cases.

Number.	Person's employment or family.	Age in years	Length of body in centimetres.	Sound of respiration on: Dx. (dexter) side:	Sr. (sinister) side:	Result in millimetres of measurements by the stethokyrtograph on: "S." (Subclavicularly) s. / m. } unilateral, "M." (Mammillary plane) s. / m. } bilateral. Result of measurements in the respective planes.	Group or diagnosis.	Remarks on: Hoarseness, cough, difficulty in breathing.	Consumption in the family, etc.	Heart disease.	Albuminuria.	Further remarks.
XXXIX.	Soldier	32	170.5	(i)† 10 : 6*	10 : 4	Dx. s. 36.5 m. 61.0 = 97.5	Sound.	.....	.....	.....	.....	Right-handed; finely formed chest.
				(ii)‡ 10 : 6	10 : 6	Sr. s. 34.0 m. 45.5 = 79.5 d. : 18.0						
				(iii)§ 10 : 5	10 : 5	s. 70.5 m. 106.5. Ds. : Sr. 2.5						
						Dx. s. 49.0						
						Sr. s. 45.5						
						s. 94.5. Ds. : Sr. 3.5						
XLIV.	Man servant .	19	177.5	10 : 8*	10 : 6	Dx. s. 26.5 m. 35.5 = 62.0		No cough; light-chested.	Parents and brothers and sisters alive; well.	.....	.....	Large and strong; right-handed; has threshed from his thirteenth year, sometimes four months at a time "Siderosis."
				10 : 6	10 : 6	Sr. s. 30.0 m. 32.0 = 62.0 d. : 0.0						
				10 : 6	10 : 6‖	s. 56.5 m. 67.5. Ds. : Dx. 3.5						
						Dx. s. 1.75						
						Sr. s. 2.00						
						s. 3.75. Ds. : Dx. 0.25						
						Dx. s. 6.0						
						Sr. s. 11.0						
						s. 17.0. Ds. : Dx. 5.0						
						Dx. s. 1.0						
						Sr. s. 2.0						
						s. 3.0. Ds. : Dx. 1.0						
						Dx. s. 1.5						
						Sr. s. 2.5						
						s. 4.0. Ds. : Dx. 1.0						
						Dx. s. 29.5 m. 30.0 = 59.5 d. : 4.5						
						Sr. s. 34.5 m. 29.5 = 64.0						
						s. 64.0 m. 59.5. Ds. : Dx. 5.0						
XLVII.	Cotter's son..	17	170.5	10 : 6*	10 : 6	Dx. s. 39.0 m. 44.5 = 83.5 d. : 2.5		.....	.....	.....	.....	Left-handed.
				10 : 5	10 : 6	Sr. s. 41.0 m. 45.0 = 86.0						
				10 : 5	10 : 4	s. 80.0 m. 89.5. Ds. : Dx. 2.0						
						Dx. s. 3.0						
						Sr. s. 5.5						
						s. 8.5 Ds. : Dx. 2.5						
						Dx. s. 0.0						
						Sr. s. 1.5						
						s. 1.5. Ds. : Dx. 1.5						
						Dx. s. 38.0						
						Sr. s. 40.5						
						s. 78.5. Ds. : Dx. 2.5						
						Dx. s. 3.5						
						Sr. s. 6.0						
						s. 9.5. Ds. : Dx. 2.5						
						Dx. s. 36.5						
						Sr. s. 42.0						
						s. 78.5. Ds. : Dx. 5.5						
						Dx. s. 38.0						
						Sr. s. 40.5						
						s. 78.5. Ds. : Dx. 2.5						
						Dx. s. 33.0						
						Sr. s. 44.5						
						s. 77.5. Ds. : Dx. 11.5¶						

* 10 : 6 denotes that the length of the sound made by expiration bears the relation to that of the inspiration, when the breathing is deep and even, of 6 : 10. To decide the comparative time of the sound of in- and expiration the examiner has, while the patient breathed, counted silently to himself and in time with the breathing, for the inspiration, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, etc., as long as any sound could be heard, and then from the beginning of expiration, 1, 2, 3, 4, 5, 6, etc., as long as one can distinctly hear the "real" sound of expiration. In adults the breathing rhythm was always so slow that during inspiration one could count to ten in two or three seconds. † (i) First line refers to examination in regio supra clavicularis. ‡ (ii) Second line refers to examination in regio infra-clavicularis.

§ (iii) Third line refers to examination in regio supra-scapularis.

‖ The sound of respiration feeble, and with "mumble" or "bruits" in the end of expiration in regio infra-clavicularis and supra-scapularis.

¶ Strained Sr. anterior neck muscles (sterno-cleid. mast., scalenus ant., etc.) considerably more than Dr., wherefore Sr. s. is comparatively too high; Ds. : Dx. too great.

second registrations (in "s") have not given a harmonious result, the third registration—"deep breathing"—is made on the same plane (s); after which new paper is placed in the slots and on it one or two new registrations are made on "s," and finally a registration from the mammillary plane (m). That, as a rule, only one registration is made from the latter, while two to four from "s" depends on the fact that the subclavicular plane or lung apex is much more important for diagnosis and prognosis, generally speaking, and that the least errors in position and breathing make themselves much more felt here than in the registration for "m."

The examination is now ended. The apparatus is removed; the "patient" dresses himself while the paper is drawn out; the registering lines are measured in millimetres, and the result is recorded.

Although the written description is long, the examination is in reality very quickly made. With a single glance one sees if everything is "all right," and within a couple of minutes, three or four at the most, one has three double registrations on the paper.

If it should happen that a disk falls down, which could be heard and felt immediately, one has to place it on its foot again, readjust, perhaps lower the gimps on the back, and begin again. But such a prolongation of the examination, after a little practice, is seldom necessary. If the patient has moved the shoulders, contracted the muscles in one side of the neck more than in the other, or not stood still, then, for a correct opinion, a new examination from the beginning must be made, for a little shrug of the shoulders, etc., means much; yes, so much that the diseased lung can predominate on such an occasion and register a difference greater than obtained from the sound one.

If registrations of the "deepest possible" dilation are desired on the same paper on the "s-plane," and also for the "m-plane," and if the measurements are taken immediately after each other, it must be remembered that apnœa after the first breath might lower the dilation after the following ones; that, in other words, apnœa can remain for a time. In such a case the patient is told to speak only a little between the examinations, or for several times to "breathe naturally," so that the stock of breath has time to equalize and the result be the one desired, presupposing, namely, that the breathing was the deepest possible. It should be remembered, however, that with a "deepest possible" respiration the neck muscles, pectoral muscles, and others are contracted and distended to the utmost, making the control over the bilateral respiratory muscles (if contracted evenly, alike, and simultaneously) more difficult, and that the accurate difference in shorter breathing is often of fully as great significance, and often more important in making a just decision of the condition of the lungs, than that in a deeper—"deepest possible"—breathing where the control is not so exact. As a rule, the patient has to breathe deeply, to be sure, just as when "sighing deeply," but not too deeply, so he can hardly refrain from throwing his head backward while inhaling, or fall down from vertigo, and while exhaling puff out so he completely "loses his breath" and gets "black and blue" in the face from the exertion.

Such extravagances seldom occur in real life, and ought, for the judging of the lungs' power, to signify as little as the feverish utterances during an attack of "wandering" signify force, and which could not well be taken as proof of superhuman strength of the sick one, but rather as a sudden concentration of all forces which remain. The supra-maximal breathings have therefore, as a rule, not been used (neither should they be used when the question concerns the investigation of the every-day—not the momentary—condition); only the patient was required to "breathe slowly and very deeply."

From the previously mentioned measurements and tables the following conclusions may be drawn:

With Regard to the Trustworthiness of the Stethokyrtograph in Practice.—It is reliable in its registerings. Several measurements should, as a rule, be taken in the same plane; one with superficial or with medium deep, and always one with deep breathing. It is sufficient to make these measurements in one *séance*, any time whatever of day or night, if only methodically.

Several times it has happened that the instrument corrected the "diagnosis per aures," giving a result contrary to what one would have expected from the foregoing (perhaps somewhat hasty) auscultation, and that in renewed examinations the trustworthiness of the stethokyrtograph has been proved. When the reliability of the apparatus has been challenged, the error lay not with it, but with the examiner, who did not proceed methodically or did not interpret the results correctly, by reason of having overlooked some of the exhibitions (myitis, incipient herpes zoster, siderosis, left-handedness, etc.), which influence the "regularly correct" dilation of the breast.

With Regard to the Condition of the Breathing.—The total, bilateral difference ($\bar{s}$, $\bar{m}$), between inspiration and expiration has not so important an influence in the diagnosis, that is, any that is worth mentioning, as the contemporary, uni-bilateral difference (Ds, Dm), especially the uni-bilateral one in "subclavicular plane" (Ds).

The difference between the dilation of the two lungs in the "subclavicular plane," Ds, has in the group, "sound," and in other groups[1] with changes of equal intensity and extent for both sides—been in uncomplicated cases, of right-handed persons, Sr; left-handed persons, Dx. (More fully explained further on.)

The movements of the halves of the chest during respiration have not been as constant during the periods of breathing as at the final results, with a steady and even advantage for the stronger side. On the contrary, the movements of the cylinders have almost never been regular [not to be compared to the movements of a steam machine which rise and fall with mathematical precision, but most resemble two well-matched draught-horses of similar or dissimilar temperament and strength, or two mountain climbers who began their climbing at the same moment side by side], ex analogia, I think, because with rougher muscular motions an anisochronismus often is noticed in the bilateral movements. With, for example, "jumping over a line," it is difficult to "come down evenly;" it is difficult to take hold evenly with both hands, etc., depending on the fact that the strength, feeling, and innervation of the muscles of both sides are seldom precisely alike. If this applies to some of the voluntary groups, it ought to apply to the rest as well, the muscles of respiration not excepted.

In connection with the above it may be mentioned that often, in observing "complicated" cases, the first result has been different for superficial and for deep breathing, depending on the fact that the diseased muscles of respiration or the less sound lung was able to do its ordinary, regular work with slight exertion and so had "the advantage," but that with more exertion it was otherwise.

Age, height, and sex have no effect on the relation of the lungs to each other. What does effect Ds, on the contrary is, diseases other than infiltration, consumption, etc., especially "siderosis," or all changes in the lungs resulting from inhalation of dust.

Regarding the bilateral differences ($\bar{s}$, $\bar{m}$) between dilation of the chest with deep inspiration and expiration, they seem to vary within considerable limits, to mention for the present only "subclavicular plane," from 14.0 and 19.0 to 103.5 and 104.5 mm (this is the greatest chest dilation that has been met in this plane), in the groups "sound" and "sound with prolongated sound of expi-

[1] The examinations or studies in question begun in a hygienic manner to diagnose and arrest the development of a predisposition to consumption, giving therefore to tuberculosis the place of first importance. This is the reason why the conditions of the lungs—or the persons examined—are included in four principal groups: "Sound," "sound, with prolongated sound of expiration," "infiltration," and "consumption."

ration: " also from 14.0 and 17.0 to 81.0 in the groups " infiltration " and " consumption."

In 84.4 per cent. the difference of inspiration and expiration between the two lungs, Ds, has varied from 1 to 6.5 mm.

A dilation of the chest (s̄) of 70 to 79.5 mm.; yes, one of 60 to 69.5 appears considerably more frequently in men than in women, in spite of the latter's well-known " thorax respiration." It is first during a dilation of s̄ = 50 mm., that the per cent. of men and women becomes even, after which, s̄ = 49.5 and lower, the per cent. of women grows considerably greater than that of men.

With men over fifty-nine or women over forty-nine years of age, the chest dilation (s̄) appears as high as 60 mm. only in isolated cases; with children three to fourteen years of age, on the contrary, quite often. The years of childhood mentioned stand before those of elder persons in this respect, of men arrived at sixty years, women at fifty years, and on the same level with middle-aged persons. The length of the body does not appear to have any particular effect on s̄.

Finally, it has constantly been shown that one cannot form any conclusions as to the condition of the lung apices from measurements taken on the mammillary plane. (Thorax measurements on the level with the nipples, as now used in life-insurance examinations, are therefore, in this respect, perfectly misleading.)

With Regard to Right- and Left-Handedness, or the Influence of Muscular Strength on the Dilation of the Chest.—If, as found by examination, the sound produced by breathing is often heard more distinctly (expirium one-tenth or more longer) from the right apex than from the left, depending—at least many times—on the greater capacity of the right lung, then one would be, perhaps, inclined to attribute to the same cause the fact that the difference between the dilation of the two lungs in the " subclavicular plane " is so often, in " sound " persons, etc., less for the left side, if only a fixed exception did not exist, namely, those who are left-handed (by which is particularly meant those who are stronger in the left hand), with whom the right lung shows the less difference instead.

If we consider the six cases of " from birth," not complicated, left-handedness which have come to notice, then we find Ds (where the measurements, *nota bene*, occurred regularly) less for Dx, and the fact has been the same with four not complicated, artificial cases of left-handedness (*i.e.*, the right hand stronger in the beginning, but weakened afterward through some disease, so that the left hand has become the stronger).

The reverse is true in a case of a right-handed person whose left arm appeared altogether too weak where Ds: Sr was unusually high; and also in a case of a left-handed person who became right handed because of myitis, where Ds was less for Sr instead of for Dx, as was the case with other left-handed persons.

Finally, in a case of " artificial " right-handedness, with Ds: Sr, after massage treatment had been given for a time, the cause for Dx manus was in a great degree removed and the left hand again became the stronger, thus reversing the difference and Ds: Dx resulting.

The above-mentioned case of left-handedness shows for itself the great influence right- or left-handedness has on the unilateral expansion of the chest, but still more, the power of the voluntary muscles of respiration appears, when considering the cases complicated by siderosis. In all the one hundred and twenty-eight siderosis cases, we see that Ds is, with right-handed persons: Dx, instead of Sr, as with those who are otherwise fully " sound," or with those with quantitatively equal changes in both lungs—depending, presumably, on the fact that right-handed persons take hold more with the right hand and so strain the muscles of respiration on the right side more, in consequence of which a greater dilation of that side of the chest takes place, with a correspondingly greater drawing in of particles of dust into the right lung, causing its activity to be soon reduced and reversed Ds to arise.

Such significance of the muscles is further proved by myitis, where it caused decreased dilation of the chest on the diseased side; by shrugging, where it caused increased dilation of the chest on the side lifted; by lameness, with the result of diminished dilation on the paralyzed side; stitch, or, if one may say so, enervation or pares for the time being, caused by pain, where diminished dilation on the diseased side was the result; one-sided straining or stiffening of one arm; increased dilation of this half of the chest, etc.

With Regard to the Accuracy of the Diagnosis.—It has been mentioned that the stethokyrtograph sometimes corrected the " diagnosis per aures," and especially the apparatus has proven itself superior to auscultation and percussion in showing the first stage of " siderosis; " and still further, it has several times shown " inverse differences," where not till later the reason for it was found; once after a couple of days by herpes zoster breaking out; another time, incipient consumption a year later, etc.

On the ground of previously mentioned examinations it is impossible to draw the conclusion that an " abnormal " Ds, which cannot be explained in any other way, in a person who has an otherwise perfectly healthy appearance, should be simultaneous with " predisposition to infiltration or consumption; " but other thorough examinations made at the same time, and not yet completed, speak for it, however, and in that case we should be able, with the stethokyrtograph's help, to form an opinion of great practical value, not only in a diagnostic-therapeutic respect, but still more in a prophylactic one.

With Regard to Pulmonary Tuberculosis Therapy.—The measurements of the stethokyrtograph have revealed the great influence of the muscles on the expansion of the chest. They have shown that myitis can diminish, and that massage as an antimyiticum can increase, the same. They have shown that a unilaterally stronger activity of the muscles of respiration extend their half of the chest relatively more, and that, vice versa, a weaker action proportionately less. It cannot well be denied that the more a chest dilates during respiration, the greater its excursions are, the greater will be the exchange of gases, not only for the lungs in their entirety, but also for every portion which distends appreciably, also the greater the oxygen supply; and in this case the blood-cells and serum, where gas exchange takes place—both of these struggling with all the power of self-defence of the organism against the host of bacilli with which they are in constant strife—should be strengthened and revivified all the more.

It is not enough that the two lungs do good work together, but each must do the same for itself and its own side, so that no " locus minoris resistentiæ " arises; for from analogy with the conditions of the other bodily functions, the energy and power of resistance of the cells decreases with their inactivity, when, on the other hand, a moderate straining increases their health and life.

Therefore, it is clear that the lungs must " all along the line " rise up to the common struggle for existence, for otherwise the more idle cell becomes weakened and an easy prey for the " tuberculous bacilli " which lie in wait for it; either it is now the lessened mobility and fitness of the cell, its decreased vital energy, or it is the lessened circulation of the blood, with decreased nourishment and transformation of the cells, and of intercellular substance which follows every decrease in activity, which promotes invasions.

When one notices that a portion of the lungs has been weakened, art must come to the rescue with the best methods, and where it is a question of mobility of a part of the body, Swedish medical gymnastics (the so called movement cure), (*nota bene*, if correctly employed), and massage have proved themselves to be nature's faithful allies. It is for this reason that a broad-minded therapy must include lung gymnastics (with special regard to the weaker side): also the methodical exercise and massage of the muscles of respiration where they are weak or diseased. It is for this reason that all treatment (though

here only those methods are dealt with which embrace measurements made, their results, and examinations of muscles) must also tend to a strictly individual theme which has regard in the first place to the strengthening of the respiratory muscles and removal of their weaknesses, and then, as a consequence of this, an increased chest dilation which does not cease after the *séances*, but if improvement in the condition of the lungs once begins, remains during the whole life.

WHAT ARE THE INDICATIONS FOR A VAGINAL EXAMINATION?[1]

By EDWIN B. CRAGIN, M.D.,

NEW YORK.

Believing that a large proportion of the members of this section are men in the practice of general medicine, it seems fitting that the writer should discuss a subject which, although it may seem prosaic, is certainly of importance, and that especially to the general practitioner. Fortunately the time is passed when a man who makes a vaginal examination, on a proper indication, is regarded as immodest or a charlatan. Diseases of the pelvic organs demand a correct diagnosis just as clearly as do diseases of the thoracic organs, and the man who neglects diseases of the one is as worthy of censure as the one neglecting the other.

By the use of the term "vaginal" examination, I do not mean to convey the idea that the vaginal is the only examination made at the time; it is usually a part of the bimanual. I speak of it only as one of the elements in a procedure which leads to a knowledge of the condition of the pelvic organs.

The object of this short paper is not to exhaust the list of indications for this examination, but to bring before the general profession the need of being on the alert for symptoms pointing to disease of the pelvic organs, and to refer chiefly to those which seem to be neglected.

For purposes of present discussion we will divide a woman's life into three periods:

1. Prior to marriage.
2. Married life during child-bearing period.
3. Near or subsequent to the menopause.

The indications for a vaginal examination in a young single woman are relatively few, yet they do exist and are imperative on a conscientious physician. One is often consulted by anxious mothers because their daughters do not menstruate as early as they themselves, or other members of the family, did. Here not only is a vaginal examination of the patient not indicative, but as a rule it is to be strongly deprecated. In general we may say that, leaving out of account illegitimate pregnancy, the only cases of amenorrhœa demanding vaginal examination are those of atresia of the genital tract, or symptoms of absence or lack of development of the generative organs when the question of marriage is at stake.

Mild cases of dysmenorrhœa do not call for a vaginal examination. Every honest gynecologist will admit that the longer a woman can go without the thought that she has trouble with her pelvic organs, the better it is for her; and for this same reason we sometimes meet with individuals neurotic, and inclined to be despondent, in whom, although we find on examination some slight departure from the normal, yet the best advice is that they receive no local treatment; and this advice we give, fearing that repeated examinations may fix her mind upon, and strongly color her whole horizon with the idea of uterine disease.

We all of us know how wretched a woman is who will sit in one's office and describe the pathology of the different diseases of each of her pelvic organs. This description need not be prolonged. The picture is familiar to most of us, and needs only to be kept in mind to warn us that, not without good reason, should we subject a patient to repeated vaginal examinations and treatment.

There are cases, however, of dysmenorrhœa of a more severe type, where the patient, in spite of all authorized medication, is confined to bed three or four days of every month, and with suffering almost indescribable. In such a case the writer believes not only that a vaginal examination is proper, but demanded. Such an examination is often best conducted under anæsthesia, for the purpose of avoiding both pain and mental shock. One other symptom in a young unmarried woman often indicates a vaginal examination, viz., an almost constant pain in the lower region of the back. We all know that this may be a symptom of many diseases, yet if the physician can find no anæmia, nephritis, or other general condition accounting for it, by all means let the patient have the benefit of a thorough pelvic examination, and have it ascertained whether her pelvic organs are displaced or not. As to whether this examination would best be conducted per vaginam, per rectum, or with the two combined, we shall not now discuss.

The next period concerning which I shall speak is *married life during the child-bearing period.* Perhaps the first indication for a vaginal examination will be pregnancy. It is a common practice among many physicians, even in this city, not to examine a pregnant patient until called to attend her in labor. The writer believes this practice to be wrong. Many a life both of mother and child has been exposed to peril which, had the condition of the pelvis and pelvic organs been previously known, might have been averted.

Pregnancy itself constitutes an indication for a vaginal examination, and long before the time of the expected labor the pelvis and its contents should be carefully examined. Nor does the indication for a vaginal examination cease with the parturition. Before the parturient is discharged from the care of her physician, it should be the duty of that physician, after having thoroughly cleansed his hands, to carefully examine the position and condition of the patient's pelvic organs. This examination is perhaps even more demanded in the lower classes of society than in the higher, for at a time when, by the stern necessities of life, the former are obliged to resume their usual household duties, the uterus is often large, flabby, and easily displaced. Before the physician makes his last obstetric visit on such a case as this, he should ascertain whether or not the uterus lies in the hollow of the sacrum, and if found there, an attempt should be made to replace and maintain it in proper position until involution is complete.

A very large number of the patients who present themselves to me at the Roosevelt Out-patient Department, come suffering with posterior displacements of the uterus, and of these a large proportion can be traced to a puerperium in which this displacement has occurred, and not being discovered, has been allowed to continue until the uterus has become fixed, the patient subjected to months of suffering, and weeks or even months may be required before the condition can be relieved. Most of this could have been prevented by due care following parturition. Preventive medicine is the key-note of our profession to day, and of this prophylaxis preventive gynecology should form a prominent part.

Nor should the responsibility of a physician, in a case of obstetrics, cease with what might be called his last obstetric visit. I believe that in the near future the physician will consider it his duty to examine each obstetric case at the end of two or three months after her confinement, to ascertain by vaginal examination not only the question of the uterus being in its proper position, but also the condition of the patient's cervix; and whether at the expiration of lactation a trachelorrhaphy will not be indicated before her nervous system has become undermined and perhaps malignant disease has started. If we take these precautions in our own obstetric cases, we must be on the lookout for symptoms with similar indications in patients who were formerly in the hands of others.

[1] Read before the Section on Obstetrics and Gynecology of the New York Academy of Medicine, January 25, 1894.

The discussion as to whether a cervical laceration needs operation will not concern us here; we are all pretty thoroughly agreed that *bad lacerations need repair.*

Another symptom in which a vaginal examination is often neglected is menorrhagia or metrorrhagia. Many a case has come under the writer's observation where a patient has been allowed to bleed for weeks, perhaps for months, while the physician soothed his conscience by prescribing some ergot or hydrastis, or by telling the patient to come and be examined when her flow ceases; but never taking the trouble to ascertain by vaginal examination whether the patient has a polypus, a cancer, or needs to be curetted. There is ground for great improvement in this mode of practice. Many a patient's health has been ruined, many a valuable opportunity has been lost, by just such neglect of the vaginal examination and the information it would convey.

While the previous indications for the vaginal examination are important and their neglect greatly to be deplored, they all shrink into insignificance when compared with the indications which are more common during the last period of life, of which I shall speak, viz., *Near or subsequent to the menopause.* I refer to symptoms of malignant disease. It is unfortunate for the profession, and still more unfortunate for the patient, that the impression is wide spread that floodings at the menopause are normal, and therefore need no attention. The soothing explanation of "only the change of life" has been the funeral dirge of many a death from cancer of the uterus.

Another unfortunate circumstance for both physician and patient is the fact that uterine cancer, in its early and operable stage, is often associated with no pain. Being handicapped by these two circumstances, the physician must be more and more impressed with the fact that he must be ever on the alert, especially at this period of life, for symptoms which might mean cancer. It is not enough that these symptoms may be explained on other grounds; if there is the slightest suspicion, from the appearance of an irregular flow or discharge, that the patient might possibly be suffering from incipient malignant disease, a vaginal examination should be made, and malignancy if possible excluded. Why is it that so many more correct diagnoses of ectopic gestation are now made than formerly? It is simply because the profession is now on the lookout for that condition. This ought to be more and more the case in the search for cancer. Mistakes will be made and cases diagnosed malignant which are not, just as cases are diagnosed ectopic gestation which are not; but better far an error in this direction than in neglect till past help. It is the general impression that in early life we need have very little fear of malignant uterine disease, yet even here we find we are not safe. It is only a short time since the writer had under his observation a patient suffering with inoperable malignant disease of cervix and vagina, and who died before she reached the age of thirty. It is only by bearing in mind the fact that uterine cancer is possible at almost any age from puberty till death, that we can appreciate the importance of a vaginal examination, when presented with symptoms which are associated with malignant disease. Certainly in a patient who has passed the menopause and then experiences a bloody flow, not a day should elapse before an attempt is made at an accurate diagnosis.

This need of alertness in search for malignant disease will apply even more to the general practitioner than to the specialist. It is the family physician who is usually first consulted, and he it is who usually has the privilege of an early diagnosis.

The technique of operation for uterine cancer seems well-nigh perfect, but there is still a field, a large field, for improvement in early diagnosis. This is where we hope we are to make advance in the near future. The writer this evening does not expect that he has presented anything new. The object of the paper was entirely practical, viz., to impress upon the profession the need of alertness for indications for a vaginal examination.

62 West Fiftieth Street.

Clinical Department.

ENTEROLITH MISTAKEN FIRST FOR APPENDICITIS, AND THEN FOR CARCINOMA.[1]

By A. F. JONAS, M.D.,

Professor of Surgery, Omaha Medical College, Omaha, Neb.

There seems to be a uniformity of opinion as to the technique of the operation for appendicitis, or perityphlitic disease. But opinions still widely differ as to the time and indications for the operation, while no one seems to dispute the difficulty in making the diagnosis in any given case. Therefore every unusual experience should be recorded in order that we may obtain and utilize every diagnostic aid, that we may differentiate with certainty every pathological lesion located in the right iliac fossa and its vicinity, and particularly that we may recognize with more positiveness that affection dreaded by both physician and patient, perforative appendicitis, and typhlitis.

The following case is instructive in that it illustrates the difficulties so often encountered at the bedside, of understanding the true nature of an affection, of correctly interpreting a given train of clinical manifestations. The subject that shall serve us in our discussion this evening is a woman, of medium height, aged forty-nine, passed the menopause in 1889. Family history good. Had pelvic abscess in 1883. Recovered without operation. Convalescence tedious, but complete, and remained in good health until August 13, 1893, when she was taken suddenly with sharp pains in the back of the neck, the cervical muscles contracting strongly and drawing the head backward. The pain radiated downward, along the intercostal spaces, then into the stomach and abdomen, and finally settled in the ileo-cæcal region, where it became fixed, being relieved by a hypodermic of morphia.

Dr. W. B. Hoge, who attended her from the beginning, stated that on his arrival he found a temperature of 102° F., which had been preceded by a slight chill. The fever continued about three days. He found no tumor or swelling in the ileo-cæcal region, although he made repeated careful examination of this locality.

On August 17th Dr. S——, husband of the patient, who had been absent from home, returned. He found a normal temperature and pulse.

On the 18th she was up a part of the day, and walked from the bed-room to the sitting-room.

On the 19th she prepared a part of the breakfast. About 10 A.M. she was seized with a severe, sickening pain in the right iliac region, but at a point higher up than at first. A distinct tumor the size of a hen's egg was now discovered, somewhat above McBurney's point, movable and very tender. The bowels moved freely without increasing the pain, which was constant. There was little abdominal distention or tympanites. At times there was free discharge of flatus. The pain at the seat of the swelling was intense, and at times radiated to the stomach and assumed the nature of a spasm, which lasted about a minute. There was no vomiting. She could lie with her limbs extended without increasing the pain.

August 27th.—For the last two days there was rise in temperature from 101° to 102° F. toward evening. The tumor was still high but not sharply defined, no sign of fluctuation, had no chill, no profuse sweating.

August 28th.—The tumor no larger. Bowels continue to respond to salines easily. Yesterday temperature reached 103° F. under tongue at 5 P.M. To day normal at 7 A.M. Relishes her food. Other symptoms unchanged. Her pain was always relieved by one eighth grain hypodermic of morphia sulph., for from twelve to twenty-four hours, and upon the subsidence of pain the temperature decreased. Can lie with limbs extended without increasing the pain. Has had no serious vomiting. Sleeps fairly well. Has taken salines six days, a drachm every hour for six hours, then waited twelve hours

[1] Read before the Omaha Medical Society, January 13, 1894.

and repeated as before. Bowels respond readily, having from six to ten free movements daily. Stools perfectly natural. Has taken a liquid diet of milk, eggs, beef-jelly, and animal broths. She ate watermelon yesterday, and, by accident, swallowed some seeds. They passed to-day without event. The temperature to day has been 102° F. nearly all day. Have given no antipyretic. Fever now (7 P.M.) is subsiding. Gave, at 11 A.M., quinia sulph., gr. vj.

August 29th.—I was summoned by telegram. Reached the patient at 8 P.M. Found a temperature of 101° F.; pulse, 100. Pain in ileo cæcal region. There was a moderate amount of tympanites. A firm tumor was found slightly above the McBurney point. It was painful and very sensitive to the touch; margins could not be defined; was not movable. Very slight tenderness over the remaining abdominal region. During the afternoon there had been a fluid evacuation from the bowels containing a small amount of fecal matter, and presenting an appearance like washings from the colon. A diagnosis of appendicitis was made, and an operation was recommended and agreed to by all concerned. Preparations were made for an operation early the following morning at the home of the patient. All antiseptic precautions were observed in the preparations and during the operation. With the skilful assistance of Drs. Sutherland, Hoge, Spaulding, and Roeder, the patient under ether, an incision was made directly over the tumor, which had become decidedly less distinct during the night.

The peritoneum was opened, the colon presenting. Pushing this out of the way, brought into the field a number of coils of the ileum very extensively bound together by adhesions. The wound was enlarged so as to admit of better inspection. We now discovered what appeared to be a neoplasm, the size of an ordinary fist, irregular on its outer surface, presenting in parts a cauliflower appearance. In this mass were involved several coils of intestine, which seemed to pass through it. It was of a pinkish appearance, semi-elastic in consistency, and only very slightly movable. It was also attached to the inner surface of the ascending meso-colon. This mass presented an appearance identical with that of two carcinomata involving the ascending and transverse colon in the one case, and the pancreas in the other, in both of which cases I had made exploratory laparotomies shortly before, so that I regarded this to be a growth of the same nature. There being so much involvement of intestine, a removal of the mass was considered out of the question. Suitable coils of intestine for anastomosis were sought for, but the adhesions were so extensive that nothing certain could be made out. The abdomen was closed in the usual way.

An unfavorable prognosis was given. From the physical appearance, I believed that the patient would in time succumb either to the effects of a bowel obstruction, or perforative peritonitis, or marasmus due to extension of the growth. Happily this prognosis was not to be realized.

On October 3d I was informed by letter that "her case is a novel one to me. To me she seems to be improving, notwithstanding she has been informed of the gravity of her case."

On October 7th her husband wrote again: "Last Saturday (September 30th) my wife passed per rectum an enterolith about the size of a lemon, of irregular contour, black as tar, and as rough on the surface, and as hard as a piece of broken stone. Since this time she has steadily improved. She is now up, wearing her clothes, and walking about the greater part of the day. For about two weeks after the operation, I had to give her about two grains of morphia during every twenty-four hours, she is now down to one-sixteenth grain in thirty hours. She has a good appetite and sleeps well." She has remained well until the present time, four months after the passage of the enterolith.

In looking back over the history of a given case, in which the objective and subjective signs have been misleading, in which the underlying etiological factor produced appearances not peculiar to it and common to a frequent and well-known affection, we can usually see wherein our error lay. Symptoms, which in the beginning seemed to have a slight or only a secondary bearing upon the case, may have been of great importance. If the proper weight had been given them, they might have so modified the prominent features in the case as to have led to a more accurate solution of our problem. In these days, when the current medical periodicals are teeming with appendical literature, we are apt to lose sight of the fact that other affections than appendicitis can exist in the neighborhood of the ileo cæcum.

Here we had a case of sudden onset of pain which localized itself over the ileo cæcum; elevated temperature, accelerated pulse, constipation, pain aggravated on pressure near McBurney's point. After ten days a tumor, very sensitive on manipulation, was discovered, which existed until a *sectio in vivo* disclosed our error. The clinical picture seemed a typical one. As we critically review the clinical history of our case, now that the mystery seems cleared up, we can find several defects in the chain of symptoms and errors in our methods of examinations. And yet those defects and errors are such that in a similar case we might again be misled.

We find that, after the third day, there was almost complete disappearance of pain, elevated temperature, and accelerated pulse. There was a return of appetite and apparent good digestion. This is unusual, but still might occur in the so-called forms of appendical colic. An elevated temperature and increased pulse-rate are not always evidences of an active inflammatory condition, but may be brought about by severe neuralgic pain, or pain caused by excessive vermicular activity of the vermiform appendix in its effort to throw off a concretion. Having been successful in this, the pain ceases, temperature and pulse-frequency subside, appetite returns.

On the fifth day a tumor somewhat above McBurney's point was found. It was movable and extremely sensitive on palpation. Normal temperature and pulse. Here is the weakest point in our examination. Had I given more weight to the movability of the tumor, we might have drawn a different conclusion. While I did not forget the statement as detailed to me, its importance seemed offset by the sudden onset of the symptoms and the appearance of an abdominal swelling on the fifth day, the usual time for the development of a perityphlitic tumor, where none had been discovered before. The impression imparted to the palpating fingers of slight mobility of an intra-abdominal tumor, is sometimes deceptive. If the neoplasm takes its origin in the mesenterium and its base is toward the posterior abdominal wall, the anterior parietes slip to and fro over the growth as we palpate, making it a difficult matter sometimes to estimate the degree of mobility in such a growth. I have several times opened the abdomen and found the tumor firmly adherent and immovable, where manipulation had seemed positively to indicate that it was movable. I can imagine how an encapsulated perityphlitic abscess, located on the posterior abdominal wall, might give these physical signs.

While an elevated temperature was absent at times, it was found the greater portion of the time. We find, however, that with every dose of morphia the temperature fell to a marked degree and again rose when the effect of the narcotic had worn away—which is not common in inflammatory affections. Free watery stools had no effect for better or for worse, which would not have been the case in appendical abscess.

When I saw the patient for the first time I found what appeared to me a classical picture of suppurative appendicitis. Fever, accelerated pulse, slight abdominal tympanites, a well-defined but not distinctly circumscribed tumor, possibly a little higher than the usual location of the ileo cæcum. The fact that the tumor was higher than usual did not speak against perityphlitis, for I have operated on two cases in which the abscess was located at the costal arch, and one above the crest of the ilium.

Had the leading features seemingly not so emphatically pointed to a suppurative perityphlitis, I would certainly

have used more firm pressure and ascertained the hardness of the tumor, and possibly its mobility. But, feeling certain of the existence of pus, I feared that undue pressure or manipulation might break down limiting adhesions.

In the course of the last eight or nine years I have met with perinephritic abscess, floating kidney, typhoid fever, and intussusception, which sometimes gave us much difficulty in establishing the true condition, but the signs and history did not point with such apparent certainty to perityphlitic disease. Psoas abscess from spinal caries, and abscess with morbus coxarius, which had perforated the cotyloid cavity, tubal and ovarian disease were encountered in this locality, but the diagnosis was usually not difficult.

I recently cut down on an enlarged gall-bladder which occupied a position directly under McBurney's point. Pulse, temperature, local tenderness, sudden onset of symptoms all pointed to an appendicitis. When the patient had been completely anæsthetized I found the tumor movable, and appendicitis was excluded. A distended gall-cyst, which dragged the liver down with it, was found. A cholecystotomy was done, the patient making a good recovery.

It is interesting to note the next error in our diagnosis. After a free opening and an ocular inspection we discovered a firm mass, irregular on its surface, bearing a striking similarity to epithelial growths which I had before encountered in my abdominal work. We can now explain this singular appearance as due to the lodgement of the irregularly shaped enterolith (which had been in course of formation for an indefinite period of time) at the ileo-cæcum; possibly the ileo-cæcal valve was not of sufficient calibre to admit of its free passage. Its rough exterior, in all probability, produced defects in the mucosa, setting up a localized enteritis and peritonitis, causing considerable thickening of the gut walls, producing adhesions between several intestinal loops. The irregularities on the surface of the tumor corresponded to the irregularities of the enterolith.

This enterolith no doubt had been in the course of formation for a considerable length of time. It had not made itself manifest until the moment when it became dislodged from its original position and assumed a new one that was not at all suited to its size and contour, producing a trauma of the intestinal wall which undoubtedly was responsible for the sudden and intense pain.

I have never, in my experience, nor in the literature on the subject, met with an enterolith simulating appendicitis.

UNIQUE PATH OF A REVOLVER BULLET.

By LOUISE RUSSELL, A.M., M.D.,

VAN, TURKEY IN ASIA.

On September 11, 1893, Sathanig B——, an Armenian girl, sixteen years of age, was shot in the right arm by a bullet fired from a small revolver, held about six feet from the arm. When seen the following morning it was found that the bullet had entered the ulnar aspect of the forearm, about three inches below the inner condyle of the humerus, and half an inch toward the median line. From the shoulder to the finger tips the arm was swollen to more than twice the size of the left, and the hand was slightly œdematous. The bullet had made a clean entrance, having cut the cotton sleeve like a sharp knife. On probing, the path led inward toward the ulna, and slightly upward toward the joint, but beyond an inch and a quarter the probe refused to pass. All the fingers were numb and tingling, except the fifth, where sensation was normal. All motions of wrist and fingers were possible, though with pain; and the elbow was immovable. The arm was immersed in hot water, and morphine given for the pain.

On the 12th the swelling had slightly decreased. The patient had been very uncomfortable during the night, sleeping only when under morphine. A drain of sterilized cotton was inserted, and the arm dressed with iodoform.

On the 14th the swelling had diminished one-half, and pus had begun to flow. Temperature, 103° F.; pulse, 128. Pain was still severe. Five grains of quinine sulphate were given, and a wet bichloride dressing applied.

On the 18th the swelling was confined to the region about the elbow. Pain had practically ceased. Temperature was normal, and the pulse was 80. The skin over the lower four inches of the triceps was intensely discolored, and the tissue was indurated. Movements were free at wrist and all finger-joints, and there was slight motion at the elbow, extension being somewhat freer than flexion. There was slight induration in front of the elbow-joint. Pus had ceased to flow.

On the 21st the condition was as above, with slightly more motion, and an indistinct sense of fluctuation over the olecranon. The external wound was entirely closed.

On October 7th the arm had resumed a normal appearance, except that about a square inch of the olecranon region retained its discolored hue. Sensation was normal, save a slight numbness persisting in the thumb. The induration at the elbow prevented flexion beyond eighty degrees, and extension was similarly limited. The patient was instructed in passive motions, simple rubbing was ordered, and she was told to wear the left arm in a sling half the day.

On December 19th she came to the office to exhibit her triumph. The appearance of the arm is perfectly normal. Motion is free, the only limitation being a slight pull on putting the hand well behind the head. There is no pain or tenderness. On deep pressure on the middle of the triceps, one inch above the olecranon, the bullet can be distinctly felt, deeply embedded in the muscle. How did it get there without any real injury to the elbow joint? It appears to be an excellent example of the *laissez-faire* policy in surgery.

DISAPPEARANCE OF GONORRHŒAL DISCHARGE DURING PNEUMONIA.

By A. HYMANSON, M.D.,

NEW YORK.

While I served as interne in the Beth-Israel Hospital, I observed a case which is similar to the one described by Dr. Bogdan in the *Wiener Medizinische Presse*, and reprinted in the Medical Record of January 20th.

On April 11, 1893, Nathan G——, pedler, aged eighteen, was admitted into the above-named hospital with a pneumonia of the left lung. While giving the history he stated that several days prior to his present illness, on April 2d (about the fifth day after exposure) he had for about three days violent pain on micturition, and a profuse creamy discharge. As soon as he began to cough the discharge had gradually declined and the pain and frequent urination subsided. The patient did not consult a physician for his urethral trouble, and from his description I suspected him to have a mild case of gonorrhœa. I examined him repeatedly, but no discharge has been detected. There was some redness at the lips of the meatus. The urine was of alkaline reaction; it had a specific gravity of 1.020 and contained slight traces of albumin. On the eleventh day, on the beginning of convalescence from the pneumonia, the boy called my attention to the reappearance of the discharge, which was of a real gonorrhœal character, and he also had some pain on urination.

207 Madison Street.

The Physio-Medical College has won the first round in its fight with the Illinois State Board of Health. It obtained, on January 20th, an injunction restraining the State Board of Health from incorporating in its annual report any statement reflecting upon the standing of the college.

Progress of Medical Science.

The Increase in the Microbicide Power of the Blood during Infection.—Dr. Gatti describes some experiments undertaken with the view of elucidating this point. The existence of a microbicide power in the blood and serum is generally admitted, and research is now directed to the discovery of its relation to susceptibility or otherwise to infectious disease. The present researches have been directed, not only to a demonstration of the existence of a microbicide power during infection, but also to the modifications which this power undergoes in a given animal during its passage from health to a condition of infection. Omitting the details of the experiments, the author's conclusions are as follows (*The British Medical Journal*): 1. A moderate degree of hydræmia, such as is produced by the extraction of blood, does not modify the bactericidal power of serum. 2. Serum represents a much more constant means of seeking bactericidal power than defibrinated blood, the results with this latter being inconstant, as has also been found by Kruse and Pansini. 3. The bactericidal power of blood increases during infection; this increase is more marked in animals which during health do not show a very great bactericidal power. 4. In the later phases of infection the microbicide power diminishes. 5. The blood destroys not a determinate quantity of bacteria, but a given percentage of the bacteria introduced. 6. There exist markedly different degrees in the bactericidal powers of different animals, even of the same species and for the same micro-organism. 7. In the latest phases of infection the bacteria introduced into the blood disappear but slowly and incompletely, as compared with what happens in the earlier phases or in the healthy animal. 8. In many animals the serum does not at once manifest its bactericidal powers, but there is first a period of one or two hours during which the bacteria introduced can increase. The most important fact elucidated is undoubtedly the increase of bactericidal power during infection. The conditions of experiment, moreover, render it unlikely that this result can have been due to extra-vascular modifications of the blood; it is a true vital phenomenon. Its increase during infection, at a time when the organism is reinforcing itself against the invading microbe, and the coincidence of its diminution with the time which, as it were, succeeds the successful battle, make it probable that there is a very intimate connection between this power of the blood and immunity.

Med. Record

Workers and Weariness.—Professor Michael Foster has published his Rede lecture in the current number of the *Nineteenth Century*. Weariness is his subject, and it is one which demands the intelligent thought of all people of the present day. We recently called attention to the insanity which refuses to recognize weariness as the most dangerous symptom of mental fatigue. It may be true or false that the world will not see the year A.D. 2000. It is, however, undoubtedly true that the Mother of Parliaments, as the present House of Commons delights to call itself, is being rapidly reduced to a state of impotence which threatens the national safety. It is notorious that very old and very young people frequently have abnormal energy which spurs them on to acts of foolhardiness, which may, and frequently do, have a fatal termination. It would be impossible for any business undertaking of importance to be conducted successfully on the principles which at present govern the conduct of business in the House of Commons. Those principles as laid down by the Premier in the resolution of which he gave notice for Monday, and which were to apply to the rest of the present and the whole of the autumn session, could have but one result. In its modified form it is fatal to all useful legislation. That it was not strenuously opposed proves to demonstration the condition of weariness to which Members of Parliament have been brought. Any legislation pushed forward by the continuous use of the spur and the whip must prove defective and harmful to the well-being of the people. Members of Parliament being men are subject to physiological laws as all are, and the absence of proper rest, and the refusal to conduct business within reasonable hours can only result in breakdown and disaster. The plan of business formulated by the Premier is opposed to every principle which enables any average mortal to master his work and maintain his health. In an ordinary business any such experiment as that about to be tried upon the House of Commons would very properly end in bankruptcy. We are no doubt a long way removed from national bankruptcy, but the ship of state is now within measurable distance of irreparable damage and discredit. This is not a political journal, but common-sense makes it apparent that the well-being of the people and the State demands the prompt presentation of a monster petition to the House of Lords not to pass the Appropriation Act, and to the Queen, urging the exercise of her prerogative, by the immediate dissolution of the present House of Commons.

Let us now see what Professor Foster has to say on the subject of weariness and its effects upon men and women. It is a popular belief that weariness is a physical symptom alone; that is to say, people become tired because their muscles are weary, whereas, in truth, muscular weariness depends not on the muscle alone, but on the manner in which the muscle in its work is aided and supported by the rest of the body. "The blood, sweeping throughout the whole body, washes out of the muscle all hurtful bodies, providing always the blood-stream is pure. If the blood-stream be sluggish, or if the blood coming to the muscle be already loaded with hurtful bodies, the clearance is slow or wholly fails, and weariness comes on apace. But even the simplest and rudest muscular tasks are not carried out by the muscles alone, for the brain and the nerves share in them too. It is a common experience that when we are weary almost, it may be, to death, some sudden emotion, some great joy or fear, may spur us to an effort which just before seemed impossible; conversely an emotion may appear to take from us all our muscular strength. Now the muscles neither know nor feel; their weariness cannot be affected by any emotion. That weariness which is put aside by hope, or which is hurried on by despair, must be a weariness not of the muscles, but of the nervous system." It would be interesting to follow Professor Foster as he goes on to prove the difference between the brain and the nerves, the brain being, of course, the central mechanism, the nerves mere bundles of fibres which carry the impulses to the muscles. We must, however, refer our readers to the article itself for this and other information, and would direct their attention especially to the experiments by which Professor Foster proves that the greater part at least of weariness is begotten not in the muscle, but in the brain.

Let us now consider a few of the mental symptoms of fatigue or weariness. Professor Foster insists that two facts must be grasped and remembered. While it may be said of each member that the blood is the life thereof, it may with equal truth be said the blood is the death thereof; the blood is the channel for food, but it is also the pathway for poison. Again, all our knowledge goes to show that the work of the brain, like the work of the muscles, is accompanied by chemical changes, that the chemical changes, though differing in details, are of the same order in the brain as in the muscles. It is true that the changes in the brain are smaller than those of the muscle, but this is counterbalanced by the exceeding sensitiveness of the nervous substance; the last fact giving point to the caution that to do the maximum of brain-work it is essential not to render the brain more agile, but to encourage its humble helpmates so that their more efficient co-operation may defer the onset of weariness. Mind and body being thus intimately associated, no sensible person will risk the destruction of health by neglecting either the one or the other. Sleep, good food, healthy surroundings, rational hours of work, and sufficient exercise, are points which many people have long recognized as essential to their well-being; yet the race for wealth, or for political

advancement, or the mere struggle for existence, may cause the most enlightened to neglect them. At first a man so circumstanced attributes his lassitude, which is usually confined to the early morning, to anything but the right cause—a feeling of depression and a sense of ill-being may make him miserable, but unless his doctor takes him in hand they will not check his downward course. Next he will become oppressed with the need of increased effort, a loss of memory, and the difficulties of remembering what he reads. To this point a man may advance without fatal injury, but should he proceed until everything appears to him dark and hopeless, a worry and an apprehension, then he may be beyond rescue, and his next step may land him in a lunatic asylum if it does not terminate earlier in a graveyard.

Dr. Cowles, of the McLean Hospital, has written a most interesting paper on the mental symptoms of fatigue, which all brain-workers should read. He shows in a practical way how difficult it is to restore the weary to energy and strength. Overworked women, professional men, politicians, and others, "work on their nerves," and say they "don't feel tired, and nothing is the matter." Many of them, indeed, insist that they feel better when actively pursuing their ordinary occupations. Dr. Cowles declares this condition, which comes on insidiously, to be a most dangerous one. With the impairment of the natural fatigue sense the mental effect is that a man will not believe even his physician's diagnosis of fatigue. He is, therefore, prone to look for some other reason for his sense of ill-being and inefficiency, and finds in retrospection cause for self-reproach and hopelessness in the future, or insists upon a revolution in his affairs as the only remedy for a condition of which he himself is the central cause. Here, then, we arrive at the two great factors which have to be faced to-day in our national and political life. The first, or retrospective cause, lies at the root of the present epidemic of suicide of which the papers are full. The second, or impairment of judgment cause, lies at the root of the political *impasse*, which its authors declare can be cured only by revolution. The papers of Professor Michael Foster and Dr. Cowles are therefore most timely, and if the lessons they teach can be driven home they may prove fruitful by producing a more natural and healthy tone, not only in our Parliamentary, but in national life too —*The Hospital.*

Speech for Deaf Children.—In an article with this title published in the January number of *The Popular Science Monthly*, Miss Lillie Eginton Warren, of New York, a teacher of the deaf, says: "Less than thirty years ago, no attempts were made to give speech to the deaf children of this country. Now correct, fluent utterance, with voice more or less agreeable, and the ability to understand others by watching the facial expressions, may be acquired by the boy or girl suddenly deprived of hearing or born deaf. The look of the very young deaf child is usually an interested one, accompanied by fewer unnecessary movements of the eye and less play of the facial muscles. From increased observant faculty comes a marked development of the imitative functions. The child's hands spring to his help. He goes through motions that he has noticed those about him use; in their case, however, speech and lack of observation have kept them from consciousness of those movements. They begin to see his, they are unaware of theirs; to them, the child has invented his own signs. Touch, taste, and smell come quickly to his aid. The lack of facial expression gives place to grimaces, and an unconscious play of the vocal organs forms a series of more or less unpleasant grunts and screams. The child must be taught to obey promptly, and his punishment be of a kind to win his respect. Reasoning from limited knowledge, gathered by his observation alone, he misunderstands many efforts to do well by him. Give him the speech he knows not, and the language that is to him a sealed book.

"It is possible to develop an agreeable voice if proper action of the edges of the glottis is secured. The voice formed in the larynx is moulded into the numerous vowels by the various shapes assumed by tongue, lips, and soft palate, and into consonants by decided actions of the same organs. Vowels are the life of speech; in them lies expressive voice. Vowels and consonants combined, forming words, can be learned as rapidly as they can be memorized. It is necessary to explain their meanings by the child's natural signs; consequently his first spoken and written words must be equivalents of the same objects he has designated by a gesture, of the daily actions about him, of the qualities he has appreciated by taste, touch, and smell. Single words thus become intelligible to him. He drops the sign and speaks. Now, a new difficulty presents itself. The grouping of words, the forming of phrase and sentence, he has no knowledge of; moreover, when grouped he does not grasp the shades of meaning thus conveyed to the hearing person. All this must be carefully shown him. Various studies can be taken up by the pupil after he has secured some hold of language. There are no limits for him but his inclinations or circumstances.

"If a child loses his hearing when two or three years of age, or when even somewhat older, and no educative means are employed immediately, the articulation becomes impaired in a short time. His knowledge of speech and remembrance of forms of expression in language, if measures are taken at once to retain them, develop into a great advantage over those of the same age who never heard. Speech-reading is an ability to follow the varying expressions in the face as quickly as they appear, and thus to convey thought through the medium of the eye instead of by the hearing. To do so successfully means an education of the eye secured by practice. Its attainment by the child born deaf grows with its knowledge of spoken language; the child who has lost hearing after having learned speech, naturally advances in ability to understand others in proportion to his dependence upon that method of communication; and with the adult losing his hearing power, speech-reading becomes a high degree of expression-reading, enabling him to follow his vocation and pleasures, save those requiring a somewhat sensitive condition of the auditory sense. Many children are deaf because of a slow perception of sound, not altogether due to aural defects. They must be taught to listen, for without the strain of attention the loudest noises may be unheeded.

"With speech and speech-reading attained, and perhaps the happy addition of some perception of sound, the deaf need not be thrown together as a class distinct from others. They may and do receive instruction in common with their hearing friends, attending leading schools and entering professional duties side by side with them. A preference for the companionship of the hearing proves the existence of a satisfying method of communication."

Higher Requirements for Entrance to Medical Colleges.—The Illinois State Board of Health has amended the schedule of requirements for admission to medical colleges by taking out of the hands of the college the examination in the elementary branches of education, and requiring either a certificate or diploma from a literary and scientific college or high school or, at least, a second-grade teacher's certificate. A curriculum of studies for schools of midwifery was also adopted. A committee was appointed to draft an outline of sanitary work throughout the State, and the secretary was ordered to issue a "preventive disease" circular on tuberculosis. The officers were re elected as follows: *President*, Dr. William E. Quine, of Chicago; *Secretary*, Dr. J. W. Scott, of Springfield; *Treasurer*, Dr. B. M. Griffith, of Springfield. The Governor has reappointed Dr. Julius Kohl, of Belleville, a member of the Board.

Physicians of India are reported to have addressed a communication to the International Medical Congress to meet in Rome, asking for the establishment of a medical journal in the Latin language, for the preservation to all eternity of important medical writings in abstract.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street.

New York, March 3, 1894.

A NEW TREATMENT FOR TUBERCULOSIS OF THE JOINTS AND SKIN.

IN the *Edinburgh Medical and Surgical Journal* for February, 1894, Mr. A. G. Miller reports the results of his treatment of strumous affections by means of passive congestion. The treatment originated with Dr. Bier, of Kiel, one of Esmarch's assistants. It was suggested by the old belief, supported by Rokitansky, Laënnec, Niemeyer, and Fagge, that "all cyanosis is incompatible with tuberculosis." This dictum, though originally applied to the lungs, was thought to be equally true for joint and skin tuberculosis.

The technique of the method is simple. It consists in placing a broad elastic band round the affected limb, a few inches above the diseased part, firm enough to produce venous congestion. Bier recommends that this congestion should be kept up continuously, and that the patients should be permitted and even encouraged to use the limb. The elastic band should be broad, and a layer of lint or wool should be placed under it to protect the skin. The point of application should also be changed every day or two to prevent abrasion. The distal portion of the limb is supported by a common roller up to the affected part, so that the congested area is limited to the immediate neighborhood of the disease.

No other apparatus or treatment is employed by Bier in his cases. As an example of the method of application, take a case of disease of the elbow-joint. The hand and forearm are bandaged, then the elastic is applied to the middle or lower third of the upper arm, firm enough to produce congestive discoloration of the neighborhood of the elbow. Congestion is what is wanted, not œdema, still less anæmia. Pain is never caused, and if the compression be uncomfortable at first, the patient soon becomes accustomed to it.

An account of Bier's method is given by him in the *Centralblatt für Chirurgie*, 1892 (Beilage No. 32, p. 57).

He records upward of twenty cases that were treated in Professor Esmarch's wards at Kiel by this method, and reports that "in most of the cases the improvement attained was very rapid and striking, and in no case did a change for the worse occur.

The method was first tried in London by Mr. Herbert Page, who came back from Kiel with much enthusiasm over the results he had seen.

The plan employed by Mr. Miller at first was to put on the elastic compresser for only ten or twelve hours every alternate day—that is to say, the bandage was put on in the morning and removed at night, and left off altogether for thirty six hours. He was afraid to risk the continuous congestion of the limb.

His experience was that venous congestion was quickly produced and maintained without any discomfort to the patient. Œdema was seldom seen. He always employed some other apparatus, however, for supporting or fixing the diseased part when a joint was affected. Improvement occurred promptly both in joint and skin affections, but more surely in the latter class of cases. Although Mr. Miller had used the method for about six months, he speaks cautiously regarding it, since, as he says, he did not have time enough to watch the results of a congestion treatment alone. He prefers the alternate to the continuous treatment, and he thinks he is justified in recommending its use in :

1. Tubercular skin affections of the extremities.
2. Early tubercular disease of joints (combined with immobilization or blisters), especially those in which time is of no great importance.
3. Instances of multiple tubercular disease, in which more radical treatment is inappropriate.

WATER, THE ANCIENT AND READY REMEDY.

THE recent sensational announcement in the newspapers that the priest of Woerishofen has been consulted by so eminent a personage as the pope, emphasizes the trite saying that "history repeats itself."

Water has been an orthodox and highly esteemed remedy since the day of Hippocrates, who wrote a tract upon it. It is to-day probably applied more freely and more successfully by educated physicians than at any previous time, in acute and chronic diseases. It is not surprising, therefore. that empirics have not been slow in availing themselves of so effective a remedy.

In the days of Ambroise Paré (1553), the wounded at the siege of Metz often preferred the ministrations of a certain Maître Doublet to those of the illustrious surgeon who had revolutionized wound treatment. Doublet treated the wounded with cold water and lint, murmuring certain mystic formulæ while making the application. Paré quickly discovered that, "the good results were entirely ascribable to the water, which cleansed the wound and by its cold protected it against inflammation."

It is interesting in this connection to note that, two hundred years later (1785) the eminent surgeons, Lombard and Percy, were astonished by the rapid recovery of several wounded men under the treatment of a miller, who applied river water into which he threw, amid incantations, a white powder, recognized as alum. After thoroughly washing the wounds he dressed them with lint dipped into water, while reciting holy sentences. Percy says ("Dict. des Sciences méd.," p. 477 to 480) that this lesson was not lost to him. Such rapid and comfortable recoveries had never resulted from his usual dressings, and his conclusion that pure water would accomplish the same results was soon brought to a test in the cases of thirty-four wounded artillery-men, who recovered in an unusually short time. This eminent military surgeon continued to successfully dress his wounded

with water, and said that, "as Sydenham would not have wished to remain a physician without opium, so would he give up military surgery if deprived of water."

In 1723 an English Protestant clergyman published a book, "Febrifugum Magnum, a common water, the best cure of fever," which lauded this remedy so highly that another layman, Oertel, a learned German teacher, became a convert one hundred years later to his doctrines, which he successfully promulgated among the people.

Again, in 1724, a Capuchin monk, Pater Bernardo, living in Sicily, performed "wonderful cures" with water. Despite inadequate means of diffusion his fame spread all over Europe, just as that of Kneipp does to-day. Bernardo was followed by Todana, who was dubbed medicus per aquam, and Sangez, who was medicus per glaciem, because ice was his universal remedy.

About the year 1830 two of the most arrant quacks created a great sensation in Germany by reason of their astounding cures with water. Bleierle, a bath attendant, and Schatz, a journeyman shoemaker, set the world agog as Kneipp is doing to-day. The greatest water empiric which the world has produced is Vincent Priessnitz, who lived during the first half of the present century. What men like Currie and Hufeland could not accomplish, this simple Silesian peasant attained with ease, by the popularization of water as a remedial agent. "The impression made by this empiric marks an epoch in hydrotherapy. His success was brilliant because he was a careful observer, a good judge of human nature, and his mechanical skill enabled him to invent various technical modifications of the water treatment, many of which have been adopted by the profession in all parts of the world. The government built roads to facilitate access to his establishment; monuments and fountains were erected to his memory. Physicians from all countries, who had been attracted to the Silesian peasant's mountain home, became converts to and missionaries of his practice. In 1840 he treated over 1,500 patients from all parts of the world, and when he died, twelve years later, he had amassed a fortune of several millions." This extract from the "Uses of Water in Modern Medicine" p. 9, reads now much like the record of Kneipp's life and work. At the present time there is a large number of laymen, especially in Germany, who practise as naturaerzte, using no medicine whatever, but relying upon water as the chief remedy, which they supplement by the more or less crude application of diet, exercise, and other hygienic measures. The success which has attended these empirics has emboldened them to compete with educated medical men.

In the interest of his clientèle, it behooves the practitioner to devote at least as much attention to the clinical study of water as he does to the investigation of medicinal remedies. Only by this method will the profession be enabled to successfully meet the encroachments of empirics like Kneipp. The latter, it may be mentioned, differs from Priessnitz and his other predecessors in that his methods are less heroic, and in his prescriptions of various herbs, oils, and medicines like camphor, alum, aloes. Kneipp claims that diseases are due to disturbances of the circulation or in the blood by admixture of foreign matters. These are met by steaming with or without herbs to produce resolution; by cold compresses and ablutions to induce elimination, and by cold baths, douches, and ablutions for invigoration of the organism. The colder the water the more effective, if it be not applied unless the body is warm. "The greater the preceding perspiration the more effective the cold bath," says Kneipp, and herein he follows Priessnitz, and indeed the educated hydrotherapeutist. Kneipp counsels running barefoot in snow or dew-covered grass as a hardening measure. This was recommended also by Priessnitz. Kneipp never orders warm baths without succeeding cold ablutions.

A peculiarity of the Kneipp method is that he does not dry his patients, but depends upon the rapid donning of linen underclothing and subsequent exercise for producing reaction. He is an enemy to woollen undergarments. The chief element of success in the practice of this simple priest, is probably the fact that he utilizes the true principles of hydrotherapy in a crude manner, the other elements being suggestion and the removal of the bad dietetic and other non-hygienic habits of the patient.

COLLEGE ATHLETICS AND THE DRINKING HABIT.

President Eliot, of Harvard University, has made the following recommendations as to the regulation of college athletics: 1. There should be no Freshman intercollegiate matches or races; 2, no games, intercollegiate or other, should be played on any but college fields, belonging to one of the competitors, in college towns; 3, no professional student should take part in any intercollegiate contests; 4, no student should be a member of a university team or crew in more than one sport within the same year; 5, no foot-ball should be played until the rules are so amended as to diminish the number and the violence of the collisions between the players, and to provide for the enforcement of the rules; 6, intercollegiate contests in any one sport should not take place oftener than every other year. Finally, if trial shall prove the insufficiency of all these limitations, intercollegiate contests ought to be abolished altogether.

These recommendations are surely in the right direction, and we heartily trust that as many of them as possible may be carried out.

There is perfect unanimity of opinion regarding the value of college athletics; but the excesses to which they have been carried are notorious, and the time has come for some decided reform.

The praise of exercise and training has been sung so systematically and enthusiastically, that most people have come to believe athletic sports and sound health to be almost identical things. As a matter of fact, athletic exercise is not always needed, not always beneficial, and is sometimes pernicious. Life insurance examiners agree that professional athletes are short lived; while amateurs may, or may not, have a long and healthful life. Those whom vigorous exercises would help most, are often the very persons who do not indulge in them.

But there is another feature of college and amateur athletics which is of serious character, and which has been little dwelt upon. This is the drinking habit which so often accompanies active exercise. College students, if we are correctly informed, are very largely beer-drinkers, while spirits are used also to a considerable extent.

Yale students are said to be particularly fond of beer, while Harvard men possess a wide and deep fund of prac-

tical knowledge about cock-tails. We cannot, of course, say that the drinking habits would not have increased without athletics. But hard exercise creates a thirst which strongly tempts to malt liquors and stronger beverages. The relation of alcohol to athletics is an extremely important one, and one that we are confident has not been sufficiently regarded in attempting to estimate the exact value of athleticism. Probably nine out of ten college students practically give up athletic sports after graduation, but they do not give up their drinking habits.

THE EVOLUTION OF MEDICAL JOURNALISM.

It is extremely profitable to watch the gradual implantation of the methods of modern lay journalism upon current medical literature. A regular feature of some monthlies is now a picture of some celebrated local physician, accompanied with a flattering biography and an appreciative editorial notice, for which fifty copies are subscribed; a conundrum column where the guesser gets a prize; an illustrated humorous column adorned with strictly medical wit; a urinary chart or a hypodermic to each new subscriber. All these are new features which unite to add to the attractiveness of our science the purity of our literature and the gayety of our art.

An Ohio journal has, however, quite outstripped its competitors recently, by devising a system of periodical rewards and continuous though ectopic attractions which indicate an apt and fertile mind. To every subscriber there will be sent a "surprise package" every three months, these packages to consist of some modest but useful article that is sure to prove valuable to the physician. But this is not all, nor even half. The editor proposes to provide a new form of literature for his readers in the shape of prize stories, of which the incidents will be grouped in a familiar professional atmosphere. A standing offer is made of various sums of money to be given for first, second, and third prize. Our contemporary bids fair to create a new literature of medical realism. It wants seven thousand subscribers, but it is too modest.

THE JUBILEE OF A VIVISECTIONIST.

To the anti-vivisectionist Professor Moritz Schiff represents all that is diabolical in human nature. Yet, strange to say, he is found by those who know him to be a man of amiable and humane character, as well as a profound scholar, and an original investigator. On no other grounds could his recent jubilee have been such a successful demonstration of respect, admiration, and affection. Of this *The Lancet* says:

The magnificent demonstration organized on January 24th by the Geneva Medical School in honor of Professor Moritz Schiff having attained the fiftieth year of his scientific life deserves more than the passing notice already given. A knight errant of biological research, Schiff had barely graduated at Göttingen in 1844, when he gave to the world his treatise "De Vi Motoria Baseos Encephali," in which, independently of the physiological truths established, he showed himself a master of the inductive method. His early familiarity with the processes of the laboratory was reinforced by philosophical study, for, as he told his Geneva audience on the interesting occasion of January 24th, he schooled himself in the Platonic metaphysics, beginning with the "Phædro," while pursuing his researches into nature.

After teaching at Berne, he accepted a professorship at Florence. Driven from that school by the anti-vivisection faction after five years brilliant and most useful work, he was invited to the professorship of Physiology in Geneva, where he has labored and taught ever since. How deeply the Florentine School deplored the loss of its kindly German colleague was shown in *The Lancet* of February 4th of last year, in which a message of congratulation, couched in admirable Latin, was published from the professorial staff of the Istituto on his reaching his seventieth birthday; but to whatever nationality his pupils and brother teachers belonged, he equally conciliated their respect and devotion, a result brought remarkably into evidence at the demonstration of the 24th ult. Of all the tributes that came to him by telegraph, or post, or personal conveyance on that auspicious day, none was so gratifying as that handed to him by a former pupil, Professor Herzen, of Lausanne. This was the first volume of a collective reprint of his papers and articles contributed during the last fifty years to scientific periodicals, during which the famous lectures "On Carlo Matteucci: his merits in Physiological and Medical Physics," which appeared in *The Lancet* of July 22 and 29, 1876, are destined in due course to be included. The expense of the publication was met by subscriptions of old pupils scattered over the medical world, mainly in the continent of Europe, and its value as supplementing and completing such well-known *chefs-d'œuvre* of his as the "Lehrbuch der Physiologie des Menschen," the "Leçons sur la Physiologie de la Digestion," and the treatise "Sulla Misura della Sensazione," written with equal grace and force in German, French, and Italian, has but to be indicated to be appreciated.

We are told that two-thirds of a man's character is determined by his work and environment. Professor Schiff is receiving evidence of esteem and affection from all over the world, and he deserves it all.

Death of Professor Hirsch, Berlin University.—This distinguished physician and pathologist, and Professor of Medicine in the University of Berlin, died recently, at the age of eighty-three. During his earlier career as a general practitioner he made extensive researches into the history and geographical distribution of malarial fever, typhoidal maladies, dysentery, and analogous complaints, and embodied his conclusions in a work of two volumes, entitled "Hand-book of Historico-Geographical Pathology," by which Professor Hirsch was regarded as the founder of the study of the geographical distribution of disease, which also secured to him in 1863 the appointment of Professor of Medicine at Berlin University. In 1873 he was a member of the German Imperial Cholera Commission, the appointment of which was largely due to his initiative, and in the following year he represented Germany at the International Sanitary Conference of Vienna. For his services on this occasion he received the title of Medical Councillor. Among the many works on special subjects written by the deceased was a History of the Epidemics of the Middle Ages, amd an important text-book on diseases of the eye.

News of the Week.

Successor to Professor Moleschott.—Professor Luigi Luciani, of Florence, has been appointed to the Chair of Physiology in the University of Rome, to succeed Professor Moleschott.

Award of the Riberi Prize.—The Riberi Prize, founded by Professor Alessandro Riberi, has just been awarded to Dr. Camillo Golgi, Rector of the University of Pavia, and Professor of General Pathology, for his essay upon Malarial Fever. The prize amounts to $4,000, and is open to international competition every five years. The subject must be one of purely medical interest, and the essay be the result of original research. There were three essays this year deemed worthy of final consideration, that by Dr. Golgi being finally awarded the prize. The others were by a Frenchman and a German.

A Bequest to the Harvard Medical School.—The will of Rev. William C. Moseley, of Newburyport, bequeaths $50,000 to Harvard College, to endow a professorship in the Medical School. Other bequests in the will were $20,000 to the Massachusetts General Hospital, for beds in memory of his son; $10,000 to the Boston Lying-in Hospital; $10,000 as a trust to the Perkins Institute for the Blind; and $10,000 to the Anna Jacques Hospital, of Newburyport.

Action of the Association of American Medical Colleges on the Question of a Four Years' Course.—A committee of the Association of American Medical Colleges, met in Chicago on February 7th. The meeting was called to order by Dr. P. H. Millard, the Secretary. The Association represents seventy-one medical colleges, and the object of the meeting was to act upon a proposed amendment to the constitution providing for the adoption of a four years' course. There were present fifteen members. Dr. Millard said: "In response to the circular letter, sent out by myself, I have received information or advice from twenty-eight colleges in regard to their wishes or desires for the four years' course, and I can state definitely that twenty of these colleges are in favor of the adoption of the four years' course at this time, or at the San Francisco meeting, to be held in June next; that two colleges are endowed, and four or five colleges are opposed to it at this time, deeming it impracticable so shortly after adopting the three years' course; one college making the proposition that they will support it if we make it apply to 1896 instead of 1895."

After some discussion the following resolution was adopted:

Resolved, That this committee recommend to the Association of American Medical Colleges at its next meeting in June, to be held in San Francisco, that no medical college shall be permitted to remain or become a member of the Association that does not provide, either for a three years' course of eight months' study, or a four years' course of not less than six months each, to take effect in 1895. This was carried.

The Secretary moved that a committee of five be appointed to prepare a curriculum of studies, providing for the minimum of time and lectures to be devoted to each one, and that the committee report at the San Francisco meeting. This was also carried.

The Chairman appointed on this committee Drs. Davis, Connor, Quine, Stemen, and Vaughan. The Committee then adjourned.

The New Hospital at Sing Sing will shortly be opened. It is intended to take the place of the old St. John's Riverside Hospital.

Head Measurements and Longevity.—People will begin to measure their heads with most anxious care now that a physician has found its size to be an index of longevity. A person, says Dr. Morris, with a head whose diameter at the thin portion of the temporal bones measures five and a half to six inches is almost sure to give a longevity on the father's side of seventy to ninety years or over. If the head measures in front, from the external auditory canal to the naso-frontal suture, as much as four and three-fourths or five inches, we may be almost sure of long life on the maternal side. This will be great news to the people who wear 7¾ hats. Chicago is said to be already tumultuously congratulating itself.

The Army Medical School. — The Army Medical School closed its first term in Washington, on February 28th. There will be appropriate ceremonies attending the event. The initial course has proved very successful, and of material benefit to the newly appointed Assistant Surgeons, for whose instruction in military surgery and the general duties the institution was organized. There are five passed candidates who have attended the school regularly for all the courses. Several of the younger officers of the Army Medical Corps have attended some of the sections, and one took his two months' leave, the first he had been granted in some time, and employed this leisure in listening to the lectures at the school. It is likely that in another year, as the opportunities for instruction increase, the purposes of the institution will be enlarged. There is a proposition to make the results of the school further reaching than at present.

An Attempt to Lower the Fees for State Medical Examinations.—The Committee on Legislation of the Medical Society of the State of New York has sent to the Senate an argument, which is complete and unanswerable, against the proposition to lower from $25 to $5 the fee for a medical examination. This proposition has been embodied in two bills that have been introduced into the Assembly and that have no merit whatever. A good many people are of the opinion that entry into the medical profession should be made rather more difficult than more easy, and that the fee now exacted of candidates would not be too great, even if it were covered into the State Treasury. But the protest of the State society does not proceed upon this ground at all. It shows that the present requirement of the law was adopted only after mature consideration and after a long struggle, and that the fees now exacted do not more than suffice to pay the expenses of examinations.

A New Training-school for Nurses.—The new building for the Training-school for Nurses, which is attached to the German Hospital and Dispensary, was formally opened last week, and a reception was given by the Board of Trustees to celebrate the occasion. The new building is a five-story structure, built of pressed red brick, and is fire-proof. It is well lighted, having windows on all four sides, and is furnished with an elevator and all modern improvements.

Dr. T. Cranstoun Charles, Lecturer on Practical Physiology at St. Thomas's Hospital Medical School, died on January 24th, in the forty-fifth year of his life. He was the author of a Handbook of Physiological Chemistry.

Consultants May Receive Legacies.—There is a clause in the civil code of France which forbids medical men from receiving legacies from patients whom they have attended during their last illness. A case has recently been decided in a French law court, in which a legacy bequeathed to a medical man who had been called in, in consultation, during an illness which ended in the death of the patient, was withheld on the ground that it was illegal. The Court, however, judged differently, on the ground that the medical man in question attended the patient only during a short period of the illness, and in consultation.

Vaccine Carried by Pigeons.—An army surgeon, Dr. Hoebel, has sent small-pox vaccine from Fontenay-le-Comte to Rochelle by carrier pigeons. In the tube of the median feather, instead of a despatch, small tubes of vaccine were placed, steadied by the under portion of lucifer matches. The tubes arrived in perfect condition in fifty-five minutes. Carrier pigeons in war time may thus arrest a small-pox epidemic.

The Number of American Physicians.—In a late issue of the *Railway Age*, Dr. R. Harvey Reed makes the statement that, if there be abstracted from the profession the railway surgeons, the army, navy, and marine hospital surgeons, the insurance and pension examiners, the hospital staffs, and "like distinguished personages," so few will remain that "it will require a military band to muster them close enough together to be seen with a fifth-objective microscope." According to this, the membership of the Association and the entire profession is practically composed of those holding distinguished offices of honor and profit. We are told by Polk's "Medical Directory of the United States" that there are over a hundred thousand doctors in the United States, and we are rather staggered to be informed that, aside from those holding official positions of honor or emolument, there are not enough doctors to occupy the field of a fifth-objective microscope.—*Journal of American Medical Association.*

Mathew's Medical Quarterly is a new journal devoted to diseases of the rectum, gastro-intestinal diseases, and rectal and gastro-intestinal surgery. It is edited by Drs. Joseph M. Mathews and Henry E. Tuley, and published in Louisville, Ky.

Blue Glass and Red Glass.—There is a report that red glass is to be tried in one of the small-pox pavilions at North Brother Island, New York, in order to test the value of the experiments made by Drs. Lindholm and Vinsen, of Bergen, Norway, who claim that the pitting of small-pox patients is due to the sensitiveness of the skin to violet rays of light. This reminds us of a chapter in the history of medicine which interested the world a dozen years ago. It was in 1881, as we remember, that there was published in Philadelphia a book entitled, "The Influence of the Blue Ray of the Sunlight and of the Blue Color of the Sky in developing Animal and Vegetable Life, in Arresting Disease, and in restoring Health in Acute and Chronic Disorders to Human and Domestic Animals." On the front page is this quotation: "If this be true, it up sets all theories." It treats of the electro-magnetic power of the sunlight transmitted through blue glass, and many successful experiments are related. A grapery, rooted in with blue and plain glass in juxtaposition, produced in a shorter time than usual bunches of extraordinary magnitude and grapes of unusual size. A litter of pigs was separated into two parties; the heaviest and best-conditioned were put in an ordinary pen, while the smallest and lightest were placed under blue glass through which came the solar ray. After several months it was found that the last named were far in advance of the pigs heavier to begin with, but reared in the usual piggery. A bull-calf, so puny and feeble at birth that small hopes were entertained for its survival, was placed under blue glass. In twenty-four hours it rose to its feet, walked about the pen, and was able to take some food. It began to grow and its development was marvellous. By the same means a mule that had been deaf for ten years regained its hearing, while a canary that had lost its vocal powers had them restored. Proofs were given that quadrupeds could be developed in twelve months, which under ordinary conditions required five years. Blue light then entered human therapeutics, running a rapid but brief course. It soon retired to the modest function of helping the growth of cucumbers, and toning down the brilliancy of solar rays in asthenopia.

The Chicago Department of Health found during the month of January 188 cases of small-pox. One hundred and eighty-two of these were removed to the small-pox hospital. Sixty-three were discharged from the hospital well, leaving 112 in the hospital. There were twenty-nine deaths, seven of which died outside of the hospital. Some were dead when first discovered, others so near death that they were not moved to the hospital. All those who died outside of the hospital had hemorrhagic small-pox, and were sick but a few days. None of them had been vaccinated, and all confluent cases had not been vaccinated. Some of the fatal cases had been vaccinated in infancy.

An Office Building for Physicians.—A correspondent of this city writes: If a large building were to be erected and devoted exclusively to physicians' offices, it would net a good income for the owner. It would not be an experiment, as the Columbus Memorial Building in Chicago is said to yield a clear profit of fourteen per cent. annually. The building should be near the Academy of Medicine, so that the library there would be an attraction. The owner would have to adopt a plan for admitting desirable tenants only. Offices should rent for prices ranging between five hundred and two thousand dollars per annum each. Imagine a handsome building extending from No. 18 to No. 28 West Forty-third Street, and extending through to Forty second Street. It is then easy to imagine this building filled with physicians who are weary of the changes of location that are necessitated by changes in real estate, which affect the physician who rents a house or part of a house.

World's Fair Psychoses.—A considerable number of cases of insanity have been observed by medical men, occurring in persons who have made pilgrimages to the World's Fair and have become exhausted by sight-seeing and the excitements of Chicago and the late Midway.

Reviews and Notices of Books.

Clinical Gynecology. Being a Handbook of Diseases Peculiar to Women. By Thomas More Madden, M.D., F.R.C.S., Ed., Obstetric Physician and Gynecologist, Mater Misericordiæ Hospital, Dublin, etc. With 259 illustrations, pp. xvi.–562. Philadelphia: J. B. Lippincott Co. 1893.

This readable volume consists of a series of clinical lectures, covering the same ground as Goodell's well-known work, though its general tone is less surgical than the latter. Being intended, as the author states in his preface, largely for his immediate circle of pupils, it is naturally strongly local in its coloring, and contains many descriptions of instruments and methods of treatment which may seem curiously antiquated to the progressive gynecologist.

For example, in the chapter on the perineum there is apparently no recognition of the well-recognized anatomical fact that the perineum forms only a small part of the pelvic floor, and is not the "natural *point d'appui* of the vaginal column." We thought that Baker Brown's operation had long been forgotten, but the familiar illustration of the older text-books is still retained. Tait's flap splitting method is regarded as the ideal modern improvement, and there is practically no recognition of the operations of the German school.

In the description of Emmet's operation for repair of the lacerated cervix the author follows closely its originator, but the after-treatment—the use of tampons and daily douches, and early removal of the sutures—is not in accord with modern practice. The chapters on malignant disease of the uterus are quite exhaustive, which cannot be said of those on fibroids. A curious relic of former pathology appears in the shape of a paragraph on "corroding ulcer," as a distinct affection. The chapters on displacement show the influence of the pathological theories of a former generation, especially in regard to replacement of the anteflexed uterus on the sound (!) and the retention of the old-fashioned cradle pessary, which has become a veritable curiosity in this country. The operative treatment of retroflexion, whether by shortening the round ligaments or by hysterorrhaphy, is regarded as unjustifiable, the author's condemnation being also applied to all but the simpler plastic operations for the cure of procidentia. His conservative attitude toward the removal of the adnexa is somewhat offset by his readiness to resort to conservative treatment even in well-recognized cases of pyosalpinx. It is desirable that the expression "chronic oöphoritis" should be banished from modern text-books, since it is entirely misleading. In the sections on the treatment of this condition there is no reference to the beneficent action of electricity, which here finds its most valuable application in gynecology. Between blisters and bromides and oöphorectomy there certainly remain some palliative measures which should at least be mentioned. The description of ovariotomy is clear and practical, though rather brief, the numerous accidents and complications being passed over. Following the almost invariable, but none the less reprehensible, practice, the author devotes a separate division of the book to menstruation and its disorders, instead of treating them simply as symptoms of affections previously described.

The concluding chapters are of a miscellaneous character, such as spurious pregnancy (one of the most interesting and practical in the book), hæmatocele, the disorders of pregnancy, and ectopic gestation.

The author's style, though colloquial, is clear and forcible. His lectures are the result of personal experience, and if to surgical readers he may at times appear to be ultra-conservative, he is certainly a safe guide for the student, who is only too apt to turn from the tedious details of palliative treatment to the attractive demonstration of a new operation, which too often promises more than it performs. We have criticised this handbook rather from a scientific standpoint, since personally we entertain a high respect for the school of gynecologists of which the author has ever been a consistent member.

Chirurgie des Voies Urinaires. Étude Clinique. Par le Dr. E. Loumeau. 8vo, pp. 300. Bordeaux: Feret et Fils. 1894.

The excellent work done in genito-urinary surgery by the French surgeons will accord to this volume the reception it deserves. As its title indicates, it is a collection of well-written clinical cases which cover the entire field of this branch of the surgical art. The simpler conditions, such as phimosis, gonorrhœa, and cystitis are no less carefully considered than are perinephritic abscess, foreign bodies in the bladder, urethral stricture, and the operations for stone. The work is written purely from the clinical standpoint, and contains many valuable suggestions derived from the author's experience.

Anatomy, Descriptive and Surgical. By Henry Gray, F.R.S., Fellow of the College of Surgeons, Lecturer on Anatomy at St. George's Hospital Medical School. Edited by T. Pickering Pick, Surgeon to and Lecturer on Surgery, St. George's Hospital, etc. 8vo, pp. 1129. Philadelphia: Lea Brothers & Co. 1893.

From the time this work first appeared, in 1857, it has been considered the standard one on its subject. Since that period it has triumphantly passed through thirteen editions, and the last now before us revives the old love for the book which we entertained during our student days. Few treatises can claim such a record of endurance of usefulness for a period of thirty-six years. To say that it still maintains its reputation is to give it the highest compliment within the range of the critic's privilege. It has grown and strengthened with the advancements and requirements of the modern knowledge of anatomy, enlarging its scope for newer adaptations in surgery and physiology; the numerous cuts have been increased and elaborated, and colors have been added to aid in further elucidation.

Index Catalogue of the Surgeon-General's Office, United States Army. Vol. XIV. 4to, pp. 1016. Washington, Government Printing Office. 1893.

This volume, from Sutures to Universally, includes references to 10,124 author titles, representing 6,426 volumes, and 8,850 pamphlets. It also includes 9,867 subject titles of separate books and pamphlets, and 38,461 titles of articles in periodicals. It is still under the able editorship of J. S. Billings, Surgeon, United States Army.

Selected Papers in Gynecology and Obstetrics. By D. Berry Hart, M.D., F.R.C.P.Eng., etc., late President Edinburgh Obstetrical Society. Edinburgh and London: W. & A. K. Johnston. 1893.

This is a reprint of papers previously published in various journals, chiefly in the *Edinburgh Medical Journal*. The author is well known as an active and original worker in this special field, and the present collection of papers will be perused with interest by gynecologists and obstetricians.

Les Kolas Africains, Monographie botanique, chimique, thérapeutique et pharmacologique. Par M. le Dr. Édouard Heckel, professeur à la Faculté des Sciences et à l'École de Médecine de Marseille, correspondant de l'Académie de Médecine, lauréat de l'Institut. Paris: Société d'Éditions Scientifiques. 1893.

This is, as far as we know, the first exhaustive treatise upon the kola nut and its use in medicine. The work is a most elaborate one, consisting of four hundred octavo pages and illustrated with some fifty woodcuts and a colored plate. It treats of the botany, chemistry, therapeutics, and pharmacology of this drug in a way that leaves little to be done by future investigators.

Society Reports.

LONDON CLINICAL SOCIETY.

Paraplegia after Typhoid Fever.—Dr. Mott showed a patient who eight years previously had an attack of typhoid fever which lasted three months. After the attack the patient was unable to stand or walk. There was exaggerated reflexes, both superficial and deep, and ankle clonus. There was no loss of sensation. The sphincters were but slightly affected, though there was some difficulty in retaining the urine. Dr. Mott thought that the lesion was a focal myelitis, a transverse lesion, perhaps spreading from a patch of meningitis.

Nephrectomy for Malignant Tumor.—Mr. Malcolm gave the details of a nephrectomy in a child two years of age. The tumor had been noticed for about a year. It filled the entire right loin, and to the touch was elastic, oval, well defined, painless, and scarcely movable. The child was anæmic, moderately strong, and no changes were apparent in the urine. The abdomen was opened in the median line and the tumor was removed through an incision in the posterior layer of the peritoneum, immediately to the outer side of the ascending colon. The tumor was of oval shape, six inches long and four inches wide. It was of an adenomatous nature and involved only the anterior portion of the kidney, the posterior half being apparently normal. The child made an uneventful recovery, and a year later was quite well. The tumor was separated from the kidney by a capsule of dense fibroid tissue, and consisted of tubes lined by epithelial cells with a scanty and exceedingly delicate stroma, but with strands of connective tissue dividing the field into large loculi.

Mr. Malcolm further stated that, contrary to the opinion recently advanced by Bland Sutton, he could not consider the growth as a connective-tissue neoplasm.

OPHTHALMOLOGICAL SOCIETY (LONDON).

School Ophthalmia.—Mr. Hutchinson spoke of the frequency of occurrence of this disease, particularly in the lower-class schools. In some schools as many as fifty per cent. were affected. It occurs under conditions where no gross hygienic faults can be found, spreads from the sick to the healthy, and resists treatment. A papillary condition of the conjunctiva quickly develops, there being but a few instances of true sago grains. The diagnosis of early and slight cases is difficult, and it is therefore advisable to treat all doubtful cases. It appears to spread especially in bed-rooms, and particularly between individuals occupying the same bed. It appears as though a specific contagium conveyed the disease from patient to patient. Sporadic cases were very rare and were met with very infrequently in private practice. It seemed probable that Egyptian, military, and school ophthalmia were identical. The treatment required is isolation and the application of mercuric chloride or silver nitrate.

ACADEMY OF MEDICINE (PARIS).

The Surgical Treatment of Goitre by Esothyropexia.—By the above name Dr. Poncet, of Lyons, proposes to designate a new method of treating goitre by operation. It consists, after first having made an incision in the median line, of drawing forward and fixing a more or less considerable part of the goitre, which after a variable time atrophies. The method has the advantage of complete innocuity and absence of hemorrhage. It is simple, rapid, and especially indicated in goitre complicated with attacks of suffocation. He has applied it with success in fourteen cases. The atrophy of the goitre follows in from four to six weeks. After esothyropexia in exophthalmic goitre the general phenomena of this disease tend to disappear, and in certain cases where mental symptoms have been manifest the intellectual functions revive after a longer or shorter time.

SOCIETY OF PHYSICIANS AND SURGEONS (PARIS).

Surgical Treatment of Post-operative Peritonitis.—Dr. Nitot made some observations *apropos* of the surgical treatment of post-operative peritonitis. He emphasized the necessity of reopening the abdomen, making an abundant lavage, and then establishing drainage in the inferior portion of the abdominal cavity. This last procedure is, he believes, quite essential.

A Case of Tetanus.—Dr. Reynier detailed a case of traumatic tetanus occurring in a boy seven days after an injury of the hand. In spite of continual irrigation of the wound with sublimate solution, tetanus supervened. The forearm was amputated at the first appearance of the tetanus and an injection of antitoxin administered. Then chloral hydrate was administered in large doses, but the patient died in a tetanic crisis shortly after. He remarked that although the amputation prevented the microbes from entering the circulation, it did not do the same for the toxines manufactured by the germs and which caused the tetanic crisis.

SOCIETY OF PHYSICIANS (VIENNA).

The Operative Treatment of Tumors of the Bladder.—Dr. Frisch believes that the best information concerning the position, the diagnosis, and operativity of tumors of the bladder can be obtained by the cystoscope. Benign tumors, even when they are multiple, and have their seat in the lower portion of the bladder and around the opening of the ureters, are operable and the prognosis is good. There are also forms of carcinoma in which the infiltration is limited to the walls of the bladder, that are operable. Naturally all operative measures are of the nature of resection, perhaps eventually total extirpation of the bladder. The prognosis in all forms of carcinoma of the bladder is doubtful. The wholly inoperable are those in which there is not alone infiltration of the bladder-wall but the tissues around the bladder. He believes that the chances for recovery in operations on the bladder for carcinoma are becoming more favorable every year.

ROYAL SOCIETY OF PHYSICIANS (BUDAPESTH).

Blood Changes in Syphilis.—Dr. Justus stated the results of his studies of the blood in one hundred patients suffering from syphilis. When syphilis is not influenced by treatment the amount of hæmoglobin diminishes in proportion with the severity of the symptoms, and when the syphilitic developments recede the hæmoglobin increases. The diminution of hæmoglobin is often apparent in one day when the secondary manifestations of syphilis are active. When a patient is treated with hypodermatic intra-muscular injections of mercury the injection is followed by a rapid diminution of hæmoglobin, which, however, in the course of a day returns to normal. A second injection is followed by a second shrinkage of the hæmoglobin. After a few injections a time comes when the injections are followed by no lessening of the hæmoglobin, but, on the contrary, an increase is manifest, and a continuance of the injections from this time on is accompanied by an increase. When the patients are treated by inunctions, the hæmoglobin falls after the first inunction, but gradually, after a few days, it increases until it becomes greater than it was originally before the treatment. Recovery is simultaneous with the appearance of the increase in hæmoglobin, therefore this becomes a diagnostic and prognostic sign of great importance.

Cancrum Oris.—Place cotton so as to prevent spread of acid, and apply nitric acid after cleansing with peroxide of hydrogen and spreading vaseline over surrounding parts. Judicious stimulation. Bichloride, moist dressing (1 to 4,000) constantly applied.—Abbe.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, February 15, 1894.

D. B. St. John Roosa, M.D., President, in the Chair.

The meeting was held under the auspices of the Section on Pediatrics, the Chairman of which, Dr. Joseph E. Winters, occupied a seat on the platform.

Scurvy in Children.—Dr. W. P. Northrup opened the discussion upon this subject with a paper. The first case which he had ever seen of scurvy in a child ended fatally, for the reason that he was unfamiliar with the disease. It had only recently been brought to the attention of pediatrists in Europe, and the first article upon the subject, presented at the International Medical Congress at Copenhagen, had not yet reached him through the Transactions. The history of this case, seen at the New York Foundling Asylum in 1889, was given by him, together with the autopsy, in a paper read before a meeting of the American Pediatric Society. While the attention of pediatrists had thus been called to the occurrence of scurvy in children, it was desirable that it should be more generally known to the profession. Without a correct diagnosis and appropriate treatment, the disease was very fatal. On the other hand, when recognized it was very amenable to simple measures.

Two years after seeing his first case Dr. Northrup saw another typical one in consultation in a child of sixteen months, of well-to-do parents, who had fed it exclusively for eleven months on a proprietary food. It seemed to flourish until sixteen months of age, when the nurse noticed some trouble with the gums; then the child complained of pain on handling and kept the right lower limb nearly straight. It was treated for rheumatism. Dr. Northrup found no difficulty, after his previous experience, in making the diagnosis of scurvy. The gums were ragged and swollen, the right lower limb presented a fusiform swelling, largest below the knee, which gave rise to great anxiety on the part of the patient lest it should be moved, and caused pain. These were the only external signs. The diet was changed to cow's milk, beef juice, and orange. The latter was taken with avidity. The recovery was rapid.

Recently a German observer had discovered a bacillus to which he attributed scurvy, but his observation required confirmation from others. An analysis of the cases already reported in this country was given, and in summarizing his paper, the author defined scurvy as a condition of malnutrition which affected the capillaries and allowed the blood to escape from the vessels, leading to what might be called hemorrhagic gingivitis and to hemorrhagic petechiæ or ecchymoses of the skin in some cases, to hemorrhages from the mucous membranes, but more especially to collections of blood about the femora and beneath their periosteum. There was also anæmia. Tenderness was a prominent symptom about the swollen limbs. Most of the cases had been attributed to persistent feeding with prepared foods and condensed milk. The disease was most typical during the second year of life, when the teeth were present with their swollen and ragged gums. The treatment consisted in a change of diet, orange, and other fresh fruit. Scurvy was supposed to be a distinct entity, although frequently associated with or superadded to rickets, formerly called acute rickets.

Scorbutic Pseudo-paralysis. — Dr. Henry Lyng Taylor continued the discussion. He had chosen this title for his paper in order to emphasize a peculiar and prominent symptom frequently present in cases of infantile scurvy. His case had been referred to in Dr. Northrup's paper, and had been treated for supposed spinal disease or hip disease. It was that of a girl of eleven months, brought to him from the South last August. The child had been fed exclusively on a special brand of condensed milk, had seemed to thrive on it up to the age of six or seven months, when the parents noticed that she could not sit up as she had done before, that she had a peculiarly bent attitude, indisposition or inability to use the legs, and later the trunk. There was a tender swelling on the right thigh which disappeared in a few weeks; spongy and bleeding gums; slight rash over the entire body; swelling about one eye which disappeared in a week or two, leaving a purplish stain; a few purplish spots on the skin which did not last long; swelling above the right ankle. During the development of these symptoms the nutrition became much impaired, the baby lost flesh and appetite, slept badly, became peevish, and excessively sensitive to the slightest touch or movement. There was later profuse perspiration, especially of the head. No disturbance of the stomach or bowels, although poor appetite. Rectal temperature, 102.5° F. The skin was dusky, covered with a papular eruption, face anxious, indicating severe and continued suffering; the breath fetid. The child lay in a bent attitude, the legs somewhat flexed, no attempt being made to move them. There was, however, motion at the joints, the toes and ankles moved, the knee reflex was normal, there was moderate swelling above the right ankle, the baby moved the arms and head naturally. The spine was abnormally rigid and somewhat bent, and there was a projection at the first and second lumbar vertebræ. Photographs were exhibited showing these points, and the progressive change to the normal attitude as treatment was carried out. There were no symptoms of rickets. The clinical picture was typical of scurvy, and he was able to make the diagnosis from having read Dr. Northrup's paper. Dr. J. H. Fruitknight saw the patient with him. The baby was at once put on a diet of cow's milk, raw meat juice, and orange. The juice of the orange was sucked greedily. No drugs except a laxative. The first night after the change the patient slept soundly; the eruption soon faded, the fever went down, the gums healed, the legs regained their usefulness, the swelling subsided, the patient soon sat up, and the parents returned with her home, where she had since remained well.

The parents of this patient told him a neighbor's baby had been fed on the same brand of condensed milk, had suffered in a like way after about the eleventh month, and two months later died.

After again reviewing the symptoms of pseudo-paralysis in his case, which was common in the lower extremities in the scurvy of children, Dr. Taylor considered the explanation of the phenomenon. Was it due to the bloody and serous infiltration of the muscles and periosteum, giving rise to pain on motion; or was it malnutrition of the nerve-centres, or impoverishment of the blood-texture? The pseudo-paralysis was easily distinguished from other infantile paralytic affections. Scorbutus might exist with rickets or be mistaken for it, and it was well, therefore, to examine the gums when a case of rickets presented itself. There was no local elevation of the temperature in the limb, as there was in rheumatism and inflammations.

Letters were read by Dr. Crandall from Drs. T. M. Rotch, of Boston; Louis Starr, of Philadelphia; A. D. Blackader, of Montreal; F. Forchheimer, of Cincinnati; and others, giving their experience with scurvy in children.

After citing cases, Dr. Starr said regulation of the diet was the main point in treatment. Condensed milk and farinaceous baby foods must be absolutely forbidden. The milk might be sterilized, if it were thought advisable, but not at a high temperature. He had also given orange juice and raw meat juice daily.

Dr. Rotch said in his letter that Dr. Northrup had been first to describe scurvy in children in this country. He had himself seen some cases of scurvy in children earlier in his practice, but had failed to recognize them. Of recent years he had seen about twenty cases. He had also seen scurvy rapidly recover under orange juice, while rickets, which was also present, pursued its usual slow course.

Dr. Forchheimer wrote that in one of his cases the peculiar complexion lasted eighteen months after recovery from the scurvy, although the anæmia had practically

disappeared. According to our present knowledge, he thought the disease was probably due to some chemical change in the blood, one which could be corrected by fruit juice and change of food. The most acceptable treatment had been orange juice, lemon juice, and cow's milk. He referred twice to the aid to be derived from treatment in making a diagnosis in cases at all doubtful. He had seen ten cases.

Dr. Lockwood, of Baltimore, wrote that he had seen no new cases since the one referred to in Dr. Northrup's former paper, and Dr. Hooker had seen none which had not already been reported, although he had been on the lookout for cases.

Dr. J. Lewis Smith said that during the many years he had been connected with the Out-door Department of Bellevue Hospital scurvy in children was seen very rarely, whereas rickets was very common. Physicians, however, might overlook scurvy when it developed prior to the appearance of the teeth, since at that age there would not be the important symptom of spongy gums. He did not believe that nursing babies up to the thirteenth month had the disease. Of course scorbutus was not a new affection, as its presence in seamen had been written about at least two or three hundred years ago. In typical cases of rickets there was apt to be great multiplication of the capillaries under the periosteum, with thickening of this membrane, which might be mistaken for the swelling due to effusion of blood in scurvy, unless, if the case reached the autopsy table, a microscopic examination were made.

Dr. A. Jacobi had seen a large number of cases of scurvy in children since Dr. Northrup first called attention to it, had seen a small number before, and probably had overlooked many more. The majority of the cases occurred during the winter. The first half of March, 1892, he saw three cases. He had not seen a case where the child received normal food; nearly all were artificially fed. Quite a number were fed exclusively on sterilized milk. He had always regarded sterilized milk as an abomination when used as an exclusive diet. While absence of teeth in young babies and old people might make the diagnosis less easy, yet he had seen scurvy in one baby of four months, in one of six months, and in a third of six weeks; and while two of them had not spongy gums, one, the baby six months old, but without teeth, did have spongy gums. Dr. Jacobi said it was still a question whether scurvy was an entity, or whether it was related to other hemorrhagic affections. No matter, however, what might be the condition of the blood, it would not give rise to hemorrhages unless there was disease of the blood-vessels.

What diagnosis did we formerly make when we did not recognize scurvy? Many years ago he had diagnosed acute rickets, but now he could conceive that many times he had been mistaken. This very winter he had seen cases of scurvy in which the physician had treated the patient for rheumatism. Twenty or thirty years ago, however, acute rheumatism in children was hardly acknowledged to exist. Ulcerative gingivitis should never be mistaken for scurvy. In treatment he had given fruit juice with good results, had insisted upon animal food; he seldom if ever permitted babies to be fed on pure cow's milk, but always added some cereals. He would also give phosphorus in substance, say ten to fifteen minims in oil three times a day, of the preparation of the Pharmacopœia, containing a grain to the hundred minims. In one case seen by him there was a suspicion that diarrhœa was the cause of the scurvy. If a bacillus was the primary factor, this case might suggest that it was the bacillus coli commune. The baby died speedily. It appeared that no healthy baby would ever take scurvy, just as none would take diphtheria. A number of the patients seen by him had had some disease of the respiratory passages, especially bronchitis.

Dr. L. Emmet Holt discussed the question whether sterilized milk would cause scurvy. The question had been raised in London, and the physicians there seemed generally to believe that sterilized milk was a potent factor. Yet in three institutions in New York City where there were large numbers of children, it had been the custom for perhaps five years to sterilize all milk, yet only one case of scurvy had occurred in the three institutions during that time. In one case the infant had been fed entirely upon malted milk, at Dr. Holt's own direction, because it was the only food which corrected constipation and trouble from which the child had been suffering. He had seen four cases of scurvy the past year, all occurring during the summer. One of the worst cases he had ever seen was in a baby which had been fed exclusively on a widely advertised proprietary food. In one case a swelling of the knee had led the doctor to diagnose sarcoma. In five of the six cases seen by him, the scurvy had developed from the exclusive use of the proprietary food referred to above. Most of his cases showed a marked degree of cachexia, but at least two did not. All had occurred in private practice. All but one in the country where fresh milk should be easy to obtain, but was not used; for it seemed that in the country prepared foods were employed more than in the city.

Dr. W. L. Carr said there was no doubt but what scurvy was a rare affection in New York institutions. There had been but one case out of over two thousand patients at Bellevue Out door Department, none at St. Mary's among a thousand patients seen the past year. Dr. Carr had seen three cases in private practice, and named another reported to him by Dr. Hardy. In one of the worst there was no gingivitis, but, like in two others, there had been diarrhœa. The symptoms rapidly disappeared under dietetic treatment. In this case there was also swelling of the forearms, but much less than of the lower extremities. It was rather peculiar that the hemorrhages were greatest where there was most active epiphyseal growth (lower end of the femur).

Dr. W. H. Fruitknight had seen five cases of scurvy since Dr. Northrup had read his first paper. At the St. John's Hospital, where sterilized milk was used, there had been but one case, and that had developed outside. As to relative significance of symptoms, the most reliable one when present was spongy gums. Under treatment this disappeared first, the swelling of the limbs last.

Regarding Etiology.—Dr. Max Einhorn mentioned, as suggestive of the causation, some experiments which he had made nine years ago with Ehrlich, bearing on diabetes. They put frogs in water containing bicarbonate of soda, and found at the end of fifteen or twenty days red discoloration of the fluid, which was proved to be due to red blood-corpuscles, not simply hæmoglobin. Dr. Einhorn was disposed to think that in scurvy there was a chemical change in the blood, perhaps relating to its alkalinity or the presence of an abundance of sodium.

Dr. Seabury Jones inquired of the speakers whether they regarded the prepared foods referred to as positive factors in the production of scurvy, or whether this was due to lack of other elements.

Dr. Holt remarked that one of his cases was almost like an experiment in natural science, for the infant had been fed exclusively on a certain prepared food, got scurvy, this food was stopped, the patient immediately improved, and went on to recovery.

Dr. Joseph E. Winters referred to a case seen last summer, in which the infant had been fed exclusively on the same prepared food referred to by several speakers during the evening, and recovery was prompt after no other change than to sterilized cow's milk. The only treatment which it was his custom to employ was sterilized milk. He did not believe sterilized milk ever caused scurvy, if it were done right. The sterilizing process should never continue longer than twenty minutes.

Dr. Northrup added the cases of scurvy reported this evening to those reported previously in this country, and found the number to be seventy-two, exclusive of Dr. Jacobi's, who had not stated just how many he had seen. He agreed with Dr. Holt and Dr. Winters, that sterilized milk did not cause scurvy. The large experience with it

in the feeding of infants at the New York Foundling Asylum, Infant Asylum, and other institutions, proved that. On the other hand, proprietary foods were almost universally the cause, especially the one which had been most widely advertised, namely, Mellin's food.

The President called attention to the fact that the bureau of nurses was in operation, and it was hoped the profession would make it self sustaining and even a source of income to the Academy. Attention was also again called to the smoking and grill room.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, January 25, 1894.

Herman J. Boldt, M.D., Chairman.

Election of Officers.—There being but one nominee for each of the two offices, the secretary was instructed to cast an affirmative ballot for Dr. Malcolm McLean as chairman, and Dr. George W. Jarman as secretary of the section for the ensuing year.

Home made Incubator.—Dr. Marx exhibited an inexpensive incubator for the prematurely born but viable child. It comprised two compartments, one for the babe, the other for the heating apparatus. In the latter was an alcohol generator and a coil of pipe for steam.

Umbilical Hernia.—The Chairman, Dr. Boldt, presented, in accordance with a promise made at the last meeting, one of six patients whom he had operated upon and cured of umbilical hernia by taking out the entire sac wall, freshening the edges of the muscles and bringing all the wall structures from the two opposite sides together with a single layer of wire suture. The women weighed from 185 to over 200 pounds each. Had been operated upon over two years ago, and there had been no return of the hernia.

Premature Atrophy of the Genitalia.—Dr. Vineberg related the case of a woman whom he had expected to present in illustration of premature atrophy of the genital organs. She was twenty-five years of age, had been married four years, was well formed, had menstruated at the age of fifteen and continued to do so regularly until about eighteen months ago. Since then she had menstruated only once every three or four months. The uterus was now of the size of an almond, the appendages could not be made out because of the thickness of the abdominal walls, the vagina and external genitals were atrophied, presenting the appearance of those of a woman past fifty. There were no special symptoms other than those usually pertaining to the menopause.

Small Cystic Degeneration of the Ovary.—Dr. Francis Foerster read the paper. The term small cystic degeneration of the ovary was to most of us an obsolete one. A few years ago, however, it was met with frequently. Having given the subject some study, Dr. Foerster summed up his conclusions as follows: 1. Small cysts are common, not only in the ovaries of women, but also in those of the sow, ewe, and cow. 2. I am convinced that the small cysts are originally Graafian follicles. 3. In a process, not exactly pathological, the stratified epithelial lining of the Graafian follicle undergoes peculiar changes leading to its disappearance. 4. The epithelium first breaks up into an indifferent or embryonal condition and from this arises myxomatous tissue. 5. The type of newly formed or myxomatous tissue varies in different animals; it may be medullary, myxomatous, or fully developed myxomatous tissue with very well marked basic substance. 6. The newly formed myxomatous tissue is always scantily supplied with blood-vessels, which probably go into it from without. 7. The myxomatous lining of the cyst-wall is always well defined from the outer fibrous coat, the original corpuscle of the Graafian follicle. 8. The ovule is present at the beginning of the small cyst, but later it disappears, owing to changes of environment.

What are the Indications for a Vaginal Examination?—Dr. E. B. Cragin read the paper (see p. 266).

Steer Clear of Extremes in Medicine.—Dr. Malcolm McLean thought one of the greatest difficulties encountered by the practitioner was to steer clear of extremes in medicine. It was one extreme to rush into the physical examination of every woman simply because she complained of certain local pains or disturbance. The opposite extreme was to neglect examination on sentimental grounds. He thought the author had made these facts very clear, and he hoped they would be heeded.

Advises Examination Three Months After Confinement.—Dr. Vineberg thought all women should be examined two or three months after confinement, a practice which had been neglected even by specialists in obstetrics. Most physicians satisfied themselves with an examination the second or third week, and while that was good practice as far as it went, he thought the later examination might explain symptoms which did not manifest themselves at the earlier date. It was very common for women visiting a gynecologist to say their symptoms began only some weeks after confinement.

Change of View with Wider Experience.—Dr. A. F. Currier thought it difficult to lay down rules for guidance in the examination of young unmarried women. Some time ago he had thought there were very few girls in whom a vaginal examination was justifiable, but further experience had convinced him that the field for such work was larger than he had supposed. A good many young women came to us who were anæmic, flabby, suffering much from menstrual troubles, in whom we perhaps neglected to examine the pelvic organs; their condition did not improve, we were finally forced to make an examination, and frequently found, if not a condition of acute or pretty general inflammation of the pelvic organs, at least a condition of displacement which might ultimately result in such inflammation. He referred to such a case in which examination revealed acute retroflexion.

Regarding the second class of cases, he would not wait until the woman had passed through the puerperium before making an examination of the pelvic organs to learn their condition. It was better to start at the root of the trouble and ascertain positively just after labor what condition the organs were in. If a very decided fissure of the cervix were found, then was the time to close it and thus anticipate trouble which might have come afterward. The statements with regard to indications for examination at the change of life were also sound.

Immediate Repair of Injuries After Confinement.—Dr. R. W. Murray was glad to see that the practice which had long been advocated before the New York Obstetrical Society was giving indications of becoming general among the profession. He had more especially in mind the immediate repair of injuries after confinement, which he was one of the first to advocate. If this were done it would hardly be necessary to examine the patient two or three months after labor. Regarding the examination of unmarried women, the same indications applied as in the case of married women, leaving out lesions distinctly due to the marital relation. It were better to first make a rectal examination, as it would cause the unmarried woman less shock than a vaginal examination.

The Chairman thought the trouble was not always in neglecting to make an examination when it was indicated, but that often there was failure to discover or to properly treat the condition present. He had within a week seen a patient who had cancer of the uterus too far advanced to permit of hysterectomy, yet she had not long before been examined by a doctor who discovered nothing and attributed all the symptoms to the change of life. In another case a pessary had been introduced for which there was actually no indication.

Dr. Cragin made some closing remarks. He would not advise the general practitioner to sew up the lacerated cervix at once. Having had no experience, he was liable to draw the sutures too tightly and to cause sepsis. The specialist, however, could operate at once.

SECTION ON GENERAL MEDICINE.

Stated Meeting, January 16, 1894.

CHARLES E. QUIMBY, M.D., CHAIRMAN.

Value of the Hæmatokrit in the Diagnosis of Anæmia.—DR. JUDSON DALAND, of Philadelphia, read the paper. The hæmatokrit was an instrument intended to take the place of the hæmacytometer. The difficulties and uncertainties in estimating the number of blood corpuscles by the latter instrument had led him to seek a substitute. One who used the hæmacytometer much found himself suffering from eye-strain and nervousness and had not full confidence after finishing his work that the result was entirely reliable. The blood might not be diluted just enough, the corpuscles might not be uniformly distributed throughout the fluid, they might not be equally distributed over the field. Comparing the results of his own counting with those of another who had had much experience in the use of the hæmacytometer, there was a difference in their count in the first case of 1,043,000 red corpuscles to the cubic millimetre, and of 350,000 when they used the same dilution. The same observer would frequently find a difference in his counting of over 50,000 corpuscles to the cubic millimetre in the same patient.

Dr. Daland had already published one modification of the hæmatokrit, and to night presented a further improvement. It consisted of a machine for applying centrifugal force in separating the red blood corpuscles at one end of a tube from the rest of the fluid. A framework inclosed a series of wheels by which very rapid rotation was secured of a spindle which projected outside the casing, and it was on this spindle that the small graduated glass-tube was placed, containing the blood. By moderate rotation eight or nine thousand revolutions were obtained a minute. The instrument as first designed was thirty-five millimetres long, one millimetre in diameter, and was divided by markings into fifty parts. The blood was first diluted with a solution of bichromate of potash, was picked up with a pipette from a watch-glass, and, although the results obtained by this process could be called accurate, yet there was liability to error from the difficulty of measuring the blood accurately, from rapid evaporation, from admixture of air bubbles, from tendency of the red corpuscles to gravitate as soon as the mixture was made, the multiplication of the error, should one take place, by four, because of the dilution of the fluid with the bichromate of potash solution and of the division of the tube. These objections had been overcome in a later instrument, the scale on the tube being increased to one hundred, and the blood being taken directly from the finger, so that there was no dilution made, no chance for admixture of air, no danger of taking up more than the normal proportion of corpuscles. The revolutions were begun at once. The result of the rotation was that the blood corpuscles settled at one end of the tube, and it had been found that their volume was in proportion to their number in a cubic millimetre of blood. The average of forty-five examinations gave 5,100,000 to the cubic millimetre. The instrument also showed the percentage of white corpuscles where these were not greatly below the normal proportion.

Dr. Daland said, in conclusion, that this form of centrifugal machine might also be used for rotating serum, milk, and other fluids.

DR. W. GILMAN THOMPSON had been more favorably impressed with the instrument presented than he had been when he had first heard of it; yet he thought it would not replace a microscopic examination in anæmia when accuracy was important. He thought one of the chief advantages of the hæmatokrit lay in the fact that it enabled one while estimating the number of red corpuscles to also judge of their proportion to the white corpuscles. The question suggested itself, Would there not be too much destruction of the red corpuscles during the rotary process? He thought it a valuable instrument, one destined to largely do away with the hæmacytometer.

DR. R. W. WILCOX hoped soon to have some practical experience with the instrument, for he believed it would prove an important practical aid in determining the red and white corpuscles.

DRS. SMITH, BYRON, JAMES E. KELLY, and DALAND continued the discussion. Dr Daland said that when the number of revolutions was only three or four thousand a minute the corpuscles were not thrown together so compactly. The instrument was intended to give a fixed standard, so that uniform compactness would be secured. After the revolutions the corpuscles had been examined and had been found uninjured. This was true, at least, in the first tests when bichromate of potassium had been used in dilution; in later experiments he was unable to speak on this point.

Officers Elected.—Dr. William H. Porter, *Chairman;* Dr. Le Boutillier, *Secretary*. The date of meetings was changed to the first Wednesday of each month.

Surgical Suggestions.

Horsehair, thoroughly cleansed and ready for use, is now kept by some instrument dealers. It never absorbs anything, is as impervious as glass, and can be rendered perfectly aseptic. It is valuable in all suturing of the skin.—LEWIS.

Silk-worm Gut makes an ideal suture. It is sterilized without any trouble by immersion in steam for three or four minutes.—STORER.

Carbuncle.—Inject equal parts of pure carbolic acid, alcohol, and glycerine.—WILKINSON.

Nephrectomy for hydronephrosis is not warranted unless the kidney substance is completely destroyed or the ureter is impervious.—GRAHAM.

Dermatol, by combining with the ptomaïnes produced by the growth of bacteria, forms compounds which are unfavorable to the development of the latter.—STONE.

Lipoma of the palm or other situation may be distinguished from a fluid collection by spraying ether over the part. In case of lipoma the fatty matter will become solidified by the cooling process.—POLAILLON.

Nævus.—Thread through the growth silk previously soaked in alcohol and perchloride of iron (Rosen's method). Left in a week, these threads close up all blood-vessels through which they pass.—ABBE.

Dilatation of the Stomach.—Draw out stomach through an incision parallel with border of left ribs. Make fold in organ large enough to reduce to normal size. Suture greater curvature nearly on line with lesser. The fold hangs within stomach, and organ can empty itself completely.—BIRCHER.

Cysts of Spermatic Cord may be spermatic. Extirpation is better than injection. Open sac at once rather than attempt enucleation. Apply pressure after operation, which must be strictly aseptic.—GROSS.

Hemorrhoids when prolapsed and inflamed and operation is refused, paint daily with tincture of iodine.
—IVANOFF.

Depilatory.—

℞.	Iodi pur.	gr. xij.
	Ol. terebinthinæ	℥ xx.
	Ol. ricini	f ʒ ss.
	Alcohol.	f ʒ ijss.
M.	Collodii.	f ʒ j.

Apply daily for three days.
—BUTTE.

Sponges.—The sponges are first steeped in a hydrochloric-acid solution, 1 to 10, then immersed in a bath composed of hyposulphite of soda, one part, hydrochloric acid, two parts, water, twelve parts. This solution is then pressed out, and the sponges are well washed in cold water. They are finally placed in a bath containing half an ounce of carbonate of potash.—MAYLAND.

Traumatic Tetanus.—Subcutaneous injection of antitoxin prepared from the serum of an immune dog (cultures of tetanus bacillus having been made from wound). One injection of twenty-five centigrams morning and evening.—Casal.

Malignant Tumors. On several occasions it could be seen that injections of methyl violet brought about a necrobiosis of the elements most deeply stained. It acts by thrombosis.—Nann.

Pyosalpinx.—Many cases of pyosalpinx are curable without mutilating operations if the endometritis be treated by curettage and drainage with strict antiseptic precautions.—Murray.

Joint Tuberculosis.—Parenchymatous and intra articular medication with anti-bacillary remedies has yielded the best results in tubercular spondylitis attended by abscess formation and tuberculosis of the knee and wrist-joints.—Senn.

Antiseptic Solution.—

Acid thymic	1
Alcohol at 90°	4
Aq. dest	995

Pruritus Hiemalis.—

℞.	Menthol	ʒ iiiss.
	Glycerin	f ʒ ij.
	Aquæ, ad	f ʒ iv.

M. Sig.: Apply.

—Corlett.

Irrigation of the deep urethra by catheter or tube is a rank failure, and generally does more harm than good.—Lydston.

Vaginal Hysterectomy.—It may be that a larger experience may modify my views, but at present it is my judgment that vaginal hysterectomy for the cure of aggravated prolapse is an unsatisfactory procedure, and that, as a rule, in such cases, abdominal hysterorrhaphy (hysteropexy) is a preferable operation.—McCosh.

Intestinal Anastomoses.—Thread a darning-needle with rubber cord, such as is used for the treatment of piles, then passing the needle through the long axis of two segments of bowel, a knot is tied, the knot itself being prevented from slipping by a ligature introduced into it, and tied over each turn of the knot. A series of Lembert stitches are usually inserted into the two segments of bowel outside the region of the ligature.—McGraw.

Ulcer of the Cornea.—

℞.	Aristol	gr. 1
	Atropine sulphate	centig. 0.05
	Vaseline	gr. 25

Size of pea under the lids.

Incarcerated Hernia.—Elevate pelvis—fex knees and thighs—support scrotal sac, every ten minutes or so pour over tumor and ring one or two tablespoonfuls of ether. When tension is diminished, spontaneous reduction occurs, or slight manipulation effects it.—Gussenbauer.

Strangulated Hernia.—Be thoroughly aseptic in herniotomy and divide the constricting bands freely, not with the probe-pointed knife cutting from within outward, but with the scalpel under the guidance of the eye from without inward—Gerster.

Curved Incisions through the skin should be made wherever possible. Healing is more rapid, the resulting scar is smaller, more room is given to work, suturing is easier, the resulting cicatrix is not over the seat of operation, diseased skin is avoided, etc.—Beale.

Club-foot.—Rectification and manipulation should be continued up to the age when the infant is ready to walk, at which time, if the foot cannot be placed upon the sole firmly, operative measures should be instituted.—Willard.

Golden Leal.—Twenty drops of fluid extract four times daily in vomiting of pregnancy.—Fedorow.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

CHELSEA HOSPITAL FOR WOMEN AND ITS SANITARY DEFECTS—UNUSUAL MORTALITY—PROPOSAL OF THE ROYAL COMMISSION ON THE UNIVERSITY QUESTION—SWAMPING OF THE MEDICAL DEPARTMENT—CLINICAL SOCIETY—ENDOSTEAL SARCOMA OF RADIUS—DEATH OF CRANSTOUN CHARLES, CARDEW, LILLROTH.

London, February 10, 1894.

The Chelsea Hospital for Women, an institution providing sixty beds, has been the scene of unusual mortality, and the medical officer of health for the district, after an investigation into its condition, has issued a report to his vestry recommending that notices be served on the governors requiring them to put the building into thorough sanitary repair within two months. The vestry has thereupon requested the Home Secretary to order an inquiry into the management of the hospital. The statistics of the past year certainly suffice to call for inquiry, but do not perhaps justify the charge of mismanagement nor the talk of "another hospital scandal" already heard. Subscribers to a charity are scarcely to be blamed for everything, although they may be called governors. Consulting officers are merely ornamental, or we might be astonished that such consultants as Robert Barnes, Spencer Wells, and Jonathan Hutchinson had not noticed the mortality of a hospital to which their names were attached—especially mortality of the description which has come to light. Six hundred and sixty in-patients were treated in 1893, the deaths being 36. Of these 21 were consequent on operations; 6 others were from septicæmia, of which 3 were after miscarriage. Of the deaths from operation, 2 were returned as septicæmia; 10, peritonitis; 2, shock, six and four days after operation respectively; and in 6 cases the actual cause of death is not stated. It is of course possible that further information may throw a different light on the figures, but whether this be so or not, the management must expect to be blamed, inasmuch as they did not at once supply every detail to the medical officer of health immediately he applied for them.

If your readers are not sick of the subject, I may report that another stage has been reached in the long agitated question of a teaching university of London. The royal commission on the draft charter of the proposed Gresham University reports in favor of so enlarging the scope of the present university of London as to meet the demands of all the educational bodies. The scheme propounded is likely to share the fate of other attempts to please all opposing parties. Thirty different interests are to elect sixty-six (!) senators. That fact alone will suffice to show how the subject bristles with difficulties. Contending interests of a most heterogenous character are to be pacified by a recognition of their educational position whenever they have persistently enforced their demands. In the new university there are to be six faculties—arts, science, medicine, law, theology, and music. In the senate, medicine will be completely overshadowed and outvoted, as it will only be able to master eleven votes of the sixty-six. And in this senate the crown, the government, the agricultural society, the civil engineers, the mechanical engineers, the trustees of the British Museum, the city corporation, and besides some others, the County Council, are to be represented. Surely this is the queerest academical Senate ever proposed. Perhaps the reaction that such a scheme for amalgamating opposing interests will produce, may lead us to entertain a more drastic method of compelling the existing university to do its duty. A little dictatorial instruction to it to prepare for reform is what is really needed.

In continuation of my notice of the last meeting of the Clinical Society, I must now report that Mr. H. Clutton related three cases of endosteal sarcoma of radius

1. A mycloid sarcoma of the head and neck of radius in a man aged twenty-eight, who had noticed a swelling for two years, already the victim of chronic kidney disease. The tumor was successfully removed by resection of the upper third of the radius. He died eighteen months after operation from kidney disease, but without any local evidence of a return of the new growth in the radius, and in the meantime his arm and hand were useful, and free from pain. 2. A painter, aged fifty-eight; for twelve months had pain and swelling in his left wrist. He had an endosteal growth of lower end of the radius, subsequently proved to be a mycloid sarcoma. It was treated by resection of the part affected. A corresponding portion of the ulna was removed at the same time to avoid any lateral deviation of the hand, which would otherwise have occurred. He has now (January, 1894) a very useful hand, and with a gauntlet can hold a pot of paint weighing nine pounds. 3. Was a round-celled sarcoma of the lower end of the left radius in a woman, aged thirty-four. The history of the case was of nine years duration, but the tumor was thought to be parosteal or periosteal, and was, therefore, removed by amputation. The specimen shows that it was an endosteal growth and might possibly have been successfully removed by resection without the loss of the hand. But considering its microscopical character, it is on the whole more satisfactory that amputation was performed. No return of disease.

Mr. Gould suggested that it was unnecessary to remove the bone beyond the seat of the disease, and he added that it might possibly suffice to open up the cavity and scrape thoroughly. He mentioned a case of sarcoma of the lower jaw in a young woman in which recovery took place after scraping, without recurrence for five years. And another in which he had excised for a large sarcoma in a man and there had been no recurrence for ten years.

Mr. Charles Symons mentioned the case of a girl, aged eleven, of a similar nature treated by scraping without recurrence since. Mr. Eve did not think the histological characters should be relied upon to show the degree of malignancy.

Mr. Bland Sutton pointed out that if the ulna were not shortened after resection of the radius, a useless hand would be left. Mr. Clutton, in reply, said that it was usually held that the longer the duration of the tumor, the longer would the patient probably live, whatever the treatment adopted. Mr. Malcolm related a case of nephrectomy (successful after fourteen months) for malignant tumor in a child, twenty-three months of age, of good family history, strong, and well-developed. She was said to have had a "full belly" when she was one year of age, and a definite "lump" in her side had been noticed six months later. This lump had steadily grown till it formed an elastic, oval, well-defined tumor, painless, and scarcely, if at all, movable. It filled the right loin extending well down toward the pelvis, and just beyond the middle line below the navel. The child was slightly anæmic, but her general health was good, and there was nothing abnormal in the urine. On November 15, 1892, the abdomen was opened through the right linear semilunaris, the kidney on the other side was examined and found apparently healthy, and the tumor was removed through an incision in the posterior layer of the peritoneum immediately to the outer side of the ascending colon which passed in front of the growth. The greatest care was taken not to open the capsule of the kidney which also included the tumor, but some of it was inadvertently separated during the enucleation of the deeper parts. When the growth was got out of the way, the remaining shreds of its capsule and a mass of glands and fat surrounding the right renal vessels were also carefully removed. The divided end of the ureter was brought outside the skin, and the wound was closed without drainage. During convalescence, the highest temperature and pulse, viz., 101° F., and 144 respectively, were recorded the day after operation. By the end of the week, fever was practically gone The wound healed well, and except the presence of a little albumin in the urine the first night, there was nothing of importance to record. A year later the urine was examined and nothing abnormal was detected in it. On January 25th, Dr. Marshall, of Barnes, reported that the child "is in perfect health," fourteen months after the operation. The tumor was of oval shape and measured six by four inches. The posterior half of the kidney substance was apparently healthy. The anterior half was partly replaced by, and partly expanded for a short distance over the new growth. The tumor was described by Mr. Targett as a "malignant adenoma," separated from the kidney by a capsule of dense fibroid tissue and consisting of tubes lined by epithelial cells with a scanty and exceedingly delicate stroma, but with strands of connective tissue dividing the field into large loculi. Examination of the gland by Mr. Targett, and Dr. G. M. Callender, did not give conclusive evidence of secondary deposits.

The death of Dr. Cranstoun Charles, at the early age of forty-five, will come as a surprise to America, which has already disposed of two editions of his "Physiological and Pathological Chemistry." He devoted most of his life to scientific research and was also a contributor of valuable papers to societies and an adept at giving to scientific subjects such a popular interest as made his writing very welcome to newspaper editors.

Another death I would mention is that of Mr. H. W. Denton Cardew, who passed away on the 25th inst., at the early age of thirty-three years. His fellow students and teachers held him in much regard, and he had succeeded in making himself an authority on electro-therapeutics. He also established the *Clinical Journal* which he carried on with no little courage on the lines he laid down for it before he commenced it. As he consulted me upon the scheme before he embarked on it, I am justified in mentioning the enthusiasm with which his plan was initiated and conducted.

The death of Billroth, on the 5th, seems almost as if it belongs to the events of Medical London, but that is only what you will feel in New York, and indeed wherever surgery is practised throughout the civilized world.

ON "THE DEFECT IN THE DENTIST."

To the Editor of the Medical Record.

Sir: Your article in the issue of January 27th, on "The Defect in the Dentist," seems to invite a reply, and I venture to offer some remarks. It is gratifying and timely that a medical journal should note the deficiencies in dental practice and point to the need of higher attainments than ingenious mechanism and clever devices. The use of aseptic methods and instruments is no doubt far less common than it should be in dental practice, but perhaps the number who are "behind the mark" in dentistry is not greater than it is in most other professions. The "mark" being on a level with the capacity for "taking infinite pains," perhaps those who are behind it can best be stimulated to reach it by more exacting discrimination on the part of those who seek services. I think, however, that most dentists that have any claim to the front rank are alive to the necessity of aseptic—or absolutely clean—methods and instruments, and are safely suspicious of lesions of the mucous membranes of the mouth that give any suggestion of syphilis. The latter subject has been ably presented before the New York Odontological Society, by Dr. L. Duncan Bulkley, and published in the *International Dental Journal*. In the discussion of the subject on that occasion, a distinguished syphilologist is reported to have expressed doubt as to the propriety of enlightening the dentist as to the nature of the patient's disease when sent for attention to the teeth; "in other words, whether it be right or proper to expose the dentist to a possible source of contagion, which he might not recognize, without some intimation," and he had "concluded, that considering the infinitesimal danger to the dentist, it is not proper to violate professional confidence

to that extent!" Such sentiments are hardly calculated to impress the dental mind with the great importance of perfect sterilization for the protection of the next patient, and the sense of perspective, in questions of ethics, seems to be strangely confused by such a statement.

Your criticism on the dentist's inability to provide "a genuinely antiseptic wash" that shall prevent decay of the teeth, is founded I think on false premises; namely, that decay cannot take place in a space that is made aseptic.

Dr. W. D. Miller, of Berlin, of whom all American dentists are proud, has added greatly to our knowledge of dental caries. His observations are that the tooth substance is first disintegrated by the action of acid, and then the softened dentine is invaded by bacteria. He says "the action of acids always precedes the invasion of bacteria," and yet he calls decay "of parasitic origin" and has devoted much attention to the relative antiseptic value of various agents for mouth washes as prophylactics. He has, however, admitted that there has been no evidence that they ever had any effect. In 1884 Mr. Miller announced that copper amalgam was the only filling material exerting a continual antiseptic action on the walls of the tooth, and that "the very substance of the tooth itself becomes antiseptic." This material had been receiving some attention, and various supposed virtues had been attributed to it, but following this announcement a copper amalgam epidemic prevailed for five years or more among the dentists of the United States and Canada. Other considerations were lost sight of, and its antiseptic properties were accepted as equivalent to a demonstration that it would prevent recurrence of decay. Gradually, however, after a time, it became apparent that new decay would begin and progress at the margin of such fillings, just as often, and quite as rapidly, as if the material were a perfectly inert substance. Its popularity has now vanished from among dental practitioners in America, and its use is seldom referred to, I think, except to condemn it.

The demonstration of the antiseptic properties of this material, by Dr. Miller, has induced Drs. Sonnenberg and Mayer to use it experimentally for filling cavities in bone, caused by morbid processes which they expect, presumably, to hold in check thorough the antiseptic action.

The failure, however, of such an active germicide to prevent dental caries from commencing in direct contact with it, suggests, at least, great doubt whether antiseptic agents applied in any way will ever be an effectual prophylactic so far as this process is concerned. We are obliged to fall back upon cleanliness as our only reliable preventive. No tooth can decay, if its surface can be, and is kept clean. Frail and defective structure makes more imperative the practice of all the means by which this may be effected. Dense and perfect teeth, such as may occasionally be seen, often resist disintegrating influences although never cleaned excepting by the attrition of food in mastication; but in proportion as teeth are obnoxious to decay, must they be cleansed by artificial means, or suffer the consequences.

Respectfully yours,

J. Morgan Howe, M.D.S., M.D.

New York, February 17, 1894.

Abscess of the Liver gives history of hepatic tenderness, frequently more or less jaundice, and the increased area of dulness extending downward. The abscess, in many cases, follows in the wake of suppurative disease elsewhere—from the portal circulatory area, a suppurating catarrh of gall-bladder, osteomyelitis, or pyæmia.—Schafer.

Metallic Thread is indispensable for bony suture, where there is much traction. In buried sutures of soft parts it is of capital importance to draw upon them as moderately as will answer. This is most favorable to good and solid repair.—J. L. C.

New Instruments.

A PORTABLE STERILIZER FOR PRIVATE OPERATIONS.[1]

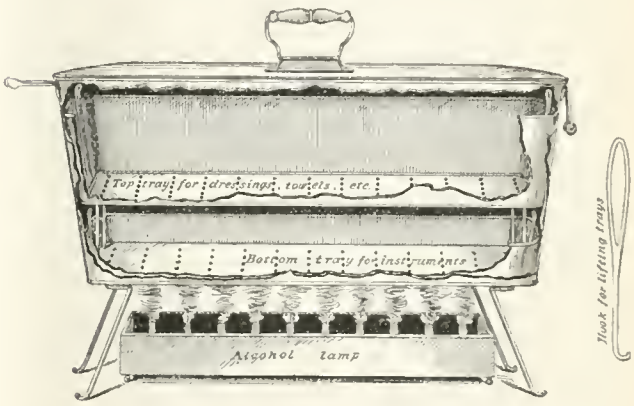
By WILLY MEYER, M.D.,

NEW YORK,

PROFESSOR OF SURGERY AT THE NEW YORK POST GRADUATE MEDICAL SCHOOL AND HOSPITAL, ATTENDING SURGEON TO THE GERMAN AND NEW YORK SKIN AND CANCER HOSPITALS.

Since von Bergmann, of Berlin, has shown, at the Tenth International Medical Congress (Berlin, 1890), that with the aseptic wound treatment we can accomplish the same results as with the antiseptic, and that, moreover, it is simpler and exposes the patient to less risk, the operating physician has to follow this progress, lest he should be left in the rear.

Certainly it is not easy for the surgeon to give up a method which he has long learned to master in every detail and upon the good final results of which he has looked as sure, almost guaranteed, to put in its place another one. And yet, anyone who, by employing the aseptic method, has been freed from anxiety in regard to corrosive-sublimate- or iodoform-poisoning; anyone who, after an operation conducted according to strict aseptic principles, has seen the wound rapidly and firmly heal without the slightest reaction, although it was entirely closed with stitches and not drained, will no doubt at once be equally enthusiastic in his praise of the aseptic method as he formerly was of the antiseptic one.



Of course we cannot claim that we now have entirely passed the antiseptic era and have entered the aseptic. Both methods of wound treatment will continue to co-exist and must in many respects be combined, though the aseptic will generally take the lead.

The two established fundamental principles of aseptic surgery—sterilization of the instruments by boiling in one to one and a half per cent. soda solution, and of the gauze for the dressings, of silk, drainage tubes, gauze-sponges, nail-brushes, and towels by steam—are well known. They cannot be improved, nothing new can be added to them. What has been left to us is: to make use of these two principles in as practical a manner as possible, especially by constructing apparatuses which can be bought and easily used by every practitioner in his private work.

In public and private hospitals matters have been arranged for us in a most commodious way. The operating nurse boils and steams the material in large vessels, put up in or near the operating room. We enter the latter and can, after proper self-disinfection, begin our work.

Different in private practice. As far as I know there is at the present time no handy "portable sterilizer" for sale, at least, not in this country, which is adapted for private operative work; provided you do not look upon

[1] Apparatus presented and paper read before the Section on Surgery of the New York Academy of Medicine, January 8, 1894.

the clumsy so called Arnold's milk sterilizer as one fit for general use.[1]

Of course, we always could boil our instruments at the patient's home, with a special facility if we use the well-known Rotter's sterilizer. But dressing, drainage-tubes,[2] gauze sponges, nail brushes, etc., had to be prepared at the doctor's home and carried along in special covers, best metallic ones. With reference to the towels, which surround the operating field, we had to satisfy ourselves with those which had been ordinarily washed and then before the operation immersed in an antiseptic lotion.

Eugen Braatz, the former scientific assistant of Professor Czerny, of Heidelberg, at present head of a private surgical clinic at Kœnigsberg, Germany, a gentleman who has done a great deal for developing and simplifying aseptic surgery, has devised a portable sterilizer.[3] It is, however, as it seems to me, according to his description, comparatively small and not well adapted for preparing all the material needed for a major operation at the patient's home. It is possible, also, that other colleagues have constructed something similar to, or even better than, that which I am going to present to night. If so, it is unknown to me If better, especially if more practical, it shall and will, no doubt, have the preference.

As you see, Mr. Chairman and Gentlemen, my apparatus has been constructed according to the well-known Koch's steam pot (see Fig.). A kettle of copper, nickel-plated, top, 17 by 8½ inches; bottom, 15½ by 7;[4] height, 6½ inches, with two lateral wooden handles[5] and a lid, which also has such a handle, carries in its bottom a perforated tray, as we know it from Rotter's apparatus. The latter has a brim an inch and a half high, and two upright perforated metal handles in which you can engage a blunt nickel-plated hook for the purpose of lifting the tray out of the boiling water.[6] A pair of such hooks accompany the apparatus. Two and one-half inches above the lower bottom tray, stands, on metal feet, a second perforated tray, with top tray, also with a hole in its handles. It has a brim of three and one-half inches height and near to its inner side a small gutter which runs all around and is punched by small holes three inches apart, for the outlet of the condensed steam, provided any should gather inside of the tray, which, however, does not occur according to my observation. Its brim does not touch the wall of the kettle. It receives all the other material, dressings, etc., mentioned above. On account of the distance between the brim and the kettle wall the top tray will not be moistened by the condensed steam. Further accessories are: a stand of nickel plated iron, and an alcohol lamp with ten Bunsen burners.[7]

After conferring with Messrs. Richard Kny & Co., of this city, who make the sterilizers, I have selected as material, nickel-plated copper for the outside kettle as well as for the trays. They can thus be easily and well cleansed. They are simply rubbed off and wiped dry with a piece of gauze or a towel and need no special scrubbing.[8] If so ordered, the apparatus can also be had of agate- or emaille iron, and of the so-called German silver, a combination of sixty per cent. copper, and twenty per cent. each of nickel and tin. However, the agate, also emaille, will in time come off the iron, which then cannot be cleansed so well, and the German silver made here is too thin.

To have my sterilizer as light as possible and yet durable, I have tried my best to find here and in factories of the neighboring cities a combination of other metals with aluminium which would enable the latter to permanently stand the boiling soda solution. My efforts have so far been futile. Aluminium alone, though now used for all sorts of cooking utensils, is slowly dissolved by the boiling soda solution. A proper combination with other metals to make it more resistant has not yet been found. Most probably it will be found in the near future. Then of course the aluminium should be "the" material.

The following points might with propriety be claimed as practical in my sterilizer:

1. It has sufficient inside space to hold everything that is needed for "the operation as such." Instruments (best wrapped up in a piece of gauze or a towel), dressings, etc., all can be easily put into the sterilizer at home and the latter then carried along with the help of this cover of gray canvas with a leather handle, as a doctor's satchel.

It would be absurd to call a "portable" sterilizer only then practical, if it is large enough to receive "everything" that we should like to sterilize for an operation. It is and must be sufficient if the apparatus permits of sterilizing at the patient's home, right before the operation, all that material which will come in direct contact with the wound and its immediate surroundings. The linen aprons or coats for the operator and his assistants will naturally never find room besides all the other things in a "portable" sterilizer. They must be steamed at home, probably best in the cheap Arnold's milk sterilizer, then wrapped in a clean or sterilized towel and carried along. Two, not too heavy, linen aprons will, however, find room in my large-size sterilizer, besides the other material. It certainly means a great saving of time and annoyance, if the doctor need not sterilize all the material at his home and then carry it along either with the whole apparatus or separately wrapped in sterilized towels or pieces of gauze. Besides, the material boiled and steamed just before the operation is more reliable, because it was not handled before.

2. All material necessary for the operation as such, can be sterilized at the patient's home just before the operation. The only exception we need make is for catgut, which will best be rendered aseptic for private use by the well known method: roll on glass spools; then immerse for *a*, twenty-four hours in ether; *b*, twelve hours in alcohol; *c*, twenty-four hours in a "watery" solution of corrosive sublimate 1 to 1,000; *d*, preserve in alcohol.

3. Instruments and dressings, with all the other necessary materials for the operation as such, are rendered aseptic in the same apparatus at the same time.

4. The inner space is so arranged that two quarts of water fully cover all the instruments which will be needed for a major operation. There is a mark on the inner aspect of one of the handles of the lower tray as well as on one of the narrow sides of the kettle which corresponds to the level of the water when two quarts have been filled in. Thus measuring is avoided. If we add two heaping table spoonfuls of pulverized soda, the 1 to 1½ soda solution ordinarily used for boiling instruments is ready.

5. The alcohol lamp, if filled up to a mark near the upper border of the two outside burners, viz., No. 1 and 10, holds exactly as much alcohol as is needed to bring to thorough boiling (bubbling), these two quarts of soda water of a middle temperature of about 55 to 60° F., viz., the average temperature of the Croton water here in winter (this takes six minutes), and keep it boiling for fully twenty-four minutes. Thus the act of sterilization lasts exactly thirty minutes. As experiments have shown me, two quarts of water of about 60° F. heated with this lamp need six minutes, of 50° seven minutes, and of 40° nine to ten minutes to proper boiling. With water of a temperature of 50° the material is then steamed for twenty-three minutes, of 40° F. for twenty to twenty-one minutes.

[1] In the Arnold's sterilizer one can steam all the material for the dressing, etc., but cannot boil instruments. Another apparatus is thus needed for the latter purpose.

[2] Drainage-tubes contain sulphur. They are, therefore, once boiled in soda solution and then preserved in a three per cent. carbolic or 1 to 1,000 sublimate solution until use, when they are steamed with the other material.

[3] Die Grundlagen der Asepsik, etc. Stuttgart (Ferd. Enke), 1893, p. 65.

[4] This is amply long to also receive an obstetrical forceps. The latter should have metal handles. The wooden or hard-rubber handles do not stand frequent boiling.

[5] During sterilization both handles must be turned up, lest they should be burned by the immense flame.

[6] This tray may, of course, be subdivided, as in Rotter's apparatus, if so desired and ordered.

[7] The sterilizer is sold in three different sizes. The one described above and represented in the figure is No 1, the largest It is the one the surgeon should buy; it will answer all purposes. Price, $21. No. 2 measures: bottom, 15½ × 6½; top, 17 × 8; height, 5½ inches; price, $20.50. No. 3 for minor operations; its measures are: bottom, 15½ × 5½; top, 17 × 7; height, 4½ inches; price, $20. All three have the same lamps and need half an hour for sterilization. They are all made of copper, nickel-plated. Without nickel-plating they cost $2 less.

[8] Tin will not hold nickel-plating for any length of time. If not nickel-plated, it rusts. Copper needs polishing.

This time is fully sufficient to "reliably sterilize" all the gauze, towels, etc., no matter how tightly they have been rolled or packed (Braatz), in this apparatus. Schimmelbusch says, in his "Anleitung zur aseptischen Wundbehandlung, Berlin, 1892, page 84: Steaming of the dressings ought to continue for one-half hour;" and on page 92: "In order to have the dressings thoroughly sterile, half an hour's steaming might suffice, counting from the moment the apparatus is fully filled with steam." On page 86 he states with reference to a small-sized sterilizer of his own device, which also works with boiling soda solution: "Experiments with reference to killing anthrax-spores, and disinfecting dressing material, which had been saturated with pus, showed certain death to all micro-organisms within fifteen minutes in every instance." Schimmelbusch does not give any reason why he nevertheless puts down thirty minutes as the proper time for sterilizing gauze. E. Braatz remarks, in explaining the proper handling of his portable sterilizer (l. c.): "All objects to be sterilized by steam are left in the same for about twenty minutes, counting from the moment the water boils thoroughly." And on page 139 he says: "The objects remain in the apparatus for half an hour, in the small pot (page 135) at least one-quarter of an hour after steam is in full generation. Then everything is absolutely sterile and more reliable than it might be accomplished with a strong antiseptic in days, with five per cent. carbolic in weeks." Basing on these facts I have set down the time for sterilizing gauze, etc., as stated.

A thermometer put low down in the tray in the middle of a gauze compress, which was besides tightly wrapped in a towel, showed 212° F. four and a half minutes after the water had commenced boiling.

It is self-understood that a gas-, or gasoline burner may as well be used, and that anybody, if he be in a hurry, may at once pour into the kettle hot instead of cold water. He then, however, must note the time when boiling commences and stop sterilization about twenty to twenty-five minutes later. I had to arrange my sterilizer for cold water, of course, in the assumption that hot water was not always on hand at our arrival at the patient's home. It must be stated that the lamp produces a very intense heat. If possible, the sterilizer should be placed, therefore, at the patient's home, on a table with marble top or on the range.[1]

On account of the time needed for proper sterilization —one-half hour—it is advisable to at once put up the apparatus after our arrival at the patient's home. To do so we will then best proceed in the following way: Lift out upper tray; take instruments out of their cover (gauze, if boiled, produces an annoying foam on the surface of the water); replace them in bottom tray; pour in two quarts of cold water, that is, up to the mark on the handle, and add two heaping tablespoonfuls of pulverized soda;[2] put the top tray into the kettle and place in it all the other materials;[3] close the kettle with the lid and put it on stand; fill the lamp with alcohol up to the mark near the upper border of the two outer burners;[4] light it.

Now the apparatus is self-acting. If the lamp extinguishes, that means, if after thirty minutes the last drop of alcohol has been consumed, we can rest assured that everything in the apparatus is sterilized and ready for the operation. It will be found that the gauze thus steamed is not wet, but almost entirely dry. To be quite sure, one of the towels should be spread on top of the dressings.[5] Meanwhile the patient will have been narcotized, shaved, and prepared on the table.

[1] When once lighted, the alcohol should burn until used up. It is almost impossible to extinguish the lamp at any given moment. The lid, as it is at present, with short borders, shuts off the air from the surface of the alcohol. But oxygen can be still drawn through the Bunsen burners. In order to be able to extinguish the lamp at will, the lid must go down to the surface of the object on which the lamp stands, or the burners must go up to the lid. The latter will probably be arranged accordingly.

[2] The knives should not be put in; a few minutes' boiling makes their sharpened edges perfectly dull. They will be best rubbed with a piece of sterilized gauze which has been soaked in alcohol or ether. A few seconds' boiling in the soda solution the edge stands well. This time suffices to kill the ordinary infectious cocci.

[3] Gauze, cotton, etc., may be rolled very tightly in small packages, as stated above; it has been proved that the steam reaches and disinfects every spot. However, the top tray of sterilizer No. 1 has sufficient space for loose gauze, cotton, etc. The gauze and cotton should be cut and rolled, or folded into compresses of proper size and then rolled "before," not after, sterilization.

[4] We should always order to send for one pint of alcohol, which costs 35 cents. The lamp, up to the mark mentioned, holds exactly 400 c.c. equal to 13½ ounces. The rest can be utilized for disinfecting the hands after scrubbing with hot water and green soap, and before using the sublimate solution 1 to 1,000 or 1 to 2,000 (Fuerbringer's Method).

[5] Too much stress has been wrongly laid upon the necessity of a dry condition of the steamed (aseptic) gauze. Aseptic (steamed) gauze, which, say, is moistened by the condensed steam, is absolutely harmless and perfectly reliable, just as much as that which had been artificially dried or kept dry in the apparatus. The direct application of moist "steamed gauze" on a fresh aseptic wound may perhaps be uncomfortable, but will certainly never involve a risk.

The boiled soda-water in the kettle can be well used for immersing the instruments in other vessels, during the course of the operation as is required in an operation which is conducted on strict aseptic principles. If anybody prefers to adhere to his former mode of proceeding, he may keep the instruments immersed in a two or three per cent. carbolic solution. He ought to be aware, however, that the water must be boiled which he uses for making up the solution. He will better add two tablespoonfuls (six teaspoonfuls) of pure carbolic acid to the two quarts of soda solution (vide Schimmelbusch: Aseptische Wundbehandlung, Berlin, 1892, page 69), thus making a one to one and one-half per cent. solution of carbolate of soda, and put the instruments in this fluid. This seems to me to be the best mode of proceeding, as the plain soda solution makes the instruments quite slippery. Or at last he may keep them spread on a sterilized gauze compress and have the blood, etc., now and then washed off in a vessel filled with the sterilized soda solution.

The only plausible objection which could be found to my sterilizer is that the instruments boil four times longer than necessary, namely, twenty four minutes. They only need five minutes for proper sterilization. The surgical instruments of to-day, made entirely out of metal, in one piece, will, of course, stand this. Nickel-plating is superfluous, since we use soda solution for boiling (Schimmelbusch, loc. cit., page 72). It therefore need not be renewed, if in course of time it be damaged by the boiling.

If anybody is very particular in this respect he may proceed as follows: If he be busy with the patient, he can make use of the self acting feature of the sterilizer, viz., first fully steam the material in the top tray, everything being arranged as stated above, only leaving out the bottom tray with the instruments. (For this purpose one of the narrow sides of the kettle also has a mark inside, to show when two quarts of water have been poured in.) When the water ceases to boil he will lift out the top tray with the help of the two hooks, put in the lower one with the instruments; replace the top tray and lid; pour two ounces of alcohol (= five tablespoonfuls) into the lamp (which keeps the hot soda solution boiling for exactly five minutes longer), light it. The material in the top tray will then be steamed five minutes longer, that means, in all, almost half an hour. If the doctor be at leisure, or the assisting doctor or nurse has charge of the preparations, five to six minutes' time and a little trouble can be saved by noting the time the lamp has been lighted. Twenty five minutes later the lid should be removed, top tray lifted out, bottom tray with instruments put in, top tray and lid replaced. When the lamp gives out, everything will be ready for use; the instruments boiled five minutes only.[6] If the apparatus shall be used for sterilizing instruments only (forceps, etc., in confinement cases), five ounces (= twelve tablespoonfuls) of alcohol will be found sufficient to bring to thorough boiling the two quarts of soda solution and keep it so for five minutes.

Mr. Chairman and Gentlemen: I should be pleased if this small apparatus should be found practical also in the hands of other colleagues and thus contribute to still more rapidly generalize and introduce the aseptic method in our private operative work.

[6] On account of the continuous slight loss of steam at the sides of the lid and therewith continuous slow decrease of the amount of water, it may be wiser for a doctor, who does not want to have his instruments boiled all the time, to use five intermediate minutes for sterilizing the instruments. It might, with other words, be preferable to remove the lid, say, at the twelfth, fifteenth, eighteenth, twentieth minute of the act of sterilization, lift out top tray, which alone had been put in at first, put in bottom tray with instruments, replace top tray and lid. Five minutes later the bottom tray is lifted out. Top tray and lid having been replaced, the apparatus is left to its self-acting work.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 24, 1894.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	6	3
Scarlet fever	116	20
Cerebro-spinal meningitis	1	6
Measles	470	35
Diphtheria	202	58
Small-pox	29	5
Cholera	0	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0

Essentials in a Healthful Home.—The site for a house should receive careful attention of the tenant, purchaser, or of one proposing to build. A good site may mean life and happiness, and a bad one disease, suffering, and death. 1. It should be dry; avoid, as you would death, a damp location. In a town or city carefully ascertain whether or not it is on "made ground." Avoid it. Avoid ground underlaid with clay, for it will always be damp. 2. Elevated on a hillside or gentle knoll, never in a hollow. The hillside is warmer and drier than the hollow. 3. Not close to a swamp, slow river, milldam, or land which is overflowed a portion of the year, nor in such a place that the prevailing winds will bring to the house pestilence from a milldam, etc. 4. In as good a neighborhood as possible, away from factories, saloons, etc., and near schools and churches. 5. In a village or town build on as large a lot as possible, thus securing air and sunlight. Build back from the street, thus avoiding the dust of the dry season and the curious gaze of every passer. Secure a yard in which trees and plants will furnish both exercise and health 6. In the country build back from the highway, giving an abundance of room for trees and shrubbery about the house. Do not select a place where your family will be isolated from all social intercourse, so necessary to health of mind and body.

For the aspect, let the house be so placed that it will receive the most sunlight and fresh air, especially from the summer winds. Avoid, even if offered rent free, a damp, dark house, with no chance for the free air of heaven to sweep through it. If the house is only one room deep, it does well to face it to the south or southwest; but if it is two rooms deep, those on the north side never receive any sunlight, and are apt to be damp. For a double house it is best to face to the east. Then the morning sun will warm up the front and the afternoon sun the rear of the house, and thus all the rooms will be bathed in light and warmth. The living-rooms should always be warmed by the morning sun. This hint is worth a great deal as a health matter. For when the sun cannot enter, the doctor must enter. If the cold winds from the north and west are severe in the winter, they may be broken by a cluster of evergreen trees planted on those sides. In country places a good aspect should be secured without reference to facing the house square with the street. The writer has recently erected a house of fourteen rooms, all of which face either the south or west, except two hall rooms and the bath-room. . . . The living rooms are all on the south, while hall and kitchen effectually protect them from cold winds.—*Pacific Health Journal.*

Specific Treatment of Enteric Fever.—E. Fraenkel (*Deut. med. Woch.*, October 12, 1893) says that at present there is no longer any doubt that enteric fever is produced by Ebert's bacillus. He then refers to experiments which have shown that animals could be made immune against this infection by the injection of thymus cultures heated up to 60° R. The author was then led to try a similar treatment in man. Thymus cultures were heated up to 63°, and their complete sterility proved by experiment. The injection was made at first into the subcutaneous tissue of the iliac region with every precaution. Subsequently it was found more convenient to inject into the glutei muscles, and in this way it never became necessary to interrupt the treatment. Of fifty-seven cases of enteric fever thus treated, twelve were severe, the rest being of moderate severity. On the first day 0 5 c c. were injected, and no change was noticed in the condition of the patient. On the next day 1 c.c. was given. This was followed by a distinct rise of temperature, with slight shivering. On the third day the temperature fell, and twenty-four hours later there was a further drop. If the treatment was stopped the temperature again rose, so that 2 c.c. were administered with similar results as before. The course of the temperature determined the further treatment. If there was no rise injections were given at two days' interval, the dose being increased each time by 1 c.c. The fever lost its continued character and became intermittent, and in a short time there was complete apyrexia. Along with the fall of temperature there was profuse sweating and copious diuresis. The diarrhœa mostly ceased. The patients appeared to be convalescent while rose spots and enlargement of the spleen were still present. Feeding could be proceeded with more quickly, and fourteen to sixteen days after defervescence the patient was able to get up. Complications and relapses could not be avoided, but the treatment was efficient in the relapse. This treatment secures a rapidity and uniformity in the course of the disease not hitherto observed. Rumpf (*Ibid.*) says that the question arises whether similar results may be obtained by the use of sterile cultures of a micro-organism having nothing to do with the disease. Cultures of the streptococcus were used at first, but ultimately the β. pyocyaneus, as having slight or no pathogenic properties. Thymus cultures were heated up to 62°, and 0.5 c.c. were injected as above, when a slight rise of temperature occurred. The rise was also noted on the second day, but on the third it was inconsiderable. More often, and especially in severe cases. 1 c.c. was given on the second day, and then forty-eight hours were allowed to elapse. The temperature soon fell, and the pulse and condition of the patient improved greatly. If the injections were discontinued he fell back again. If the temperature did not fall, 2 c.c. were given on the fourth, 4 on the sixth, and 6 on the eighth day. No ill-effects were noted, or, at most a little shivering. In six to eight days the fever and other symptoms had disappeared, and convalescence was rapid. Sometimes a relapse occurred, when the same treatment was also effective. In thirty cases there were two deaths, one from hemorrhage and one from pneumonia. The importance of being able to influence an infective process by introducing the products of some dissimilar micro-organism is obvious.

Chlorides in Cancerous Diseases.—Dr. Schöpp has been investigating the excretion of chlorides by carcinomatous patients. The urine was examined in each case on several successive days. The conclusions come to are as follows: The relation between intake and excretion of chlorides is not constant for all cases of cancer. The remarkably large decrease of excretion in some cases of cancer is chiefly dependent upon the extent of ulceration, and is caused by the large amount of chlorides contained in the discharges. The decrease is also affected by the rate of growth of the cancer, and is inversely proportional to the loss of flesh. There are no grounds for assuming a resemblance between the decrease of chlorides in cancer and that which occurs in febrile attacks.

Some Educational Appropriations.—The Pennsylvania Legislature is very stingy in its grants to the State Board of Health, but makes it up in appropriations to medical schools in Philadelphia, among three of which it has distributed this year the respectable sum of $330,000.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 45, No. 10.
Whole No. 1218.

NEW YORK, MARCH 10, 1894.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

ELIMINATIVE AND ANTISEPTIC TREATMENT OF TYPHOID FEVER.

By W. B. THISTLE, M.D., L.R.C.P. LOND.

DEMONSTRATOR OF ANATOMY, TORONTO UNIVERSITY; PHYSICIAN TO VICTORIA HOSPITAL FOR SICK CHILDREN; LECTURER ON DISEASES OF CHILDREN IN WOMAN'S MEDICAL SCHOOL.

IN an article on this subject which appeared in the *Canadian Practitioner* for April, 1893, I introduced to the profession a form of treatment which seemed to follow closely upon our knowledge of the nature and *modus operandi* of the infective agent, and which in my hands had given exceptionally good results. In connection with that paper I published histories of thirteen consecutive cases, with the average attainment of normal temperature and establishment of convalescence on the eleventh day. Another noticeable feature in that series was the complete absence of accidents of any kind and of the usual unfavorable and distressing symptoms. Since then my experience and that of my friends who have given the treatment a trial has been such as to increase my confidence in its efficacy, and to establish even more securely the correctness of the views I then put forward.

I now beg the liberty of returning to the subject, and of presenting an additional number of cases. Before doing so, however, I may be permitted, as in my former paper, to outline briefly the nature and pathology of the disease, and so to clear the way for discussion.

It is now well established that typhoid fever is the condition which follows infection of the organism by a specific form of bacillus. What concerns us more particularly is the manner in which the bacillus brings about the changes which we attribute to it, for it is only from a knowledge of that kind that we can work out a successful treatment. The bacillus entering the body would, under ordinary circumstances, be carried quickly through the stomach and upper bowel until its onward course becomes somewhat retarded by the ileo-cæcal valve. In this situation the intestinal contents are perhaps most alkaline. This region is, therefore, most favorable to bacterial growth. Multiplication occurs with extreme rapidity, so that the intestinal contents in a few days teem with countless numbers of fungi. They are, however, by no means confined to the intestine, but are conveyed by the absorbents into the follicles in the intestinal wall, and through the radicals of the portal veins to the liver, and so on through the system generally. They may be found in the solid viscera, tissues, and fluids throughout the entire body. That the main culture is, however, in the intestine is borne out by the fact that immense numbers are in the evacuations, and that infection is universally attributed to unsterilized fecal matter. Keeping pace exactly with this process in the bacillus, is the production and accumulation of a chemical substance—a biproduct, which is a necessary element in the vital activity of the bacillus. By separating this substance from cultures, and experimenting with it, many of its properties have been determined by Brieger, Novy, Sims-Woodhead, and others. It was found to produce local as well as what may be called constitutional effects. Sims-Woodhead likens it, acting locally, to a "caustic." Its first and mildest effect is to stimulate the cells of the part, causing them to become swollen, and to increase in their rate of multiplication. If, however, the toxine is allowed to remain long in contact with the cells, or if it is in sufficiently concentrated form, instead of irritation and increased activity the cells lose their vitality and necrosis takes place. As examples of its constitutional effect we may instance fever, delirium, tremor, lethargy, or its mydriatic action on the pupil. If a large dose be given to an animal, it speedily dies narcotized; if a somewhat smaller dose be given, and repeated for a time, the animal gradually merges into coma, and shortly dies. The toxine, is, in fact, the weapon of the bacillus, without which it would be a harmless particle of vegetable protoplasm.

The symptoms generally are determined by the amount of poison in the body, and, in the case of different individuals, by a varying degree of susceptibility, or a varying degree of virulence in the poison itself. The local disturbance is determined by the quantity of the poison in contact with the tissues, to its degree of concentration, and to the length of time it remains in contact. It is by noting these facts regarding the toxine that one gets the key to the situation. Look, for example, at the case of the intestinal follicles; why is it that the tissues here suffer to such an extreme degree? Surely not from any selective action of the bacteria, but rather from the fact that the follicles are in close proximity to the main culture, and are surrounded by lymph sinuses into which empty the lacteal ducts of the surrounding villi. Each follicle is, in fact, the reservoir to which is conveyed both poison and bacteria absorbed from the intestine. The bacteria and poison carried to other parts of the body produce in a minor degree the same results. Molecular death is much increased wherever this poison is present, but as a rule ulceration takes place only in the intestinal nodes. The reason seems clear; the bacilli invading the follicle are at first precisely in the same position as a similar colony in like tissue in any other part of the body, and after having given rise to a certain degree of disturbance, would, as in the other situations, be overcome by the tissues, seldom giving rise to necrosis *en masse*. But the anatomical conditions being different, the lymph tissue in the intestinal follicles wages unequal war, since reinforcement both in the way of fresh bacilli and of poison absorbed from the intestine is constantly arriving, carried by the lacteals of the surrounding villi, until, eventually, the poison becomes so concentrated that all resistance is overcome, and the follicle undergoes necrosis. The slow percolation of fluid through the follicles aids in their destruction, as it favors concentration and prolongs the period of contact.

As a corollary to this it appears that ulceration of Peyer's patches is by no means an essential or necessary result of typhoid infection. For, if the base of supplies should be cut off, the bacteria already in the follicles might reasonably be expected to produce the same results, and disappear in the same manner as a like number of bacilli located in similar tissue in any other part of the body.

The treatment which I advocated in my first paper, and to which in the series of cases I have to report I adhered throughout, is based on this conception of the pathology of the disease. It consists, first, in eliminating as speedily as possible, both the main culture and toxine in the intestine, and also the poison held in solution in the body fluids throughout; second, in diluting

as much as possible the toxine which is in contact with the tissues, and in that way controlling to some extent its destructive or irritant defects, and third, in the use of substances which will destroy the bacilli still remaining in the intestine, or retard their rate of multiplication.

Elimination is accomplished by securing free and thorough evacuation of the bowels daily by the use of purgatives. This daily purgation, as much as seems necessary, keeping in view the evidence of toxæmia, is continued until the temperature becomes normal There can scarcely be doubt about the possibility of clearing the intestine of the bacteria and poison which it contains. Argument to prove that point seems scarcely necessary. Since the evacuations constantly contain bacteria, and of necessity their generated poison, it follows that purgation must result in elimination of both, and. if the process is constantly repeated. there is a continued disappearance of bacteria and poison. which would otherwise be absorbed and carried throughout the body. In fact, by the agency of purgatives there is a frequent withdrawal of an additional dose of poison, which in the absence of any such procedure must surely have gone to increase the amount already in the tissues. But purgatives do much more than simply empty the intestine. They at the same time cause a copious flow into the bowel; by their use the body-fluids are drained into the intestine. The amount which can be drained off in this way is very great, and in order that we may have some idea of it, let us calculate on the basis of Lauder Brunton's experiment, by which he demonstrated that in four hours, by injecting a solution of magnesia sulphate, he was able to produce a secretion almost equal to one drachm to every square inch of intestine acted upon. But we scarcely need to enter into a calculation, as the amount of fluid which follows the exhibition of a cathartic is sufficient evidence. The important point is that the body fluids from which this secretion is derived hold in solution both the poison which has been absorbed from the culture in the intestine and that produced by the bacilli located in the various tissues of the body.

There are many somewhat indirectly beneficial results to be obtained by free elimination. The weakness of typhoid patients, which is of the same nature as the weakness of a drunken man, disappears or grows less, keeping pace to a great degree with the lessened toxæmia. In a similar way, anorexia, nausea, or inability to digest and assimilate food, in every case, in my experience, grows less and less if elimination is free and continually secured. My patients have in every instance been able to take large quantities of nourishment, and without difficulty. Owing to the improved capacity in this respect, while on the one hand large quantities of fluid are constantly drained off, on the other hand this fluid is replaced by a large quantity frequently ingested and assimilated. So exhaustion from the frequent and copious evacuations is prevented. We may say that an exchange has simply been made. The body-fluid with its contained poison is replaced by a like quantity without that element.

In addition to the large quantity of food taken, I invariably direct that the patient be given water in large quantities at frequent intervals, with the twofold object of aiding the elimination of poison by its diuretic and flushing action on the kidneys, and of keeping up the volume of body-fluid. Thus concentration of poison is prevented, which must inevitably result if the ingestion of fluid does not keep pace with its withdrawal. By preventing this we are following the plain teaching of pathology, since the destructive effect of the poison is increased in proportion to its concentration (Woodhead). This practice of dilution is inseparably connected with the practice of free and continuous elimination by purgation.

As to the other factor in the treatment, *i.e.*, the use of antiseptics, I hold it in light esteem when compared with elimination and dilution. Yet in all my cases I have used intestinal antiseptics, and I believe with a great deal of benefit. It seems to me that if one can completely deodorize the intestinal contents by the use of salol, that it must do this through its destructive action on the ordinary intestinal bacteria, and very likely will act in the same way on the germs of typhoid, if occupying the intestine. In this connection I should like to point out that much larger quantities of antiseptics can be used, if associated with free purgation, without their toxic effects arising, than if given alone.

In a departure from tradition and teaching such as this treatment, while one may be disposed to give full credit to its logical correctness, yet there are questions which must be answered in a satisfactory manner before it can be applied with confidence. In my first paper I dealt with several of these, more particularly and at length with the supposed greatly increased liability to perforation and hemorrhage involved in the use of purgatives. Keeping in mind the pathology of the disease, let us first notice the question of perforation. This, of course, presupposes deep ulceration, a condition the occurrence of which in cases seen early, and where free elimination has been secured throughout, is directly opposed to the inferences of pathology. I have already in this paper expressed the opinion that intestinal ulceration is by no means an essential in typhoid fever, and depends upon the retention of the poison. So that in cases seen early, and where elimination has been properly secured, we are not even confronted with this difficulty, and may proceed to purge as freely at a late as at an early stage of the disease in so far as the danger of perforation is concerned. Many cases, however, come under observation late in the course of the disease, and in these cases, where the poison has had full play, and where there are other signs of intoxication, we must suppose the presence of ulceration.

In dealing with this question I may be permitted to quote from my former paper: "Suppose the ulceration to be deep at the time the patient comes under observation, are we then to allow the caustic to continue in its work of cell destruction, or are we to attenuate and remove it in the way indicated? Certainly the latter plan seems the reasonable one to adopt. It is, however, objected that ulceration is, perhaps, so deep that any increase of movement, consequent on purgation, may cause rupture. Let us here notice what follows on the administration of a purgative medicine. There is increase of peristaltic movement; but here we must remember that we have made no radical change, but have simply increased the rate of existing movement. Moreover, by purgation, we get rid of irritating matter and gases which were, perhaps, exciting violent peristalsis. And again it may be urged that to accomplish this removal we must increase the expulsive movement still further; not necessarily so, as at that portion of the intestine, for purgatives act chiefly by virtue of their power to produce free secretion. Consequently the process partakes largely of the nature of a flushing out. Not only does purgation not increase, but it can be proven that it actually diminishes the danger of perforation. It is obvious that the more the intestine is distended, the thinner those structures which form the floor of the ulcer become. Now this condition of distention is common in typhoid, and depends on paralysis of the intestinal muscles resulting from the action of the toxine on the nerve-centres Hence, if by purgation the cause of the paralysis be got rid of, there is a return of muscular tone, which is the condition least favorable to the occurrence of perforation. Let us now turn to the question of hemorrhage. Hemorrhage can, of course, only occur from a vessel laid bare by the process of ulceration. At the outset, I should like to draw attention to two facts touching arterial hemorrhage. Gowers, speaking of the pathology of cerebral hemorrhage, says: 'The force that ruptures an artery is the pressure of the blood within it.' And, again, 'healthy veins may give way under extreme pressure, but arteries do so seldom, perhaps never.' Accepting these statements, then, and applying them to typhoid fever, we have the two factors in the production of hemorrhage

—the toxine corrodes the arterial wall, the blood-pressure ruptures it. If we remove the toxine from contact with the vessel, and diminish the intensity of its action, we certainly, as in the case of the intestinal follicle, limit the extent of damage to the vessel-wall. But it is claimed that increase of movement in the intestinal wall may cause laceration of the exposed artery. In other words, we are asked to believe that a vessel whose wall is so fragile that it may be broken by the slight increase of vibratory movement in the membrane in which it is lodged, is at the same time, if freed from this extra movement, capable of sustaining the blood pressure. Then, again, is it really a fact that increase of movement in the intestine involves strain upon the vessel which ramifies in its wall? One can understand readily enough how the vessel might be stretched, and possibly torn, as a result of paralysis of the muscular wall of the intestine, and its subsequent distention by gas. Purgation, then, to my mind, in no case causes rupture of an artery, but at all times tends to prevent its occurrence." In case, however, one should decide against purgation, on account of its supposed danger, he must accept the responsibility which the alternative involves of maintaining *in statu quo* the very condition which makes him apprehensive of danger.

In connection with the application of the principle of elimination there are several minor questions. First, in the event of the presence of diarrhœa, are purgatives indicated? The occurrence of diarrhœa must be a response to some irritant, and, if it continues, and is associated with evidence of toxæmia, we cannot infer that there is complete elimination of the exciting cause. In short, we simply follow the practice so general in, for example, either the symptomatic, or mycotic diarrhœas of children, and control the diarrhœa by giving a purgative. Because there are several watery stools in a day, it by no means follows that sufficient elimination is being secured, for the flow may be simply from the lower bowel, leaving the contents of the ileum untouched. Supporting this view is the fact that the diarrhœa is so often associated with indications of pronounced toxæmia, whereas the same number of movements in response to a purgative is followed by a marked loosening of toxæmia. With reference to this very point, a recent case is of interest. There was persistent diarrhœa during the second week, associated with tympanites, elevated temperature, and intense headache. Attempts had been made to control the flux by opiates, etc., but without success. The movements were as many as fifteen and sixteen per day. I advised three grains of calomel and asked the physician in attendance to note well the character of the motions which followed. He did so and reported the passage of an unusually large and extremely offensive stool, together with a large quantity of a jelly-like substance. Subsequently there was cessation of the diarrhœa and marked improvement in every respect. The purgative was repeated, and the patient became shortly convalescent. Second, is there danger of exhaustion from frequent and prolonged purgation? I have already pointed out that if patients are relieved from the poison, the appetite and power of assimilating food remain good. It is quite common to have patients take sixty ounces of nutritious food daily in addition to large quantities of water. I have, in practice, experienced no trouble whatever from exhaustion following upon purgation.

I have now to report twenty-nine new cases, making in all forty two consecutive cases. In the second series the treatment was practically the same as in the cases reported last year, with the exception that I gave myself more liberty in the choice of purgatives. I have used calomel, magnesia, sulph., pil. cath. co. U. S. P., Rochelle salts, pulv. sedlitz, and cascara sagrada. Purgation begun vigorously and continued until the temperature became normal, was the rule of treatment. It was also considered important to secure elimination as quickly as possible. I do not wait until next day; but a few hours after having given calomel or pil. cath. co., followed by pulv. sedlitz, excite the reflex by a glycerine enema. I have not noticed any difference in the effects produced by the different purgatives. All are alike useless, if they fail to purge. As to the antiseptic effect of calomel, there is not the slightest evidence. I have in several cases seen it given continuously in large doses without purging and without producing the slightest effect on the symptoms. It is in many cases impossible to keep up purgation by the use of calomel alone. But, if the dose of calomel be followed in two or three hours by a sedlitz powder, there is usually no difficulty. Occasionally the gums become sore, and it becomes advisable to substitute pil. cath. co. or magnesia sulph. for calomel, or, if but slight results are desired, a drachm of elixir sagrada may be given. The difficulty has never been in the way of preventing too vigorous action, but rather in securing sufficiently free movement. In looking over my charts, I find that five or six movements per day in response to purgatives has been about the rule until the symptoms somewhat abated, when purgatives were reduced to produce three or four movements. But if there were any aggravation of the symptoms, freer elimination was induced as quickly as possible, for I considered time an important element in this treatment. Salol has been given in nearly all cases in five- or ten-grain doses every three or four hours. With every capsule or powder, the patient was instructed to take a large draught of water.

Of these forty-two cases several were furnished by medical friends who were good enough to give the plan a trial. A number of these were, however, treated under my direction. The list includes hospital and private patients, perhaps a majority of the latter.

Analysis of Cases.—Cases came under observation on an average on the fifth day. I have no fatalities to record. Average attainment of normal temperature and entrance on convalescence on the twelfth day. Relapse or recrudescence occurred in three cases. No hemorrhage. No perforation.

Delirium occurred in only one case—a little girl—while under treatment, and when present when patient came under treatment, very shortly disappeared.

Tympanites in no case occurred during the course of treatment; and where present, when the patient was first seen, very quickly disappeared.

In fifteen cases rash was noted. In seven cases spots were present on the abdomen when the temperature was normal, and convalescence had begun. Bathing was had recourse to only for the purpose of cleanliness. Routine sponging once or twice a day; but in my own cases never required for the reduction of temperature.

Remarks.—Forty consecutive cases of typhoid fever, without death or accident of any kind, is an extremely good result. And, when we consider the duration of the fever and the comfort of the patient, instead of the usual distressing symptoms, this record is without a parallel, I believe, from any system of treatment. The fact that, in seven of this series of cases, the rash, perfectly typical, was coincident with normal temperature and convalescence, surely proves that typhoid fever can be aborted.

Medical Fees in France.—M. Dumontpallier sued a notary of l'Aisne, whose wife he had treated in 1892, before the civil tribunal of the Seine, to recover an honorarium of 1,500 francs. The lawyer, who had already tendered 700 francs, pleaded that this sum was sufficient. Hence the action. Having heard the advocates on both sides, the tribunal delivered judgment, basing its decision on the following grounds: "Seeing that in a question of medical fees the points to be regarded are the pecuniary situation of the patient, and the repute which the doctor may have acquired through his labors and his discoveries; and considering in the present case the position of the patient's husband and the medical eminence of Dr. Dumontpallier, the sum demanded is not excessive." The tribunal accordingly condemned the attorney to pay the fee of 1,500 francs in full.

UNSUSPECTED POISONING BY STERILIZED MEAT AND MILK OF TUBERCULOUS ANIMALS.[1]

By JAMES LAW, F.R.C.V.S.,

CORNELL UNIVERSITY, ITHACA, N. Y.

With an unaccountable shortness of vision, medical and veterinary sanitarians alike have never, up to the present hour, looked beyond infection by the tubercle bacillus in estimating the danger to man of tuberculosis in our flocks and herds. We find, accordingly, that the question kept continually before the public is that of the presence or absence of the tubercle bacillus from any food-product—meat, milk, butter, or cheese—furnished by the diseased or suspected animal. The question of the presence or absence of ptomaïnes or other toxic elements which are calculated to prove hurtful or even fatal to certain members of the human race, is not for a moment considered. Hence we are met by the argument that tubercle is rare in the muscular system of cattle, and that muscle juice is inimical to the bacillus, and that therefore the muscular tissue which makes up the great mass of the dressed carcass, may as a rule be safely eaten, even though the internal organs have been affected by tubercle.

In Germany and other European countries the flesh of animals in which the tubercles are found in only one organ, or in two related ones, is passed as wholesome. It is only when the tubercles are found in the bones, or muscles, or in the lymphatic glands situated among these, or finally, when the tubercles are so generally distributed in different parts of the body that it is evident the bacilli must have been carried by the blood, that the meat is rejected as human food. So with milk and other dairy products. Many claim with Nocard that the milk is harmless so long as the udder is quite free from tubercle, and that it is only when tubercle is unmistakably present in that gland that this secretion is to be feared.

Apart altogether from these discussions as to the wholesomeness of uncooked meat and milk, it is safe to say that, up to the present, every writer on the subject holds that even the infecting tuberculous meat and milk is rendered absolutely harmless by cooking. The consensus of professional opinion is tersely given by Salmon and Smith, in their article on tuberculosis in the work on the "Diseases of Cattle," published by the Bureau of Animal Industry: "Fortunately tubercle bacilli are readily destroyed by the temperature of boiling water, and hence both meat and milk are made entirely safe, the former by the various processes of cooking, the latter by boiling for a few minutes."

But this is altogether too narrow a view to take of the subject, and it is liable to lead to most serious and fatal results if put into every-day practice. The professional mind, in concentrating its attention on tuberculous infection, seems to have practically overlooked the no less real, and in many cases no less dangerous, tuberculous poisoning.

To elucidate this matter, let us consider that much of the toxic matter produced by the growth of the tubercle bacillus is retained in Koch's "tuberculin," which has been absolutely sterilized. What, then, is the action of tuberculin on the animal system? It produces a constitutional disorder, with elevation of the body temperature and impairment of most of the bodily functions, notably those of assimilation and secretion. This is abundantly manifested in the wasting and fever of the victim of acute tuberculosis, in which these principles are being constantly produced in large quantities. As the dose is reduced a point is finally reached at which no fever nor appreciable systemic derangement is produced, and thus in many slight and indolent cases of tuberculosis the victim appears to be well, and thus also the usual test dose of tuberculin has no recognizable disturbing influence on the healthy animal system. With any dose less than this it may even be questioned whether it may not be actually beneficial in conferring on the healthy system a small measure of tolerance and power of resistance to the bacillus and its poisons. This, however, is of little account, seeing that no real immunity from tuberculosis is ever acquired. In many systems, both human and brute, the disease continues its slow progress for many years, and the slight tolerance which results, while it may retard the disease so that it assumes an indolent and chronic form, does not fully arrest it.

Very different is the effect of even a minimum dose of tuberculin on a subject which is already attacked with tuberculosis. In such a case the products of the existing tubercle are often so small in amount and the system has acquired such a tolerance of them that there is no manifest disturbance of health, and the animal may even be in excellent condition. But add to this minimum amount of poison already in the system a small quantity of tuberculin, and in a period varying from eight to twenty hours the temperature of the patient's body will rise two or more degrees above the normal, and the destructive process going on in the tuberculous foci will be accelerated.

In cattle this is now employed as an indispensable test of the presence or absence of occult tubercle. In horses and other animals attacked by tuberculosis, tuberculin causes the same rise of temperature, and it may be accepted that the reaction may be thus produced in an animal of any class which is already tuberculous. In the tuberculous man this effect of tuberculin is a well-established fact, and was made the basis of Koch's employment of it as a curative agent. The daily use of tuberculin in cases of lupus or other superficial form of tuberculosis led to a more active congestion and a more speedy molecular death of the tissues in the diseased focus, until such diseased tissues were separated from the living healthy parts, and the progress of tuberculosis in that centre was arrested. If there were no deeper unseen tubercles left in the system, a real cure might be effected in this way. But the cure in such a case was only secured by a temporary aggravation of the disease in its primary focus. If other tubercles existed in internal organs, they too had the morbid process aggravated and extended, and the death of tissue increased by the introduction of tuberculin from without. In such a case the increased mass of tubercle, dead and living, remained confined in the midst of the surrounding tissues, and as the infecting materials could not be cast off and separated from the body, they continued their ravages with an increasing force in proportion to their recent artificial extension.

It is this extension of the tuberculosis under the influence of the toxic products of the bacillus which raises the most important question in connection with the consumption, by man, of the flesh and dairy products of the tuberculous animals, and yet this question has been hitherto left entirely untouched by sanitarians. It has seemed enough for them that the living tubercle bacillus did not exist in the juices of the muscle nor in the milk. It would appear as if it had never occurred to them that all the soluble toxic products of this bacillus were constantly circulating in the blood and plasma that bathed the muscles and mammary glands, and that it escaped into the milk. Yet no pathologist can for a moment doubt this general diffusion of these toxic products.

Accepting, then, as indisputable the presence of the toxins in the flesh and milk, it follows that all who eat of such flesh and milk are continually taking in small doses of tuberculin, and that in case they are already the subjects of tuberculosis, in however slight or indolent a form, this continuous accession of the poison will rouse the morbid process into greater activity and secure a dangerous extension.

If, now, we consider the prevalence of tuberculosis in the human population, and realize that every eighth death is that of a tuberculous person, we see what a fearful risk is being run by the utilization of the meat and milk of animals so affected, even if it could be shown that

[1] Read before the New York State Veterinary Medical Society, January 9, 1894.

as consumed the meat and milk are free from the living bacillus. Such reckless consumption of the products of tuberculous animals can only be looked on as a direct means of sealing the fate of that large proportion of the community which is already slightly affected with tuberculosis.

The claim that the canning of tuberculous carcasses and the boiling or Pasteurizing of milk does away with every element of danger can no longer be entertained. Sterilization is not a restoration to a non-toxic condition, it does away with the possibility of infection, it is true, but it does not render the product innocuous. As a matter of fact, Koch's tuberculin has already been sterilized by heat, but this has not by any means rendered it safe and harmless. On the contrary, it invariably intensifies any existing tuberculous process and develops fever and general constitutional disorder. When tuberculin, therefore, is present in the meat and milk it can only cause these to operate in the same way on subjects that have been already infected.

In my experience with tuberculous cows, cases have come to my knowledge in which invalids drinking the milk of such animals have suffered very obviously, and have improved after such milk has been withheld. So, too, in the case of calves sucking phthisical cows, they have done badly and proved unthrifty though they took the whole of the milk furnished by their respective nurses, and they have thriven better when weaned and put upon solid food alone. I have followed some such calves until they grew up and were slaughtered, and have made post-mortem examinations and found them bearing old calcified tubercles, pointing back to the time when they sucked the infected and poisonous milk.

It is idle to say that such milk was merely lacking in nutritive principles: the calves in question had access to other food while following their nurses, and would not have been harmed by taking the same amount of pure water as they did of milk. Apart from the bacilli, which operate slowly, and which allowed these animals to live for years and even to thrive after they had taken the milk, there was unquestionably in this secretion a definite poison which undermined the health and stimulated the progress of the tubercle. Accessions of bacilli are not denied, but at the worst these acted tardily, and apart from the soluble poisons their action must have been cumulative up to the cessation of the milk-feeding, so that immediately after the withdrawal of the milk the morbid action should have been greater than at any time before this, whereas in the cases in question improvement dated from the change to dry, coarse food.

It may then be held, as proved by analogy, observation, and experiment that the soluble poisons of tuberculosis invariably operate by exaggerating any existing tuberculous process, and that blood and all animal fluids becoming charged with such poisons uniformly tend to endanger the health, or even the life, of any consumer who is affected with tuberculosis.

We may freely allow that the transmission of the bacillus from man to man is far more common than from beast to man. But though the implanted seed may have been in many cases derived from a fellow-man, its subsequent destructive career may be due far more to the constant accessions of the soluble toxic products conveyed in the meat and milk of tuberculous animals. Without these continuous doses of the soluble poisons the implanted germ would in many cases have proved comparatively harmless. Although it could be proved in regard to many cases that the cow had not contributed the seed of the disease, she is left little less responsible for the destructive progress and fatal result. The germ which might have remained comparatively dormant and harmless in the absence of the poisoned meat and milk, is by these stimulated to a more deadly energy.

This hitherto unchallenged factor in the progress of tuberculosis opens up new and uncultivated fields for sanitary work. The great evil ventilated in this paper cannot be effectually met without the eradication of tuberculosis from every herd kept for the supply of food-products for the public. Nothing short of this can be trusted to operate satisfactorily in putting a check upon the present fearful mortality from this disease. No inspection of dressed carcasses, nor of milk, butter, and cheese will furnish a guarantee. We must go to the herds and subject them animal by animal to a critical test, and only accept the products as safe when there is no longer a shadow of suspicion remaining. A professional examination of a most searching kind must be supplemented by the tuberculin test before a clean bill of health can be furnished.

Often when cattle were condemned by the tuberculin test have the owners pronounced them the most thrifty and the least suspected in the herd, and it was only after slaughter, when the bodies were opened and the caseated tubercles exposed, that they were satisfied that no mistake had been made.

Recently in a herd kept for the supply of milk of guaranteed soundness, the stock having been subjected to weekly examinations by a veterinarian, the tuberculin test was applied, and fifty per cent. of the herd demonstrated to be tuberculous.

Without the tuberculin test there is no guarantee possible for the products of the dairy, and the sanitary officers who will affect to deal with this disease in herds without the aid of tuberculin are at best but pruning the tips of the branches of the evil tree. Public money ought not to be thrown away on such fruitless and ineffective work.

The purification of a herd must be followed in every case by a thorough disinfection of contaminated buildings and places, and by a careful seclusion from new sources of infection. It is evident, therefore, that the non-tuberculous herd must be secured against the addition of fresh animals from any herd that has not been similarly attested sound, and that any necessary addition from another source must be tested by tuberculin before it is added to the herd.

Equally important is it to test all farm animals of whatever species which live on the place and cohabit with the herd, and to see to it that no human being suffering from tuberculosis is allowed to attend on the animals or to prepare their food. It is difficult to see how anything short of such a system can afford a guarantee of the absence of the soluble tubercle poisons from our milk, butter, and cheese.

In the case of butcher meats a professional examination when slaughtered, covering all of the viscera as well as the carcass, will be essential, and the current doctrine of sound meat with localized tuberculosis must be abandoned. Every municipality must have its own public abattoir in which alone its meat supplies should be butchered, and where every carcass should be systematically examined as it is opened. Private slaughter houses controlled by individual owners afford endless opportunities for the evasion of sanitary statutes, and ought to be abandoned as relics of an age when modern sanitary science was unknown.

The question of dressed, canned, and salted meats is one that must be carefully considered. It is quite evident that such products must come to us with a sufficient guarantee, if allowed to compete with our own house meats which have passed the municipal inspection. It is equally evident that no inspector paid by the packer or canner can furnish a certificate which will command public confidence. The inspector must be a government official, who is entirely independent of the packers and who is in no way dependent on their good will.

Then again the existing method of furnishing government inspectors at our great packing centres only, and thus giving a monopoly to the large operators, cannot be long maintained in a country of equal rights and privileges. The most obvious cure for this evil is to make all packing-houses government institutions, where the small packer shall have equal privileges with the large, and where all carcasses shall be subjected to the same scrutiny, and all shall be sent out with the same guarantee.

Such a proposition will doubtless be severely criticised from both the medical and economic stand-point.

On the medical side it will be argued that if the toxins in the meat and milk were as injurious as they are represented, we would see the evil results on every side, and that medical men would be universally cognizant of them. And yet do we not see clearly to-day much that was never suspected twenty, thirty, or fifty years ago? How recent is the acceptance by the profession of the doctrine of contagion in tuberculosis, in tetanus, in pneumonia, in influenza, in glanders, etc. Are we to suppose that our forefathers were surrounded by fewer evidences of contagion at a time when no precautions were taken to prevent it, than we are with all the antiseptic and antizymotic provisions of the present day? The facts of contagion were doubtless more abundant in their days than in these, but their attention had never been drawn to them. So now let the attention of physicians and sanitarians be given to the morbid action of the soluble poisons of tubercle, and evidence of their evil results will accumulate on all sides. It is the scrutiny and not the facts that are wanting.

The economist will object to drastic measures for the suppression of tuberculosis on the ground of expense. Who is to pay for the municipal abattoirs, the inspectorships, the disinfections, and the indemnities for slaughtered animals? In return let us ask, Who now pays for the constant losses of live stock which the proposed system would put a stop to? for the frequent infection of sound herds by unfortunate purchases of animals that prove to be tuberculous? for the losses to the nation, the community, and family of the tuberculous one eighth of all deaths? for the loss of work — literary, scientific, manufacturing, commercial, domestic, and manual—of the great host of consumptives waiting all over the land to fill the places of this fatal eighth in coming mortality statistics? for the losses represented by the bills of the physician, nurse, and druggist for these invalids? and for the losses represented by the countless migrations and exiles in search of health, and of the costly consumption hospitals and sanitaria? And who is to pay in the future for the endless harvest of similar fruits, which the seeds now sown through our supineness must inevitably produce in coming generations?

Is it not a truer economy to destroy the seed before it has germinated, or even before it has been sown, than to wait for the multitudinous evils that must attend on its growth and fructification?

Our State Board of Health, which has charge of tuberculosis, not in man only, but in cattle and other animals as well, should take this matter up earnestly. A year ago the Board was very apprehensive of evil results from the use of tuberculin as a means of diagnosis, and only reluctantly allowed me to use the agent, in examinations I made for it, on condition that I would personally bear the full responsibility for all untoward results. This I could afford to do, being well assured from past experience how trustworthy this agent is, and how impossible it is to speedily eradicate tuberculosis from a herd without its aid.

Now that our excellent Board has reached a similar confidence, let me urge it to go a step farther, to accept the logical deduction of its present position, the doctrine of the presence of the toxic products in both meat and milk of the tuberculous animal, and the pathogenic action of these on the infected human consumer. Let our Health Board urge on the Legislature the necessity of providing means for the purification of our dairy herds, and municipal abattoirs where all our meats shall be killed, and where all animals designed for butcher-meat shall be scrutinized by professional government inspectors.

The Hospital Saturday and Sunday Collection amounted a year ago to $58,000; it is hoped this year to bring the amount up to $70,000. There are over thirty hospitals in the association.

AN EXTREME CASE OF LEUCODERMA IN A NEGRO, WITH A COMPARISON OF SIMILAR CONDITIONS IN VARIOUS ANIMALS.

By G. L. MAGRUDER, M.D.,

DEAN, MEDICAL DEPARTMENT, GEORGETOWN UNIVERSITY, WASHINGTON, D. C.,

AND

C. W. STILES, PH.D.,

PROFESSOR OF MEDICAL ZOOLOGY, MEDICAL DEPARTMENT, GEORGETOWN UNIVERSITY, WASHINGTON, D. C.

THOMAS CLEVELAND, the subject of this sketch, has changed from a dark black negro to a uniform white color over his entire body, with the exception of a few spots almost symmetrically distributed over his cheeks and ears, and along the median line of the forehead. There is not a spot of discoloration on any other portion of the body; the soles of the feet, the armpits, and the entire scalp are equally free from pigment. The borders of the patches of pigment that remain are characterized by well-defined concave edges, thus making the edges of the changed skin convex. There is no loss of pigment in the eyes; they still are dark. The photograph gives an excellent representation of his present condition.



He is now over sixty years of age, and has recently come to this city from Georgia. He has affidavits from a number of citizens of that State that he was a black man twenty-five years ago. After careful and patient questioning the following history was obtained: He was born near Washington, and went to Georgia in infancy; his parents were "slick black;" there is no trace of similar loss of pigment in any branch of his family, either before or since his birth, although there is a large number of relatives, including brothers, sisters, nieces, and nephews; he is the father of two children, a daughter and a son; the daughter was born prematurely, about seven months, she was very dark, and died in the first year: the mother received an injury which seriously impaired her health; the son, about thirty years of age, is a stout, healthy man, "black as a crow," has been married twice, and has had black children by each wife.

Tom has always enjoyed exceptionally good health, and has only had some slight sickness in early childhood. At the age of thirteen he used to work in the field bareheaded, and then suffered from headaches, which disappeared as soon as he commenced to wear a straw hat; since then has always been healthy, never had syphilis, and has lived a very temperate life, neither smoking, chewing, nor drinking.

The first evidence of decoloration was a spot near the nipple, which appeared when he was about fifteen; he endeavored to remove it by the use of green walnut juice. The change was at first very slow and gradual. It had not reached his legs "before the war." Fifteen years ago the hands and face were still black, but since that time the progress has been much more rapid, especially the hands. Upon the body and the feet the process occurred in larger areas than on the face and hands, and the discoloration shaded from black to yellow, then to white. On the face and hands there was no shading. There was no difference as to the tactile sensibility of the two colors of skin. The white spots blistered more easily in the sun. The sweat-glands acted very freely, with the characteristic odor of the race.

The hair is still kinky, but has turned gray wherever present. There is a good growth upon the head, but sparse over the rest of the body. There is nothing in the history of this case that will give the slightest clew to the probable cause of this condition.

Upon consulting various works on dermatology and human pathology, it will be found that a certain number of cases are included under the term "atrophic diseases." Although scarcely any two authors agree in their classification of these diseases, we need not enter into a discussion of their general arrangement here, as we are interested in the present paper only in those cases known as "albinism," "vitiligo," and "canities."

Under the term *leucopathia* (achromasia, pigment atrophy) we find cases cited in which the pigment of the skin atrophies or never develops, and these cases are classed as:

1. *Congenital leucopathia*, or albinism, which may be partial or complete; and,

2. *Acquired leucopathia*, vitiligo, or leucoderma.

Under the term *canities* we find included the whitening of the hair. As we wish to compare these conditions with similar conditions in other animals besides the human species, it may be well to give a very brief summary of the conditions as described in various text-books, at the same time citing some of the cases.

Albinism (congenital leucopathia). — 1. *Complete albinism* is usually described as a condition in which the normal pigment is congenitally absent from the skin and eyes, not accompanied, however, by any textural change of the parts in question. It may appear spontaneously, or may be hereditary to a limited degree; cf. Darwin, who cites a case of two brothers marrying two sisters, their first-cousins; no trace of albinism in their antecedents, but all seven children produced from this double marriage were albinos. Formerly it was claimed that albinos were necessarily weak in constitution, but this view is no longer held; hair is fine and silky, white, or slightly yellowish; eyes cannot stand a strong light. Earliest records of albinos came from the Portuguese, who found some "white negroes" (leucœthiopes) in West Africa. Cause unknown, no treatment.

2. *Partial albinism* differs from complete albinism only in degree; eyes not affected; white spots on the skin; hairs growing on these spots are colorless.

Leucoderma (vitiligo, acquired leucopathia) is described as a cutaneous disease in which the pigment of the skin atrophies to a greater or less degree after birth. The white spots generally appear between the ages of ten and thirty, although we find one case (Belcher, 1867) which commenced at five years of age; the patches are non-elevated and have a convex border, the concave border of the surrounding tissue generally being darker than the rest of the skin; in many cases (as in the one under discussion) there is a striking symmetry to be noticed in the appearance of the spots; in other cases the symmetry is more imaginary than real; while one case is recorded (A. Wood, 1871) in which the entire right side of the body turned white, while the left side remained brown. Leucoderma may be—

1. *Progressive*, the spots coalescing and extending slowly or rapidly over nearly the entire body: Bissell, 1817, case of an Indian of the Brotherton tribe, near Clinton, N. Y.; Hall, 1880, case of a negro; the present case, and many others. Or, after reaching a more or less advanced stage, it may remain

2. *Stationary*: a case of this kind is known to the writer. Or in some cases it may be

3. *Regressive*, cf. especially F. T. Wood, 1877, case of a negro, redeposit of pigment in same order in which it was absorbed. In cases of leucoderma the whitened portions of the skin seem to suffer more from intense heat than the darker portions, and Bissell records of his case that there was less perspiration from the white spots than from the dark skin, and that they healed with difficulty when cut.

Geographical and Racial Distribution.—Leucoderma is more common among the darker races than among the lighter ones. In America it is recorded from Canada to Panama, but is said to be much more common in Africa and India. According to Münch, the disease is endemic in Turkestan, where the natives call it Pjes, and believing it to be contagious, they isolate the patients with the lepers. Probably, however, leucoderma in writings of the East is frequently confounded with *lepra maculosa* of the Jews (white Jewish leprosy).

Etiology.—It is quite generally admitted that leucoderma may be brought about in different ways, and T. F. Wood (1882) asks the very pertinent question, whether the cases recorded are examples of different diseases or different manifestations, varying degrees of a process which has a central origin elsewhere than in the skin. The cases thus far recorded may be classed as follows:

1. *Leucoderma syphiliticum*—(cf. Haslund, 1885, Raisz, 1884, Riehl, 1884, Szadek, 1885, Neisser, 1883, *et al.*). In these cases the condition has followed syphilis. A second class of cases may be included under the term:

2. *L. traumaticum.*—These cases, in which white spots follow burns, scalds, and other injuries, are well known to persons who live in districts where there are many negroes. The same condition is frequently found in horses, where the skin or hair may become white at places where pressure is exerted by the harness.

3. *L. parasiticum.*—Some authors state that leucoderma is parasitic in nature, and there would of course be nothing strange if we should find white spots following acariasis.

4. Leucoderma is also said to have followed convalescence from typhoid fever, there being an absorption and gradual redeposit of the pigment.

5. *L. nervosum.*—Cases of leucoderma are recorded as following a severe mental strain. The writer is acquainted with an exquisite case of this kind, in which the patches are small, symmetrical, and confined to the back of the hands.

5. *L. hereditarium.*—Cases are recorded in which heredity seems to have played something of a rôle, although in most cases there seems to be no trace of heredity. Brito (1885) cites the case of a lady in India in whom vitiligo manifested itself in early life, and the same condition appeared in her daughter, in whom it spread much more rapidly. Brito, in writing on the subject of leucoderma in India, states that heredity appears to act as a strong factor, that the condition may be atavistic and may be found in collateral branches.

7. *L. spontaneum.* — Under this head we may include all those cases which appear spontaneously—by which we simply mean that we are unable to recognize the initial cause of the leucoderma. Authors generally dispose of these cases by saying that the change is dependent upon the nervous system, and in support of their

view they quote the change of color in the chameleon and frog. Bissell (1817) remarks: "That it occurs in consequence of a deranged action in the vascular portion of the rete mucosum cannot be doubted." While Startin (1880) states that the cause of the disease seems to be due solely to deficiency of pigment matter in the skin, due to depressed innervation induced by intense cold or heat.

Canities is analogous to leucopathia, the only difference being that the situation of the former is in the hair, of the latter in the skin. It may occur with leucopathia, may be congenital or acquired, partial or complete, progressive or regressive, rapid or gradual in progress, frequently unilateral.

It might be well in this place to refer briefly to the physical phenomena concerned in the color of the skin and hair, and to the position and development of the substances with which this color is connected.

Absorption and Reflection of Rays of Light.—It is a generally accepted fact that the color of vertebrates, as well as invertebrates, is due for the most part to the presence of various quantities of definite pigments in the skin or its appendages. These pigments absorb certain rays of the white light and reflect the others, thus determining the color as it appears to us. If all the rays are absorbed so that none are reflected, the object appears black; if all the rays except the yellow are absorbed, the object appears yellow, etc. It has, however, been shown that other matters besides the mere color of the pigment —such, for instance, as the structure of the feathers in birds—come into play in determining the color of an animal, so that the same pigment need not necessarily give to two different animals exactly the same color; and it is also known that when two animals have the same color, the latter may be produced by two different pigments. A most striking example of this kind is the green in the turacou and the green in the parrot. In the former animal this color is due to a pigment known as turacoverdin, while in the parrot "the actual pigment is yellow." Although Gaskell claims that a white pigment is found in the pineal eye of the lamprey and the same is claimed for certain butterflies (*Arge galathea*), it is quite generally denied that any white pigment exists in animals; and authors claim that the white appearance of an animal is due entirely to the irregular reflection of all the rays (none being absorbed) in different directions. In the same way that the whiteness of snow is explained by the presence, between the crystals, of minute globules of air which reflect the light irregularly in different directions, the whiteness of hair is explained by the presence of minute globules of gas in the hair.

We should also mention that the organs immediately below the skin play an important rôle in determining the color of an animal.

Position and Origin of the Pigment.—In the skin of mammals the pigment is situated in ectodermal tissue, for it is in the lowest layer of the epidermis, that is, in the cells of the basal layer of the stratum Malpighii. In the hair, which is also ectodermal, it is situated in the core. Although found in ectodermal tissue, it is quite generally admitted that it is of mesenchymal origin—Kodis (1891) alone opposing this view and claiming that the pigment is ectodermal in origin. In the last edition of Wiedersheim's "Grundriss" it is described as an excretory product, a degeneration product of the red blood-corpuscles carried by leucocytes from the corium into the epidermis. As a matter of comparison, it is interesting to note that in fish the pigment-cells are in some cases in both the epidermis and cutis, in others only in one of these layers, while in amphibia the pigment is chiefly in the cutis, partially diffuse, partially in cells.

Variation in Color.—In passing now to conditions in animals, similar to those described above, we cannot hope to recite all the facts known about color and coloration, as that would take a number of volumes, but we will do well to cite some of the better known examples of variation in color. To begin with, a study of animals convinces us that there is scarcely any character which is so variable in species as that of color—a fact which is particularly true of the domesticated animals. In many cases it is absolutely impossible to establish a theoretical standard color for a species. Who would, for instance, try to establish a norm in color for the (conglomerate) species *Canis familiaris*, the domestic dog. Scarcely any two specimens, even of the same breed, agree exactly in color, and the same is true of cats, horses, cattle, pigeons, chickens, etc. In Man we find this same individual variation in color, not only when we compare an individual of one race with one of another, but when we compare individuals of the same race. Even among the brothers and sisters of one family, we may find an extreme blond and an extreme brunette. It is claimed that among the non-domesticated animals we do not find this same extent of variation, a claim which to a certain degree is supported, but in some respects is erroneous. In the adult of the Fall Web worm (*Hyphantria cunea*) we find all possible gradations from a perfect white to a form whose wings are nearly half black; in the Gooseberry Geometrid (*Abraxas grossulariata*) every possible variation between a black and a white is found; enormous variation exists among the Mollusca; and among the higher animals, from fish to mammals, we find an individual variation in color. In many cases, more especially among mammals, the color of a species is apparently quite constant, but if a large number of forms are examined from different localities, it is always possible to detect some individual variation in color or coloration.

Besides the individual variation in the shade of color, generally determined, as we have seen above, by the character and amount of pigment present, we find a variation in the color of the different parts of the body. For instance, the ventral surface of an animal, especially of a vertebrate, is almost always lighter than the dorsal surface. In some cases the ventral surface is even white, while the dorsal surface may be very dark, a fact which is explained differently by different authors—some claiming that the ventral surface is less exposed to light than the dorsal surface, and that the light, or absence of light, affects the color; while others hold that the dark color on the back of animals is of great service to them in extreme heat, and has hence been increased by natural selection. That light in some cases probably does influence pigmentation, is shown by the interesting experiments of Cunningham (1891), who placed some young flounders in a tank provided with a mirror on the bottom, and noticed after a time that the under surface, which is generally white, had in many cases become more or less pigmented. An interesting case in point is furnished by those insects whose pupal stage is concealed (under the ground, for instance), these being darker than those whose pupæ are exposed.

Animals generally undergo some change of color during their lifetime, and this change may be sudden and more or less frequent, as in the case of the chameleon, frogs, many fish, or it may be a gradual change as they grow older, or a change at certain periods of the year, a change during sexual activity, etc.

It is a well-known fact that chameleons, frogs, and many other animals become dark when on a dark background, and light when on a light background; in many of these cases it seems that the chromatophores, or pigment bearing cells, are under the influence of the nervous system. It is believed that the color of the background stimulates the eye, and that the impulse acting through the nervous system causes the change of color. A dark light would stimulate the eye but slightly, and there would be no contraction of the chromatophores, so that the animal would remain dark; a bright light, however, would stimulate the eye more strongly, a stronger impulse would be transmitted to the chromatophores and would cause them to contract, so that the animal would become lighter in color. An interesting fact is that blind frogs and blind fish have lost their power of changing color, a fact which it is difficult to harmonize with

Steinach's recent results, that in the case of amphibia the light does not affect the chromatophores through the eyes, but acts directly upon the cells and causes a contraction.

As examples of the changes of color during the development of the individual, numerous instances could be cited, but we will confine ourselves to the following, drawn from various sources:

The children of the Australians are a yellowish-brown directly after birth, and become dark at a later age. Those of the Guaranys, of Paraguay, are whitish-yellow, but they acquire the yellowish-brown tint of their parents in the course of a few weeks. The African babe is a reddish nut brown, which soon becomes a slaty gray, the black color being fully developed within a year in the Soudan, and within three years in Egypt. Darwin, from whom we have taken these statements, also records that the Himalayans (a breed of rabbits) are quite white, and true albinoes, or more rarely a pale gray, when first born; in a few months, however, they gradually assume their dark ears, nose, feet, and tail. It will be noticed that in all these cases the animals are born light and turn dark (melanism in a greater or lesser degree!). In the silver-grays and chinchillas (two other breeds of rabbits) the young are born perfectly black, but soon assume their gray or silver tints (acquired leucopathia, *i.e.*, canities and leucoderma!). The same is true in the case of gray horses, which are nearly black when foals, and become grayer and whiter as they grow older. Exceptions in the case of the rabbits cited above, are, however, not unknown, and to this we wish to draw especial attention; *i.e.*, the Himalayans sometimes produce a single black young in a litter, which, however, becomes perfectly white within two months' time, and silver-grays are sometimes born a cream-color, but they ultimately become black.

In the changes of color at certain seasons, the winter coat may be lighter or darker in color, according to the species; *Cervus mantchuricus* and *C. durancelli*, and the snow-bunting, are darker in the winter than in the summer. Seasonal changes have been noticed in grasshoppers and beetles. Among Arctic animals, the musk-ox, glutton, and raven undergo no change at the approach of winter; the reindeer becomes gray; the Hudson Bay lemming (*Cuniculus torquatus*), the American hare (*Lepus americanus*), the ermine, and many others become white at the approach of winter; the Arctic fox (*Canis lagopus*), generally becomes white in some localities, but in others it usually remains dark. The same remark applies to the Alpine hare.

This change from a dark to a light color has been brought about artificially by Sir J. Ross, who records that a Hudson Bay lemming (*Lepus torquatus*) had retained its summer color when kept during the winter in a warm cabin. One day, however, it was placed on deck, and within a day, when exposed to a temperature of — 30° F., "the fur on the cheeks and a patch on each shoulder had become perfectly white," and within a week the animal was almost entirely white. An exceedingly interesting fact in connection with this experiment is that the hairs which turned white grew rapidly in length, and that only the tips were involved in the change. In the case of *Lepus americanus*, F. H. Welch has shown that when the winter change takes place there is not only a change in the color of the autumnal hairs (in October), but a new growth of white winter hairs (in November); and Poulton, from whom we have taken many of the examples here cited, in discussing this subject remarks that it is probable that the new winter hairs do not contain any pigment but that in the summer hairs which do contain pigment, the latter does not have any effect in determining the color on account of the great amount of gas present. He also explains those cases of canities in man in which the hair has changed during some nervous attack but darkened afterward, by assuming a sudden evolution of gas in the hair and its subsequent absorption, thus leaving the hair its original color.

In the case of those animals which remain on the snow nearly the entire year, as the Arctic bear, the white color has become constant; but this must be an acquired condition for the races, for some of these animals at least (*Lepus glacialis*, for example), are born a darker color (gray, in this case), and change to white on the approach of the first winter.

It is interesting to note that while we find a tendency toward white in mammals and birds as we approach colder climates, in insects the tendency of color is toward a black or brown.

Many other cases of change in coloration might be referred to, but in order to avoid taking up too much space with examples of this kind, we will content ourselves with the cases already cited, and refer the reader who may desire to follow the matter further to Poulton's "The Color of Animals" (1890), Beddard's "Animal Coloration" (1892), Deane in "Bul. Nuttall Ornithological Club," 1876 and 1879 (eighty seven cases of albinism and six cases of melanism among North American birds), and to Darwin's various works. In connection with albinism among birds, however, it should be remarked that this term is used in a very broad sense by ornithologists, referring not only to complete congenital achromatia, as reported in some white blackbirds, but also to partial congenital or acquired achromatia.

When we seek a cause for these differences and changes in color and coloration, we have no easy task before us. Some cases are evidently due to the nature of the food, others to temperature; some, it is claimed, are due to moisture, many to natural selection, and others to some more or less hypothetical influence of the nervous system; but whatever the cause may be, we always find an individual variation in the various specimens. The question, therefore, naturally arises as to whether we should include albinism, *all* cases of leucoderma and ascities among the diseases, or whether many of them cannot be looked upon as cases of extreme individual variation or, if one prefers the term, as freaks. The answer to this query depends entirely upon our definition of a "disease." If, with the ante-Darwinian idea of the fixity of the species before us, we look upon everything which does not correspond to our idea of the norm as pathological and diseased, then the question is easily answered in favor of looking upon all cases of achromatia as pathological. But if we take into consideration the utter impossibility of establishing a theoretical norm in man; if we recall that there is really no sharp line to be drawn between complete albinism, partial albinism, and leucoderma; if, further, we remember that all of these stages find their parallels as racial or specific characters in certain species and races of animals, we will certainly hesitate before pronouncing Uncle Tom Cleveland and similar cases, in which no trace of disease is found, as pathological specimens! If, however, we insist upon calling Tom a *diseased man*, and true albinoes *diseased beings*, must we not be consistent and call the albino rabbits, mice, rats, and ferrets, as well as the Himalayans, silver-grays, and chinchillas *diseased varieties*, and the exceptional congenitally black Himalayan and the cream-color silver gray as diseased individuals belonging to *diseased varieties?* How would it be with a cross between an albino rabbit and a gray rabbit which should happen to be partially white and partially gray? If we carried our ante-Darwinian theory to its logical conclusion, we should discover that everyone of us—especially of the white race—is diseased! How would matters stand with the domesticated pigeon? Should we call every breed and every individual differing from its ancestor, the rock-pigeon (*Columba livia*), a pathological breed or specimen, or should we look upon these breeds as varieties resulting from individual variation, or shall we combine the two ideas in one and accept the inevitable conclusion that all individual variation is pathological? What shall we do with those cases in which the males and females are similar when young, but whose males take an entirely different character upon becoming mature? Are they pathological?

It is true that in many of the cases here cited, the change in color is racial as well as individual; but that the change began as an individual variation is made almost certain by the ontogeny of the animals, by the extreme individual variation in many of the cases, and by a comparison with allied forms; and on this account we have the right to bring the races in question into our discussion.

Having advanced these suggestions in connection with this case of leucoderma, and having cited a number of examples of color and coloration in the animal kingdom, we will, without carrying the discussion further, sum up our views upon this subject as follows:

1. It is exceedingly difficult to draw a sharp line between individual variation and pathological lesions.

2. Many cases ascribed to pathology—as albinism, partial or complete, and some of the cases of leucoderma and canities—can equally well (and probably better) be looked upon as cases of extreme variation of the species.

3. Man should be looked upon as an animal under domestication, and we must accordingly be prepared to find an immense variation among the races and individuals.

4. Albinism, both partial and complete, leucoderma, and canities of man, all have their parallels among other domesticated and wild animals, in many of which they have become racial or even specific characters.

5. These characters must, however, have begun as individual variations, and there is no reason to doubt that if systematic breeding experiments were kept up for a sufficiently long period, with albinoes or leucoderms, or if these characters came into play in natural or sexual selection, races of albinoes or leucoderms in the human species could be established.

A PLEA AGAINST ACCOUCHEMENT FORCÉ IN THE TREATMENT OF PLACENTA PRÆVIA.

By JULIUS ROSENBERG, M.D.,

LECTURER ON OBSTETRICS IN THE NEW YORK POLYCLINIC; ATTENDING PHYSICIAN TO THE MOTHERS' AND BABIES' HOSPITAL.

THERE is of late a tendency to displace the tried and conservative treatment of placenta prævia by more radical and aggressive methods. Instead of arresting the hemorrhage by rupturing the membranes, tamponing of the vagina, or podalic version, according to the conditions found, it is considered good treatment to dilate the cervix with instruments or the fingers, and to empty the uterus with the greatest possible speed.

I doubt not that in the hands of a few exceptionally skilful men this treatment is often successful, but I do not hesitate to place myself on record in believing that its universal adoption will lead to the most deplorable results. The improvement in the methods of arresting post-partum hemorrhage, and the trust which is placed in antiseptic precautions, have made men bold and aggressive. Everything is now considered possible. The slow labor of old primapara is no longer slow, it is treated surgically. The cervix and vagina are dilated with the knife, and the unsuspecting child is rapidly dragged into existence.

Ultra-conservatism has given place to radicalism. The pendulum has swung from temporizing to the other extreme.

Symphyseotomy has been revived, and spreads like the whirlwind over the country. Everyone desires to do this operation, in spite of a mortality of about twelve per cent. and other consequences not mentioned in the glowing reports of successful operations.

I do not wish to belittle the glorious advances made in the obstetric art. I am opposed to hesitating and procrastinating methods if rapid and decisive action is clearly indicated. Should radical treatment give better results, then away with conservatism; it is obsolete and harmful. But I deny that the accouchement forcé is a superior method, even in the most skilful hands, to the treatment hitherto employed in placenta prævia; its great dangers in this complication must be obvious to all.

Although I have not a long list of cases to report, I believe it my duty to publish these few cases, carefully observed, in both hospital and private practice. They will serve to illustrate that the conservative methods are free from the dangers which necessarily accompany the rapid emptying of the uterus.

What are the best methods of treatment in placenta prævia? The Braxton-Hicks method of version serves admirably in many cases. If the cervix admits two fingers and the child is movable above the brim, version may be performed and the bleeding surface compressed by the breech. Then the case must be left to nature. Should the bleeding continue, traction upon the foot ought to be made. The child thus left in utero will frequently perish (I believe the mortality is about sixty per cent.), but we should beware, lest we be tempted to resort to rapid extraction. Besides the threatening post-partum hemorrhage, there is the danger from cervical lacerations. The branches of the uterine artery are enormously dilated in placenta prævia. The succulent cervical tissues tear easily, and a fatal hemorrhage may follow the hasty delivery of the child.

The following cases are to the point:

CASE I. (Observed in the Dresden Maternity.)—A X.-para, aged forty-three, was brought to the hospital in a condition bordering on collapse. She had bled very profusely. The doctor who had attended her at home had tamponed the vagina. The pelvis was normal. The child in left occiput anterior position. Head movable. The os admits three fingers. Placenta prævia centralis. As the woman was flooding, the Braxton-Hicks method of version was immediately performed. It was not necessary to perforate the placenta, all hemorrhage ceased as soon as the breech was fixed in the lower uterine segment. Three hours later, when the os had fully dilated, a dead child was easily extracted. The woman left the hospital on the thirteenth day.

CASE II.—V.-para, aged thirty-six. I was called by a midwife to see a woman who was flooding. The child was in L. O. A. position; the head movable above the brim. Slight labor pains. The os admitted three fingers. A piece of placenta could be felt in the cervix. I performed bi-manual version, ruptured the membranes, and brought down a foot. All bleeding ceased. I then left the further progress of the case to nature. There was slight bleeding at times, which was stopped by traction upon the foot. After waiting two hours, a healthy living boy was born. There was no further hemorrhage, and the woman passed through a normal puerperium.

CASE III.—VI.-para, aged thirty-four. I was called to see a woman who had been in labor twelve hours and was bleeding. I found a child in L. O. A. position. The os was dilated to the size of a silver dollar, a piece of placental tissue could be felt on its right margin. The membranes were yet intact, but bi-manual version was quite difficult, because the head was not very movable. I finally succeeded in bringing down the right foot. Two hours later an asphyxiated child was delivered, which I was able to resuscitate. There was no hemorrhage after the version. The puerperium was normal.

CASE IV. (Dresden Maternity.)—VI.-para, aged thirty-six. Normal pelvis; child in R. O. A. position. The patient had slight vaginal hemorrhage for several days, which was always arrested through vaginal tampons. Her brother, who is a physician, suspecting placenta prævia, insisted upon her going to a hospital.

When the patient was admitted, the os was dilated a little more than a silver dollar. The margins of the cervix were thick. Lateral placenta prævia. As the patient was again bleeding, podalic version was performed, succeeded by the immediate extraction of a living child. A very severe hemorrhage followed the delivery. The

uterus well contracted; therefore the hemorrhage was due to cervical lacerations. The cervix was seized with volsellum forceps, brought into view, and the bleeding vessels were rapidly ligated; the whole manipulation certainly taking not more than two minutes. But the loss of blood had been enormous; the patient did not rally from the collapse in spite of active stimulation and saline infusions. She died two hours post-partum.

It is my firm belief that this unfortunate woman would have been saved if, after the performance of version, the case had been left to nature. The child might have perished, but what is a child's life compared to that of a mother?

In many cases the simple rupture of the membranes suffices. It is indicated if the presenting part has entered or will easily enter the lower uterine segment. Should the bleeding stop, the case must be left alone. If the hemorrhage continues, a firm vaginal tampon will compress the bleeding surface against the fixed head. In cases in which the cervix is fully dilated we may proceed to immediate delivery.

Case V. (Dresden Maternity.)—II.-para, aged twenty-seven; in the seventh month of gestation. Was brought to the hospital bleeding freely. Pelvis normal, vertex presentation. Head had entered the pelvis, os nearly fully dilated. Placenta prævia lateralis. Upon rupturing the membranes, the head descended and the hemorrhage ceased. The case was left to nature. The birth of the child followed thirty minutes after the rupture of the membranes. Patient left the hospital on the ninth day.

Case VI. (Dresden Maternity.)—I.-para, aged twenty-one. Normal pelvis; os fully dilated; child in L. O. A. position; membranes intact; marginal placenta prævia. Hemorrhage ceased upon rupturing the membranes. Thirty minutes later a living child was born. The patient left the hospital on the tenth day.

Case VII. (Dresden Maternity.)—XXI.-para, aged forty-three; vertex presentation. Patient was brought to the hospital in an extremely anæmic condition. Radial pulse barely perceptible. Marginal placenta prævia; os fully dilated. The rupture of the membranes was succeeded by the rapid expulsion of a dead child. Patient left the hospital on the tenth day.

Case VIII.—III.-para in the seventh month of pregnancy. Dr. H. G. Locke kindly asked me to see this patient with him. She had been flooding for several hours. The child was in breech presentation. The os admitted one finger. A large piece of placenta occupied the cervix. She was in fairly good condition, the bleeding had almost ceased. Labor pains were frequent. An hour later the flooding became again profuse, and as the os was now fully dilated I ruptured the membranes. The breech immediately descended and a living, but premature, child was easily delivered. No further hemorrhage.

Here I report seven cases of placenta prævia without a single mishap. The eighth would also have recovered, if, after the version had been performed, the woman had been left alone. Under this conservative mode of treatment, the mortality in the large lying-in hospitals of Germany is about four per cent. Better results can certainly not be expected from the accouchement forcé. The accouchement forcé necessitates the prolonged and repeated introduction of the hand into the uterus. This increases the dangers from puerperal fever, shock, and air-embolism. Have we a right to subject our patients to these added dangers?

After all, what are the advantages of the accouchement forcé in placenta prævia? In what particular point is it superior to other methods? The hemorrhage we can control through version, the vaginal tampon, or the rupture of the membranes. The dangers to the child are not diminished. That it is a more rapid method I will grant, but this plea hardly justifies such a hazardous operation.

I am not opposed to the accouchement forcé. In desperate cases of eclampsia and accidental hemorrhage, it is always a legitimate operation, often absolutely demanded. But we must hesitate before resorting to it in placenta prævia, a complication in which it is exceptionally dangerous, and where other and better measures are at our disposal.

109 East Seventy-first Street.

A NEW METHOD OF ADMINISTERING CREOSOTE.[1]

By REYNOLD W. WILCOX, M.D., LL.D.,

New York.

Professor of Clinical Medicine and Therapeutics at the New York Post-Graduate Medical School and Hospital; Attending Physician to St. Mark's Hospital.

At the present time most clinicians are in accord in believing that creosote is a most valuable remedy for pulmonary tuberculosis. That it is a specific probably no one claims, but that of all remedies it gives the fewest disappointments we will admit. The literature is extensive; a bibliography to 1893, by no means complete, records more than two hundred authors of a far larger number of papers. From the time of its discovery and use by Reichenbach, in 1833, until it passed out of vogue in 1853, there was ample evidence of its value if we may so infer from the papers of Grandjean, Breschet, and Bertholet, Mignet and Wolf, 1834; Cless and Cortoni, 1835; Pétrequin, Martin-Solon, and Koebler, 1836; Rampold, 1837; Inmann, 1851; Verbeck and Debout, 1852. That it fell into disuse was believed to be from the presence of impurities and the practice of administering too small a dose. Since Bouchard and Gimbert reintroduced the drug, in 1877, the principal question has been how to introduce the drug into the organism in sufficiently large quantities, for it is a well-known fact that a daily dosage of three drachms, and usually far less, when administered by the stomach, gives rise to untoward, even poisonous, symptoms. Bourget proved that on those parts where creosote capsules were dissolved, local circumscribed inflammations were produced. Of the earlier literature after its revival, the most important papers are by Sommerbrodt, Fraentzel, Reuss, Pick, Guttmann, Horner, Lublinsky, and Robinson, in 1878. My own use of this remedy is coextensive with the entire time of my practice of medicine. That the administration by way of the stomach has been found insufficient is shown by the various substitutes proposed: Rectum, Bourget, 1889; subcutaneously, Du Castel, 1882; frictions, Bourget, 1889; by way of the respiratory passages—inhalations—Labbée, 1879; laryngeal applications, Cadier, 1878; intra-tracheal injections, Beehag, 1888; intra-pulmonary injections, Lépine and Truc, 1885. By subcutaneous injection excellent results have been obtained, but this method presents many inconveniences; it requires much time, it necessitates a special and expensive apparatus, it is hardly to be employed except in hospitals, so that in spite of the excellent paper of Gimbert, in 1891, this method has attracted but little attention. In 1893 Audeoud presented a carefully written monograph upon the use of the rectum as the channel for the administration of the drug. This method also yielded good results, but its inconveniences are very considerable, and it is doubtful if it will be a practicable method for the physician. It has been sought to overcome the defects of creosote by the substitution of various preparations of the remedy. Such modifications have been made by Valzer (guaiacol benzoate), by Haas (cinnamic ether of guaiacol, which has been called styracol), by Giacosa (carbonic ether of guaiacol), by Hölscher and Seifert (carbonate of guaiacol), and finally by various physicians, guaiacol. Good beechwood creosote contains from sixty to ninety per cent. of guaiacol. My own experience has been that guaiacol, in dose proportionate to its percentage in creosote, is by no means efficient in pulmonary tuberculosis; even in equal dose I have not found it to be of the same value as the crude drug. So that the general opinion seems to be

[1] Read before the Lenox Medical Society, February 12, 1894.

that it is the beech-wood creosote, the complex body, which possesses the greatest value. We believe, as does Sommerbrodt, that the more of the drug the patient can bear without injury, the more benefit will he derive, and the sooner will the tubercular process be controlled. Hitherto I have been most successful in the use of it in the form of enteric pills, *i.e.*, pills made up with paraffin or ones coated with keratin. In some cases I have used in addition the mixture of creosote, alcohol, and chloroform (Robinson) for inhalation. Even with enteric pills, gastric irritation, backache, and malaise are not unknown. The use of creosote in soluble capsules with cod-liver oil, as was so strongly recommended by Sommerbrodt, I have long since abandoned on account of the nauseous eructations of the oil. In spite of all its disadvantages I have adhered to the use of creosote, for the five thousand cases of Sommerbrodt (1887) to which he has recently added his later experience, and the seventeen hundred of Von Brunn (1888) are too strong evidence to be lightly set aside. In spite of the many cases where toxic symptoms, even alarming ones, have arisen, and the recently reported case of Freudenthal is an example, I believe we are justified in continuing to use this remedy although we do not attribute to it any anti-bacillary properties. Notwithstanding that it is probably useless in acute tuberculosis, in tubercular pleuritis and enteritis, and that it is contra-indicated in acute and chronic nephritis, and in certain cases of idiosyncrasy, there is an ample field for its employment. Several years ago the carbonate of creosote, that is, beech-wood creosote (ninety-two per cent.) in chemical combination with carbonic acid (eight per cent.) was discovered in the scientific laboratory of Dr. F. von Heyden's successors at Radebeul, near Dresden, who have named it creosotal. As you see from the specimen, it is a clear, pale, almost colorless liquid of sirupy consistency, becoming thinner by heat. It is insoluble in water, but soluble in alcohol or in four to five parts of cod-liver or olive oil. It has a slight odor of creosote, and an oily, slightly tarry taste, which is in marked contrast to the burning taste of creosote. It can be administered clear, or, as it is said—but of this I have had no personal experience—by hypodermic injection, the precautions being taken to use a large needle, and to reduce the consistency of the liquid by heat. It can also be administered in the form of an emulsion, one half to two drachms being beaten up with the yolk of an egg, diluted with water, and flavored with any aromatic sirup. During the past three months I have found the administration by means of gelatine capsules, either hard or soft, from ten to twenty minims in each one, to be eminently satisfactory. There is no doubt about the elimination of creosote carbonate by the respiratory tract—the breath gives ample evidence. It is also excreted by the urine, although in what proportion it is at present impossible to state, for the estimations have not been made. Two drachms per day, even on the first day, may cause the urine to become dark green. So far as I know, this is the only symptom to which it gives rise, and it is simply an indication to diminish the dose to one half of its former size. According to my observations it does not produce malaise, nor irritation of stomach or of intestines. It is stated that it does not produce any diarrhœa, and also that if a diarrhœa exist, it is without effect upon it. The first part of this statement I believe to be correct, the latter I have not had an opportunity to verify. We have no doubt as to the fact that it is non poisonous; the important question is, Is it as efficacious as creosote? Chaumier used it in eight cases with equal success so far as the lesions were concerned. My own observations confirm his. Since the creosote carbonate contains ninety per cent. of creosote, the dose may be considered to be practically identical. Fifteen to twenty drops per day is probably sufficient for children; adults will bear one to two drachms, even four drachms per day in divided doses may not be excessive.

706 Madison Avenue, February 1, 1894

THE ROCKY MOUNTAIN REGION, ESPECIALLY NEW MEXICO.

By FRANCIS W. GALLAGHER, M.D.,

EL PASO, TEX.

To the invalid whose hope for health is in change of air and scene, and to the physician whose duty it may be to direct him to that locality where his chances of recovery will be greatest, the subject of climate must ever be of the first importance. While weather charts and weather statistics may serve a useful purpose in the libraries which will go down to future generations to give some imaginable idea of the climatic conditions under which their fathers lived—serving to show that the mean annual temperature at some locality, between a polar cold for some part of the year and a torrid heat for some other part, was a delightful medium which never really did exist at that locality except in the happy blending of the averages of figures; while I say they may be useful for this purpose, they are but rudimentary means of obtaining useful information, not only as to the climatic influences which exist at any given point, but also as to the value of those conditions applied to any particular case of disease. When a patient with tuberculosis is sent from sea-level and the damp clayey soils where his disease had its beginning, to almost anywhere in the Rocky Mountain region, and he continues to have the good care and treatment we will hope he received at home, his chances for recovery under the new surroundings are vastly improved. Still this indefinite advice to seek the mountain country is not sufficient, and the time must come when intelligent direction will be given to the district (I do not use this word in a limited sense, as applying to city or town) where the possibilities for him are the greatest; for it is important to bear in mind that consumption is a dread enemy with whom there can be no compromise, for here truly the wages of imprudence is death, and the most vigilant are oftentimes overcome. Having arrived in the mountain country, to then ascertain the locality best suited to his crippled physical needs, the patient, at great expense and inconvenience of travel, must largely determine for himself after he has found the weather chart and fund of information, derived from articles of special pleading, a delusion and a snare. To the invalid of means this is not so serious a matter; in fact, the constant change of scene and environment may be conducive to a healthy stimulation of the weakened constitution, but to the unfortunate weighed down by disease, unable to work, and with only a limited store to help him through months of weary struggle back to health, the knowledge of the lean and shrinking pocketbook is often the very potent factor producing a state of mind antagonistic to his physical well-being, and the weight in the balance which carries him in an unequal struggle to the grave. I have not undertaken this article with the design of equalling much which has been written on the subject of climate for the consumptive, but with the hope that I may be able to add some little to the general fund of information on the subject, derived from a residence of nearly four years along the Rockys of Colorado and New Mexico, and from the personal effects of this region on pulmonary tuberculosis, and also with the further hope that it may be the means of directing the increased attention of the profession to the Territories of New Mexico and Arizona, as affording to the consumptive a more genial and health-giving climate for portions of the year than the more northern mountain country. My shifting residence during this time has extended from Denver on the north to El Paso on the south, and west into the Territory of Arizona. The conditions best suited to the improvement of the tuberculous patient vary with his idiosyncrasies and the progress the disease has made, and somewhat also on the form the disease has taken on. However, it has become almost axiomatic with those who have had the largest opportunities for observing results, that a dry air, sunshine in abundance, and some elevation above sea-level, are some of the climatic essentials in the treatment of pulmonary consumption in any form. No-

where in the United States are these essentials found as in that expanse of territory embracing Colorado, New Mexico, and Arizona. Patients in the early stages of phthisis, or those with the pretubercular state, will make no mistake in selecting a home almost anywhere within those bounds. There is, however, another class, on whom the disease has already made marked headway, and who have inherited a constitution which poorly withstands the shock of the ice-laden, bitter winds, and low temperature of portions of this region. Such patients, if blessed with abundant means, may be the privileged possessors of just such climate as suits each mood, for within this extent of territory may be found, in the procession of the seasons, every degree of luxurious, and at the same time health-giving, climate the most captious might desire. During June and July he will find somewhere in Colorado every wish as to climate gratified; during August, September, and October, he will, in Northern New Mexico, find the Mecca of his desires; during October and November, through Central New Mexico and Northern Arizona, he may breathe the balsamic laden air from pine-covered hills and bask in the sunshine of an absolutely cloudless sky; during December, January, February, and March he will find in Southern New Mexico and Southern Arizona a climate so genial that no cause for complaint can be found; and finally, during April and May, he will find in all that country in Southern New Mexico and adjacent territory, extending one hundred miles north of the boundary of Old Mexico, a land of perpetual sunshine, free from the now too ardent rays of the Arizona sun and the chill which comes from the snow-capped mountains of Colorado. Physicians resident in this mountain country, oftentimes with no intention to misstate the facts, but inspired, doubtless, by that sentiment which Scott glorifies:

> "Breathes there the man, with soul so dead,
> Who never to himself hath said,
> This is my own, my native land!"

are unconsciously influenced in their public writings by a loyalty and love for home which conceals the whole truth in regard to that special spot of ground of which they write. Colorado, for instance, deserves every kind word which has ever been written of her by doting sons; thousands of people owe restoration to health, to friends and family to her kindly care. She was the pioneer in the blessings which the Rocky Mountain region is dispensing with lavish generosity to the afflicted who seek its valleys and mountain sides for health. For years she alone constituted the "Rocky Mountain Region," and when her newer-born sisters to the south, in their good time, by their alluring claims to the consideration of the invalid, began to catch the overflow from her teeming health-resorts, and from responsive hearts began to go forth the glad acclaim, "A new land of promise found," her doting sons, many of whom found not only health but wealth within her borders, and jealous of divided honors with their queen of States, rallied in her honor, and through medical and secular press cried out and still cry out: "There is no other land whose sun is half so bright, whose skies are half so blue." While we admire the loyalty of this spirit, let us remember too that the mission of the medical profession knows no geographical lines, and that what it seeks is the greatest good of each who looks to it for help, and when conditions favorable or unfavorable are found, it is its duty to so proclaim for good or ill. That there is no part of Colorado which for the entire year is best suited to the majority of delicate and impressionable consumptives, while the disease is still in its active stage, I think all who are acquainted with the facts, and who do not allow their devotion to home to bias their opinions, will admit. During interrupted portions of the winter, at the most noted of the Colorado health-resorts, the weather is beautiful and everything to be desired, but following a week of such weather at either Colorado Springs or Denver, may come another week which will rival a small arctic circle and interdict, for the invalid, any attempt at out door life. During the October and November of 1892, for instance, I walked at Colorado Springs in damp and chilly air, through slush and melting snow, and in Denver for days preceding Christmas the weather was bitterly cold, with an ice-laden wind and a thermometer ranging often, in the mornings, many degrees below zero. Rubber boots and gossamers were at a premium when they were not replaced by arctic shoes and fur coats. In both cities I conversed with physicians who, under stress of prevailing circumstances, sarcastically commented on the character of those "health-resorts." Northern New Mexico, at an altitude of six thousand feet and higher, is also cold, and has snow in abundance. I have seen more than a foot of snow on the level, remaining on the ground for a week and more, at an altitude of seven thousand feet, at this same time of year; but in New Mexico one never experiences the bitter driving winds occasionally felt at Denver and vicinity. In fact, after having crossed the Raton range, which one does at an altitude of seventy six hundred feet by the Santa Fé Railroad, and which at this point is the boundary line between Colorado on the north and New Mexico on the south, he seems to have left behind him the essence of the northern winter, that piercing cruel wind, the blizzard, to which only the heartiest constitutions can react. In conclusion, then, I would address the profession in behalf of that large class of invalids who are forced to make some one section their home while awaiting the health-giving touch of kind mother nature, and in their interests I would say that, for a home for the twelve months of the year, no portion of the territory comprised in the country known as "The Rocky Mountain Region" is at all comparable to New Mexico. Over her whole territory is found a zenith almost perpetually cloudless. The atmosphere is dryer than in any other part of the Union, excepting portions of Arizona, and within her boundaries any altitude from three thousand to ten thousand feet may be found. To those who may wish to enjoy some winter weather, Northern New Mexico will afford that natural seasonal change they desire, while for others who are willing to endure a little hotter summer than they would otherwise care for, to secure for themselves a winter which is a continued and delightful spring, the southern portion of the Territory will answer every demand; and between these two geographical extremes, comprising a line from north to south of more than three hundred and fifty miles, and with variations of altitude within the limits named above, one may find a number of modifications of the two examples given. The possibilities of New Mexico for the seekers after health are yet largely unrecognized, and time will win for her a crown as bright as her never-failing sun.

REPORT OF A CASE OF IMPERFORATE HYMEN WITH THE RETENTION OF MENSTRUAL BLOOD—TOGETHER WITH REMARKS UPON THE QUESTION OF THE PHYSICAL EXAMINATION OF YOUNG GIRLS.

By CHARLES P. NOBLE, M.D.,

PHILADELPHIA, PA.

SURGEON-IN-CHIEF OF THE KENSINGTON HOSPITAL FOR WOMEN, PHILADELPHIA.

THE case which I will report herewith is of interest not only because of its comparative rarity, but also because of the lesson which it teaches with reference to the necessity of using good judgment in deciding whether to make a local examination in the case of young unmarried women who are complaining of symptoms referable to the sexual organs.

Mary S——, aged fifteen, of Bucks County, Pa., was brought to me by her physician, Dr. J. H. Bishop. I found her fairly well developed for her age, and well nourished. She gave the following history: She had always been well until within three months. Three months ago she suffered for about a week with cramp-like pains in the pelvis; at the end of four weeks she

again had the same symptoms, but in a somewhat exaggerated degree; again, at the end of four weeks she was taken with similar pains, which lasted, however, for three weeks. At the same time she observed that her abdomen was increasing in size. The physician who was in attendance looked upon the case as one of approaching puberty, and assured the family that in a little while menstruation would appear and all would be well. But as she was quite sick the family became dissatisfied and called in Dr. Bishop. He examined her abdomen, found a large mass to be present, suspected an ovarian tumor, and brought her to see me. On palpating the abdomen, three well-marked masses could be made out. The largest one was central and about the size of a four-months' pregnancy. The lateral masses were similar, but distinctly palpable. Upon examining the vulvar region it was found that the hymen was imperforate—a somewhat thick membrane blocking up absolutely the vaginal orifice. This membrane was quite congested, and what appeared to be dark fluid could be seen through it. The examination per rectum showed the presence of a cystic mass at the proper site of the vagina. A diagnosis of imperforate hymen with hemato colpos metra and salpinx was made. The patient was admitted to the Kensington Hospital for Women, and on November 27, 1893, the hymen was excised and the contents of the vagina permitted to flow out. The uterus was so fixed that it was difficult to find the cervix, and owing to the distention of the tubes it was not considered wise to use much force in searching for the os. After a time, however, this was found, and steadied by catching the cervix with the bullet forceps, while a two-way catheter was introduced and the uterus was irrigated. It is scarcely necessary to say that the operation was performed under rigid asepsis. An antiseptic occlusion pad was placed over the vulva, and the girl put to bed, with the expectation that the blood which was contained in the tubes would drain away through the uterus and vagina. A suppository of iodoform was kept in the vagina, which was douched twice daily with a weak bichloride solution. The patient did quite well until the sixth day, when she developed septic symptoms. The temperature ran up to 103.2° F. and the pulse to 120. At the same time she developed a cutaneous eruption so closely resembling that of measles, that this disease was suspected by some of the house-staff, more especially as the conjunctivæ were injected and a mild coryza was present. This rash disappeared within twenty-four hours. It probably was a manifestation of sepsis, but as the patient was taking quinine, and also as iodoform was being used per vaginam, it is barely possible that it was a drug eruption. Although the temperature and pulse continued elevated, and there was some tympany, the patient expressed herself as feeling pretty well, and after a few days the symptoms entirely subsided and she made an uninterrupted convalescence. She continued to have a bloody discharge for four weeks, which gradually became less until it ceased. She was discharged on December 23d, with instruction to report within two months.

A careful examination per vaginam on the day before her discharge disclosed the following conditions: The hymen absent, the vagina much thickened, and its muscular wall evidently much hypertrophied; the uterus enlarged and drawn to the left, and its mobility much below the normal. The Fallopian tubes, as such, could not be outlined; the large lateral masses which were present before the operation had disappeared.

The prognosis in this case, of course, is somewhat doubtful. The tubes may be so much damaged that they will never become normal; but, on the other hand, such adhesions as are present may be absorbed, leaving the tubes in such a condition as to make pregnancy possible.

The question of when to examine young unmarried women who are suffering from symptoms referable to the sexual organs, and when to treat such women by general measures, is one of those questions constantly being brought to the attention of the busy practitioner. In my judgment, there is no question which requires more careful study on the part of the practitioner, if, on the one hand, he would avoid an unnecessary shock to the maidenly modesty of his patient, and, on the other hand, if he would avoid the even greater evil of permitting serious organic disease to pursue its course to the great detriment of his patient, and possibly with the result of costing her her life. All judicious practitioners of experience will agree that it is unwise to make a pelvic examination in young unmarried women unless organic disease is present. It is very easy to lay down this broad rule for guidance, but when it is recalled that the only way to determine absolutely whether or not organic disease is present, is by means of a local examination, it is at once apparent that the whole question depends upon the good judgment and diagnostic instinct of the practitioner. My own rule is that, if the symptoms complained of are apparently of a trivial character, to study carefully the condition of the patient's general health, and to address my efforts toward the cure of whatever conditions may be present; those most frequently met with being anæmia, indigestion, constipation, neurasthenia, and emotional excitability. In this class of cases, if the patient does not improve and become well under judicious management, it then becomes necessary to make a local pelvic examination.

On the other hand, when the symptoms complained of are such as to point to marked local organic disease, the question as to whether the patient be married or single is of minor importance, as an unmarried woman has the same right to receive benefit from the resources of our art as has her married sister.

The question of how to make a physical examination in the unmarried, is also one demanding attention. In certain cases, I believe it to be wise to make the examination after the patient has been anæsthetized. This applies more especially to those women who express a great repugnance to the idea of submitting to a local examination, and especially to those who are of a highly neurotic temperament, including those who are hysterical. In such women it is very difficult to arrive at a satisfactory diagnosis as to the physical conditions present in the pelvis, without the use of anæsthesia. Many of them refuse to be passive, and either violently resist the examination, or, at least, are so nervous and agitated that they keep the abdominal muscles tense, so that the result of an examination, in many such cases, is simply that the patient is confirmed in her repugnance to the idea of submitting to local measures, and the physician is as much in ignorance as he was before he attempted the examination. Girls who are more phlegmatic and likewise more philosophical, will more generally submit patiently to what is necessary, so that a satisfactory examination is possible.

Anæsthesia as an aid to diagnosis in the diseases of women has here one of its most useful applications, and it goes without saying, that if what I have said be true of those who are specially skilled in genecology, it applies with greater force to the general practitioner, whose opportunities for acquiring special knowledge in diagnosis of the diseases of women is necessarily limited. In many cases examination per rectum will yield all necessary information, so that a vaginal exploration can be avoided.

The Therapeutic Value of Carica Papaya in Cancer.—Dr. Hirschfeld, of Brisbane, has been experimenting as to the value of papain, the digestive ferment contained in the juice of the unripe pawpaw apple, or carica papaya. He finds that it has no effect in checking the growth of cancer, but it has marked analgesic and antiseptic properties, and he explains the latter effect by its digestive action on the bacteria and on sloughing tissue, while it cannot affect living tissue in which blood is circulating.

The Kreutzer Sonata.—A young woman in St. Petersburg was driven to suicide by reading Tolstoï's Kreutzer Sonata.

Clinical Department.

A CASE OF ECTOPIC GESTATION—RUPTURE AT ABOUT ONE MONTH—IMMEDIATE LAPAROTOMY—RECOVERY.[1]

By W. M. SEWARD, M.D.,

NEW YORK.

Mrs. A——, from the country in Pennsylvania, married in 1891. On January, 1892, was delivered of a 3½-pound baby, which she had been nursing until the operation. On August 1, 1893, the patient was not feeling well, and on the 7th went to the country. A day or two later she had an attack of nausea and vomiting, lasting about seven or eight days, which she felt sure was due to some indiscretion of diet. On September 13th she menstruated, this being the first since the child was born. On September 28th she began to flow, the quantity equalling normal menstruation and lasting three days. After this there was a sanguineous discharge, which at times was replaced by a purulent one. Occasionally there would be no discharge for a day; after such times she would have slight cramps. The patient began to feel a pain in the right side about October 1st. The pain was almost constantly present, and gradually increased in intensity until Thursday, October 19th. On this day, at 11 P.M., while sewing, she felt severe cramps in her right side which necessitated her going to bed. I was sent for and found the patient suffering great pain; face not expressing any shock or loss of blood. Temperature normal; pulse about 100° F. The abdomen not distended. On vaginal examination I found os uteri soft, and slightly patulous, admitting the tip end of finger. The uterus was somewhat enlarged, and flabby. Palpation on left side revealed nothing abnormal, while on the right side the tenderness was so extreme that nothing more than slight thickening of the tissues could be made out. I ordered one-eighth of a grain of morphia, and an ice-bag to quiet the pain. On the next day the temperature was normal, and patient felt easier, and in evening at 11 was fairly comfortable. On following day, being thirty-six hours after my first visit, the patient felt much better, and wished to get up, but was advised to remain in bed. At 12 P.M. on Saturday night the patient again felt cramps, and more severely, too, than before. After the lapse of a few minutes she felt faint and vomited. I was at once sent for and found on my arrival the following symptoms: Marked pallor; skin bathed with cold perspiration; pulse 120, soft, and very feeble; patient suffering from air-hunger; the abdomen slightly distended, especially on the right side. Percussion revealed no special dulness. Vaginal examination gave same results as were obtained two days previously, except that there was a sensation imparted to the finger as if a semi-solid mass occupied Douglas's cul-de-sac.

An operation was at once advised and acceded to. I called in Drs. George W. Jarman and William J. Pulley, both of whom agreed with me that the only chance of saving the life lay in an operation. After very hasty preparation, and an attempt to render our surroundings as nearly aseptic as possible, which under the circumstances was no easy matter, the operation was performed as follows: Patient being etherized, abdomen was thoroughly scrubbed, and the field of operation surrounded with wet bichloride towels The usual incision, four inches long, extending through all the layers of the abdominal wall down to the peritoneum was made. The peritoneum being exposed, it presented a bluish-black appearance. By raising this up it was at once seen that this unusual color was due to fluid blood beneath the peritoneal layer. The peritoneum was opened, and blood, bright red in color, poured out over the abdominal walls. Underlying this free blood the interstices between the coils of intestines were filled with clots apparently of recent formation. The blood-clots being hastily removed with the hand the tube was sought, and in searching for it the index finger passed through a small opening, which was afterward found to be a ragged-edged opening into the tube itself. The tube was brought into view through the abdominal opening and free hemorrhage was still in progress from the edge of the opening in the tube. A clamp was at once made to grasp the broad ligament and tube between this opening and the uterine body. The hemorrhage being controlled, the tube, with its corresponding ovary, was secured by means of the usual interlocking ligature. The material used for this ligature was strong, softly twisted silk. The ligated mass was now removed. The patient at this time showed such feeble heart action that the pulse was with difficulty obtained at the wrist. Frequent hypodermic injections of brandy were administered. Realizing the importance of rapidly completing the operation, two quarts only of previously boiled water at a temperature of 116° F., were poured into the peritoneal cavity and hastily slushed out. Many clots escaped with this rapid washing. The cavity was not sponged dry, and a number of small clots were not removed, inasmuch as haste seemed to be a large factor in the safety to the patient; in addition to this, we felt confident that nature would be able to take care of and absorb the blood-clots and water which were left in the peritoneal cavity. The abdominal wall was closed with silkworm-gut ligatures passing through all the layers. An occlusive dressing of sterilized gauze and cotton was hastily adjusted, and held in place by an ordinary binder. The patient was put to bed in poor condition. No apparatus being at hand for the purpose of transfusion, an attempt was made to fill the depleted arteries and stimulate the enfeebled heart, by means of a rectal injection, consisting of six ounces of saline solution and one ounce of brandy; a hypodermic was also given, consisting of one eight grain of sulphate of morphia and one-sixth grain of sulphate of strychnia. The foot of the bed was elevated and hot-water bottles placed around the patient. In a short while the pulse became more perceptible at the wrist and less frequent. In the hurry, and owing to the unseasonable hour, about 3 A.M., the quantity of blood was not measured, the sole object being to save the patient's life; judging by the eye, however, it seemed to be about one quart. Drs. Jarman and Pulley concurring in this opinion.

The operation was completed in about twenty-five minutes. At 12 A.M. patient was in good condition; pulse, 130; temperature normal. At 5 P.M., pulse, 122; temperature normal. On the second day, 9 A.M., pulse, 132; temperature, 102½°; 6 P.M., pulse, 140; temperature, 102°. Third day, 9 A.M., temperature 103½°; pulse, 144. Dressing was removed and wound found to be in good condition. A fresh dressing was applied. 8 P.M., pulse, 130; temperature, 101½°. Fourth day, 9 A.M., temperature, 101°; pulse, 120. 9 P.M., temperature, 100° F.; pulse, 118.

The patient up to this time had been slightly delirious; probably from cerebral anæmia. On the fifth day the abnormal mental symptoms disappeared; A.M., temperature, 99°; pulse, 112. P.M., temperature, 98½°; pulse, 100. During the existence of the delirium, patient voided her urine involuntarily; but after consciousness returned it was necessary to resort to catherization for two days. Sixth day, pulse, 96, and temperature normal On this day an ordinary stimulating enema was given, which was followed by a normal movement and an escape of gas. After this time urine was passed normally. Seventh day, everything normal. Eighth day, dressing was removed and union of wound was found to be perfect. A fresh dressing was applied. On the tenth day the stitches were removed. The convalescence from this time was uneventful. At the end of two weeks from the time of operation the patient was allowed to sit up, and at the end of three weeks to walk about the room. She resumed her duties as housekeeper six weeks after the operation, and normal menstruation occurred December 4th to 7th.

126 East Eighty-sixth Street.

[1] Read before a meeting of the New York County Medical Society, February 26, 1894.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street.

New York, March 10, 1894.

THE NATIONAL QUARANTINE BILL.

THE bill to establish a Bureau of Public Health prepared by the National Quarantine Committee of the New York Academy of Medicine, has been fully revised and amended, and is now in proper shape for passage before both legislative branches at Washington. The present draft is the result of a wide-spread conference with medical societies and sanitary authorities over the country, and is calculated in the most general and effective way to reconcile previous differences, not only as to matters of detail, but as to other more essential features that appeared to deserve more candid and deliberate consideration.

As at present modified the bill establishes the Bureau of Public Health, not in the Treasury Department, as was at first proposed, but in the Department of the Interior, where it more properly belongs. At the same time the practical administration of maritime quarantine remains in the Treasury Department, in which it can command the experience and resources of the Marine Hospital Service.

Its original purposes and intention are fully set forth in the definition of the duties of the Bureau, and comprise the collection and diffusion of information upon all matters affecting the public health, including statistics of sickness and mortality in different States; the investigation by experimental and other methods of the causes and means of prevention of disease; the collection of information with regard to the prevalence of contagious and epidemic diseases in this and other countries; the publication of information thus obtained in a weekly bulletin; the preparation of rules and regulations for securing the best sanitary condition of vessels from foreign ports, and for the prevention of the introduction of infectious diseases into the United States, and their spread from one State into another, which rules when approved by the President shall have the force of law; the ascertaining by suitable inspection that these rules are properly enforced; the advising and informing the several departments of the government, and executives and health authorities of the several States on such questions as may be submitted by them to it, or whenever in the opinion of the Bureau such advice and information may tend to the preservation and improvement of the public health; and in general, to be the agent of the General Government in taking such action as will most effectually protect and promote the health of the people of the United States.

In order that these comprehensive and radical measures may be properly and efficiently carried out, it is further provided that the executive functions shall comprise an Advisory Council, consisting of one member, a physician, from each State, appointed by its governor, and a Commissioner of Public Health, who shall be an expert sanitarian, appointed by the President, who shall receive a salary of $6,000 per annum, and shall be the responsible head and executive of the Bureau.

It will thus be seen that while the responsibility for the administration of the affairs of the Bureau is placed as before in the hands of a Commissioner of Public Health, the Advisory Council is now composed of one representative from each State. In this way a more full and just representation of the sanitary knowledge and experience of all parts of the nation is secured than by the earlier plan, which gave a representation in the Advisory Council, not of each of the States, but of large and perhaps unwieldy groups of States forming the so-called sanitary districts. The Advisory Council is to meet in Washington at least once a year and its members receive no compensation other than their necessary expenses.

This is a rational and feasible measure, and well calculated to harmonize previous differences of opinion on executive points; at the same time the representation in the Board is thoroughly national and reasonably distributive.

In the matter of establishment of national quarantine here and abroad, no essential changes are proposed, while ample provision is made for helpful assistance to local health boards. In fact, nothing seems left to be desired in the way of making this proposed law the most perfect, from a national point of view, that has yet been offered for the approval of the legislators. It is a model of its kind as it stands, and we bespeak for it the heartiest approval of the medical profession, the unqualified endorsement of the sanitary authorities, and the substantial and intelligent support of the public.

The country sadly needs just such a central educating, stimulating, and harmonizing influence as this bill creates. It has needed it for a long time. And it is difficult to believe that a legislative proposal so universally beneficent in its nature and so wholly free from partisan ideas of any kind will meet with legitimate opposition, if it can once command a hearing amid the hubbub of many matters of far less intrinsic importance to the people of the United States.

The time for definite action has now arrived. The season for threatened epidemics is approaching, and after all the pains taken and labor expended upon the bill by the Committee of the Academy, and after the conclusive arguments that have been presented for the necessity of the measure, it would be a shame and a disgrace to a great country not to be suitably prepared for every possible emergency. We congratulate the Committee on its eminently successful work, and bespeak for it a becomingly high appreciation of its arduous and unselfish labors in the cause of public health, and the consequent interests of public safety.

The Physicians of the United States now number 118,453; New York leads, with 11,171; Pennsylvania has 9,310, and Illinois ranks third with 8,002.

A GRAND JURY AND A HOSPITAL.

THE question of the management of hospitals has received some interesting contributions at the hands of a Grand Jury. This jury paid a visit to the hospitals, and appear to have familiarized themselves with the details of hospital accommodation and construction in about one hundred and eighty minutes.

The Medical Board, after a long investigation, with the amplest opportunities for gaining the facts, reported that the diet was inadequate and poor in quality. In July, 1893, there were 540 cases of diarrhœa in a population of 1,800. Such figures mean bad food as plainly as two and two make four.

As to air space, the Workhouse hospital has 13,000 cubic feet of air and 23 beds, thus allowing 500 cubic feet per person. Now, all sanitary and hospital authorities agree that a hospital ward should allow about 1,300 cubic feet of air per bed, and a supply of 3,600 cubic feet of fresh air per hour.

As to nursing, there were, in a ward of thirty sick men, one trained nurse by day and one untrained nurse by night. In a properly equipped hospital there are at least four nurses for every ward of twenty beds. The Grand Jury had perhaps never seen a properly equipped hospital.

"By their fruits ye shall know them." The mortality-rate for the year 1893, at the Almshouse, was 646 deaths and 872 cases discharged alive, giving a ratio of forty-two per cent.

We cannot but think that the Grand Jury which found so little wrong with the management of the hospitals under investigation is one easily pleased, or easily misled.

POVERTY AND DISEASE AS STUDIES IN SOCIOLOGY.

THE study of sociology from the standpoints of heredity and disease, brings to the thoughtful student many significant facts for consideration. The causes of the survival of the un-fittest are thus plainly presented, and are suggestively fruitful of research. The physician, in his constant and intimate relations with the poor and sick, is naturally entitled to an opinion. Especially is this the case when he views his subject on the basis of broad principles, and on wide areas of comparison. We are consequently pleased to notice in these connections some interesting data and reasonable conclusions therefrom, which are offered by Dr. Henry D. Chapin, of this city, in a recent article in the *Forum*.

Of the two leading factors, heredity and environment, as explaining poverty and disease, Dr. Chapin is led to believe that the latter is the more important. So far as his observations have gone, such appears to be the case. Whether the conclusions can be assumed to be absolute or not, from necessarily limited statistical facts, they are at least somewhat novel to such as give their attention to the solution of questions of sociology.

Six hundred cases of children with various diseases and environment form the basis of the study. Of these a trifle over five hundred were in good condition at the time of birth, while half of that number were deprived of maternal nourishment before the proper time, and one-fifth had never received it at all, as the mothers were compelled to go out to work.

The inquiries into the condition of parents showed that the combined earning capacities of the families were, in 150 cases, between $5 and $10 per week, and in 117 cases, $5 or less per week. In many of the last class of cases a father and mother, with several children, were obliged to subsist on a weekly income of from $3 to $4. Of his 600 hospital children, only 100 died, leaving the other 500 to attempt the struggle for life for which they are in every way insufficiently prepared, cramped from the beginning of life by cold and hunger, and by their weakened physical condition inviting an invasion of those degenerative diseases which always, to a greater or lesser degree, handicap them in the subsequent life struggle.

The common history of poverty appeared to be that the man, unable to get steady work, either through fault of misfortune, after spending much of his time at a saloon, would suddenly leave for parts unknown. In such cases drinking habits were both a cause and an effect or misfortune. There is no doubt in the mind of the author that the saloon is the greatest curse to these people, in absorbing their scanty resources. Every saloon in a poor and densely populated neighborhood, meant so many neglected women, and pinched, ill-clad, suffering children. Among 200 cases in which direct inquiry was made, 14 were drunkards, 140 claimed to drink in moderation, 31 were abstainers, and the habits of fifteen were unknown. In a few cases husbands had been deserted by their wives. In many the poverty was extreme, as might be expected from the disinclination of even the poorest classes to leave an infant or very young child in a hospital.

In conclusion Dr. Chapin significantly remarks: "After much observation in hospital and dispensary, I am convinced that there is no specific for the poverty and ignorance that are so wide-spread. The cause, as well as the cure, must be individual and social. It is along these two lines that amelioration should take place. Whether there will actually be improvements depends largely upon the more intelligent and better favored classes. The first duty is toward the individual. He must be educated and strengthened, physically, mentally, and morally, so as to make the best of the resources at hand and thus have a better fighting chance. But individual improvement requires individual and prolonged work on the part of those who are better equipped. Comparatively few are willing to engage in such work. But the fault is not always or entirely with the individual. Our civilization has become too selfishly individualistic. The law of competition is pushed to its extremest limits. Here we have 117 families, in a small area of a city, with an earning capacity of from $2 to $5 per week, and ten per cent. of the entire inhabitants dying in the city have not accumulated enough in a lifetime to procure burial for themselves."

And yet the charitably disposed persist in working at the wrong end of the problem, by encouraging pauperism in the senseless wide-spread and indiscriminate distribution of so-called charity. Let us by all means, then, study the causes of poverty and disease that we may be able the better to apply the remedy.

Small-pox is so prevalent in Chicago that measures are advocated for a quarantine of fifteen days for suspected cases.

TO GIVE RANK TO THE ACTING ASSISTANT SURGEON.

On former occasions we have felt it our duty, in speaking for the rights of the late acting assistant surgeons of the army, to urge the removal of the disabilities under which they have so long labored. At last a bill has been introduced into Congress having such an end in view, and in which the following provisions are set forth:

"That private physicians who were employed as medical officers in the armies of the United States for a period of not less than three months, in accordance with paragraph 1268 of the Revised Regulations, United States Army, 1861, and paragraphs 1304 and 71, Appendix B, Revised Regulations, 1863, and who were known officially as acting assistant surgeons of the United States Army, and whose services were honorably terminated, shall be commissioned by the President of the United States as acting assistant surgeons of the United States Army; and the date of employment as acting assistant surgeons to be the date of commission and muster into service, and the date of the honorable termination of service as acting assistant surgeons to be the date of discharge or muster out of service: *Provided*, That no pay or allowance shall be made to any such acting assistant surgeon by virtue of this act; and this act shall not affect the rank, pay, or emoluments of commissioned medical officers of the United States Army."

The objects are legitimate and reasonable, and we trust that in justice to the good work done by this corps during the late war, the bill will receive a proper recognition.

COMPULSORY NOTIFICATION OF TUBERCULOSIS.

The Michigan State Board of Health has officially declared tuberculosis to be one of the "diseases dangerous to public health," and requires notification and registration of cases. The Board does not propose isolation, but apparently intends simply to send circulars of warning and information to every family or person found tuberculous.

The Pennsylvania State Board of Health is considering the plan of issuing a similar order, and considerable opposition seems to have been awakened among the Philadelphia physicians. The objection is that notification and registration of infected persons would create a panic, and do little good so long as quarantine and disinfection cannot be carried out. It is thought that every physician now-a-days who can recognize tuberculosis, can also prescribe efficient means for preventing its dissemination.

Dr. Da Costa says: "Why fix the brand of leper on a poor unfortunate because he has consumption, when the medical officer can do all that is necessary? He can instruct how to ventilate and keep the house pure, and how to disinfect the sputa. What more could a Board of Health do? What can it do, except in instances of death in which proper disinfection may not be carried out? When death has occurred, and when disinfection is not likely to be practised, it would be proper for the Board of Health to interfere. Under other circumstances, why should we place a stigma on the consumptive, why have him pursued from house to house, why have him a marked man, why have the house a marked one? Why give it a bad name and injure the landlord because there has been a death from consumption in it?"

Dr. J. S. Billings says, "If it were possible, by a systematic notification, for the Board of Health to locate a considerable number of these infected houses, what steps would it take to purify them? How would it deal with those of the poorer classes who are affected with this disease, and with their furniture, bedding, and rooms? Until these questions are answered, I do not find it possible to form a definite opinion as to whether it is worth while to put in force a compulsory system of notification.

Dr. Solis-Cohen is still more positively against the proposed regulation. Undoubtedly, compulsory notification would entail much distress of mind, yet it would be a most powerful means of stimulating the poor to cleanliness, and of educating them in the methods of preventing disease.

News of the Week.

Dr. F. Montizambert, of Toronto, Canada, has been appointed by the Dominion Government, General Superintendent of the Canadian Quarantine Service. No better choice could have been made for this responsible office.

Death of Dr. H. C. Cooper.—Henry Cooper Cooper, M.D., clerk of the faculty at the Medical College of the University of the City of New York, 410 East Twenty-sixth Street, died suddenly of heart disease, March 4th, aged sixty years. Dr. Cooper had held the post of clerk nearly eighteen years. He obtained his degree at the college, graduating in the class of '81.

Improper Treatment of Insane Patients.—Complaint has been made by the superintendent of the Kankakee Asylum, that insane patients are badly treated at the Chicago Detention Hospital. The report says: Female patients were compelled to submit to being disrobed by men. In other cases the straps used in restraining the patients were so carelessly put on, and such disregard of cleanliness was displayed, that in two cases the evidence indicates that death resulted from blood-poisoning.

Dovetailing Deficiencies.—At a recent meeting of the Hospital Graduates Club one of the members exhibited a man who had suffered total excision of the tongue and floor of the mouth for cancers, while another member showed a man whose larynx had been wholly removed for the same disease. Both of the patients could speak very intelligibly. While waiting in an adjoining room, before being shown, they scraped acquaintance, and when summoned were found engaged in animated conversation!

Death of Dr. F. G. Payn.—Dr. Frederick G. Payn died March 5th at his home in Bergen Point, from the effects of an operation for appendicitis performed for his relief several days before. Dr. Payn, who was in his seventieth year, was a native of England. About forty years ago he began to practise medicine in Bayonne. He was the first president of the Bayonne board of health. Upon the formation of the Bayonne hospital association, several years ago, he was made president of the board of physicians and surgeons. He was also for years a member of the medical staff of St. Francis Hospital, in Jersey City.

Quintuplets.—The wife of Mr. Rosenberger, of Kittanning, Pa., gave birth to five children on Wednesday of last week. The birthplace of the children, although curiously spelled, has a significant association with the event.

Death of Dr. Messemer.—Dr. M. J. B. Messemer, formerly coroner of this city, died of diabetes in Mentone, France, February 21st.

Hiccoughed his Teeth Loose.—We are nowadays hearing dreadful tales concerning the ravages of a new epidemic of hiccough. This time a Western paper reports the case of a Portland man who never took a drink of liquor in his life, but who hiccoughed for eighty hours, never lost a stroke, and loosened all his teeth; thus proving the energy of the terrible reflexes of his lower jaw, and the sustaining power of his restless diaphragm.

Twenty-eight Years Its Secretary.—General Emmons Clark celebrated, March 5th, the twenty-eighth anniversary of his appointment as Secretary of the Board of Health of this city, which office he has held continuously since the formation of the department. General Clark is the only one connected with the Board who was one of its original officers. We wish him many happy returns.

The Final Results of the Hyderabad Commission on Chloroform Anæsthesia.—The Secretary of his Highness the Nizam of Hyderabad has addressed a letter to W. H. Gaskell, M.D., F.R.S., and L. E. Shore, M.D., Cambridge University, and H. A. Hare, M.D., Professor of Therapeutics, and E. Q. Thornton, M.D., Demonstrator of Therapeutics, Jefferson Medical College, Philadelphia. The letter is dated Hyderabad, January, 1894. The letter goes over the history of the Hyderabad Commission's work on chloroform, and says: 5. The researches of the Hyderabad Commission confirmed Syme's principles. The Commission proved that: *a*. Chloroform and shock are incompatibles. It was found to be impossible to stop the action of the heart by any form of shock under chloroform. *b*. In death by chloroform the respiration always stops before the heart, which beats effectively for a considerable time after the breathing has ceased. *c*. The lowering of the blood-pressure which is produced by the narcotic action of chloroform is harmless, and cannot be due to weakening of the heart. *d*. Chloroform anæsthesia is free from risk. As long as the breathing is natural and regular, and the inhalation is not continued after anæsthesia is complete, over-dosing with chloroform is impossible. *e*. The pulse is never appreciably affected by chloroform, except through interference with the breathing or by over-dosing. 6. The experiments of the Hyderabad Commission did not satisfy the profession. The Commission's evidence of the absence of direct heart failure under chloroform was said to be wholly negative, and further experiments were rightly demanded in order to show the cause or causes of the fall of the blood pressure. 7. These experiments were undertaken on behalf of his Highness the Nizam's Government by two of the greatest living authorities on physiology and physiological therapeutics, Dr. Gaskell in England and Dr. H. A. Hare in America. Dr. Gaskell was assisted by Dr. Shore, and Dr. Hare by Dr. E. Q. Thornton. 8. The experiments of Drs. Hare and Thornton substantiated those of the Hyderabad Commission. They found that it is not possible "in lower animals (the dog) to cause cardiac death by the freest use of chloroform by inhalation, without first causing respiratory arrest. And their report concluded in the following terms: "We agree so heartily with Lawrie's conclusions" (which are those of the Hyderabad Commission) "that we print them below." 9. The value of Dr. Hare's report will be more thoroughly appreciated when it is remembered that it is directly opposed to the conclusions published, only four years ago, by himself and Professor H. C. Wood, of Philadelphia; and that it is also altogether opposed to the statement made by Professor Wood, at the Berlin International Medical Congress in August, 1890: "We definitely proved that in the dog chloroform has a distinct direct paralyzing influence on both respiration and circulation, and that in some cases the heart is arrested before respiration." 10. The fallacies of Professor Wood's experimental and clinical data were exposed in the *Lancet* and in the Hyderabad Commission's Report on Chloroform (page 274), and it is satisfactory to note that the report of Drs. Hare and Thornton indicates that they have convinced themselves that the opinions of Professor Wood were founded on error.

Cross-circulation experiments established the following facts in addition to those already made good by the Hyderabad Commission: *a*. Chloroform has no direct action on the heart or circulation. The heart can only be affected under chloroform by interference with the breathing or by overdosing, which is practically the same thing. Accordingly, it must be futile and dangerous to take the pulse as a guide to its effect. *b*. The lowering of the blood-pressure, which is caused by an effective dose of chloroform, is due entirely to its direct narcotic action on the brain, and is a safeguard to the heart, by dilating the smaller arteries and facilitating the flow of blood from the arterial to the venous system, thus diminishing its work and relieving it of strain. Syme's principles of chloroform administration are, therefore, physiologically correct, and there is no longer the shadow of an excuse for the impotent and dangerous "finger on the pulse while chloroform is given." The Nizam has directed that a piece of silver plate be sent to each of the gentlemen to whom the letter was addressed.

The College of Physicians and Surgeons, of Philadelphia, has apparently concluded to enter upon a new stage of development, by authorizing the organization of Sections among Fellows of the College, for the special consideration of different branches of medical practice. Last year the Ophthalmic Section was instituted and held regular meetings each month, at which much interest was shown and many good papers were read. The Orthopedic Section was formed next, and recently a Laryngological Section was organized which held its first meeting in January. On February 1st a Section on General Surgery was formed, and others are expected to follow shortly. The College is the owner of a fine building and a valuable library and museum, and is well equipped for entering upon an era of greater activity than it has ever hitherto witnessed in its long and honorable career. —*Journal of the American Medical Association.*

Consumption Contagious.—At the suggestion of Health Commissioner Emery, of Brooklyn, the Kings County Medical Society recently considered the proposi-

tion to place consumption on the list of contagious diseases, and subject to the usual restrictions. The report of the Society makes these recommendations: 1. That the secular press, circulars, etc., be utilized to educate the public, that pulmonary tuberculosis is an infectious disease, and that it is acquired by the direct transmission of tubercle bacilli from the phthisical to those who are in health, by means of the dried and pulverized sputum floating as dust in the air, and through infected meat and milk, and that it can be largely prevented by simple and easily applied measures of cleanliness and disinfection, and by sanitary control of the meat and milk supply. 2. That all public institutions, such as asylums, homes, hospitals, dispensaries, etc., be required to transmit to the Board of Health the names and addresses of all persons suffering from pulmonary tuberculosis within seven days after the time that a positive diagnosis can be made. 3. That the Health Department establish a hospital, to be known as the consumptive hospital, to be used for the exclusive care and special treatment of this disease, and that, so far as practicable, all inmates of other institutions suffering from pulmonary tuberculosis be transferred to this hospital. 4. That the Health Department undertake the bacteriological examination of the sputum for diagnosis in every case of pulmonary disease, of whatever character, in the hospitals or private dwellings or tenement-houses, when the physician in attendance desires that this be done; this procedure to be carried out with a view of obtaining definite knowledge upon which the proper sanitary surveillance of those suffering from tuberculosis can be based. 5. That whenever the Health Department has become aware of the existence of a house or premises where tuberculosis exists or recently existed (as in case of death or removal), it shall take such specific measures as are required in each case. 6. That the Health Department secure the passage of an ordinance by the Common Council of this city requiring corporations controlling public conveyance to frequently disinfect such parts of their property as are contaminated with expectorations. 7. That a special bureau be established, to be known as the bureau of pathology, bacteriology, and disinfection, for the proper performance of the work as detailed above, and to which shall be referred the investigation of all cases of infectious and contagious diseases that may require the attention of the Health Department. 8. That the Health Department cause a frequent examination of the milch-cows from which is derived the city's milk-supply, and the examination of the animals killed for food at the slaughter-houses of the city, and for that purpose only qualified veterinarians be employed. 9. That the Commissioners determine and limit the minimum of space to be allowed to cows furnishing milk to be sold in this city.

The Prospective Success of the International Medical Congress.—Already the number of "congressisti" announced as expected by the Secretary General is fully six thousand. It is contemplated to hold evening sittings, and for this purpose forty lamps furnished with electric light are in preparation. In the *locali* of the upper floor of the Palazzo the "Esposizione Internazionale d' Igiene e Prodotti Medicali" will be accommodated, space having been found for the specimens contributed by the five hundred exhibitors. Nothing can exceed the almost febrile activity with which these preparatory works are being prosecuted, while the new *locale* has certainly this advantage over the Policlinico that it is much more central—much nearer the principal hotels—and within easy hail of cab, tram-car, and omnibus. The proximity of the "International Exhibition of Hygiene and Medical Products" to the seat of the Congress is another convenience secured by the arrangement finally come to for the economy of time and the cost of conveyance.

Ambrose Paré.—It is not generally known that the origin of the great reputation of the father of French surgery, Ambrose Paré, was due to an incident that occurred at the siege of Boulogne sur-Mer. The Duc de Guise had been carried to his tent with a fearful wound, produced by the point of a lance. The lance had entered the cheek of the prince under the right eye, and passed out in the neck under the ear. The weapon broke in the wound. His surgeon, Ambrose Paré, arrived, and said to his assistants: "Gentlemen, the prince is not dead, but he will be soon in the other world unless, regardless of any respect for his person, I pull out at once this shaft from his head." Planting his foot on the face of the prince (!) he seized the piece of iron with his fingers, and after a considerable see-saw movement he succeeded in drawing it out. The prince recovered, and bore ever afterward the nickname of *Balafré*.

Medical Fortunes.—In Dr. Chesterfield's "Letters to His Son on Medicine as a Career," recently published by Sir William Dalby, it is stated "that at the same time in London there are not more than four or five general physicians, and perhaps half-a-dozen surgeons who make more than five or six thousand a year. The *British Medical Journal*, commenting on this, collects a number of items regarding the fortunes acquired by English physicians and surgeons. Dr. Mead left a library and other property valued at £50,000, but £20,000 in money. The personality of Sir Benjamin Brodie was sworn under £18,000, that of Sir William Lawrence under £40,000, and that of Dr. Murchison under £50,000, chiefly inherited. The will of Sir William Gull, which was sworn under £344,000, is generally quoted as the largest amount left by a member of the medical profession. This, however, was exceeded by Dr. Blundell, who died in 1877, and left a fortune of £350,000. Among other wills of six figures may be mentioned Sir Erasmus Wilson, £264,000; Sir Andrew Clark, £204,000; Sir Oscar Clayton, £146,000; Sir George Burrows, £104,628; Sir William Bowman, £103,948, and Sir C. Locock, £100,000. Sir Astley Cooper must have made a large sum by his practice; his income is said to have been £15,000 for many years, and in one year to have reached £21,000; his will was sworn under £80,000. Of the fortunes made by members of the medical profession, very little has been left to institutions connected with that body. A notable exception to this stands out in the munificent bequest of Sir Erasmus Wilson to the Royal College of Surgeons, by which that corporation received £200,000; in addition to this bequest, Sir Erasmus left £5,000 each to several institutions and charities connected with the medical profession.

A Bill has been introduced into the Ohio Legislature forbidding circumcision.

Reviews and Notices of Books.

THE DISEASES OF THE MALE ORGANS OF GENERATION. By W. H. A. JACOBSON, M.Ch. Oxon., F.R.C.S., Assistant Surgeon to Guy's Hospital. 8vo, pp. 758. Philadelphia: P. Blakiston, Son & Co. 1893.

THIS work refers to the surgery and pathology of the male genital organs, exclusively of syphilis and gonorrhœa. The author confines himself to the diseases of the testicle, scrotum, vesiculæ seminales, spermatic cord, and penis. In the treatment of each of the subjects he discusses their structure, anomalies, and pathological conditions, and the different recognized treatments therefor. The two latter divisions are particularly well considered, their discussion being strikingly elaborated by voluminous references to other authorities. While giving due credit to other observers the author is frank with his own methods, and gives the reader the results of his personal experience. Aside from the purely practical part of the work there is an almost exhaustive reference to rare pathological conditions of the different organs treated, and which is not to be found in any work of its kind. The illustrations, many of which are from the works of Curling and Osborn, are beautifully demonstrative, and serve to match the clear and terse style of the author.

No reference is made to disease of the prostate, for which omission the author apologizes on account of space. Still we hardly think this consideration should have been taken into account, in view of the uniform excellence of the work as it is, and the implied necessity of including every part pertaining to the general subject.

THERAPEUTICS OF CHOLERA. By P. C. MAJUMDÁR, M.D. Philadelphia: Boericke & Tafel. 1893.

THIS little work represents the "fruit of continual labors for fourteen years in the so-called home of cholera." The subject matter is confined to seventy-six pages abounding in orthodox homœopathic advice. The array of drugs to be employed for the multitudinous symptoms of cholera is truly bewildering to ordinary physicians; and yet the homœopath treats cholera with as much "success" as the regular doctor.

ESSENTIALS OF BACTERIOLOGY: Being a Concise and Systematic Introduction to the Study of Micro-organisms, for the Use of Students and Practitioners. By M. V. BALL, M.D., physician to the Eastern State Penitentiary at Philadelphia. Second edition, with eighty-one illustrations, some in colors, and five plates. Saunders's Question Compends. Philadelphia: W. B. Saunders. 1893.

THIS little work is precisely what it pretends to be, namely, an introduction to the study of modern bacteriology. The author has carefully compiled from recognized authorities those views which are generally received as having reached the maturity of facts. Mere opinions and theories are left out, and the student is not misled by being confronted with a mass of mere assumption. The work adequately fulfils the purposes for which it was written.

THE PRINCIPLES AND PRACTICE OF SURGERY. By JOHN ASHHURST, Jr., M.D., Barton Professor of Surgery and Clinical Surgery, University of Pennsylvania. Sixth edition. 8vo, pp. 1166. Philadelphia: Lea Brothers & Co. 1893.

THE present edition, which is the sixth, is enlarged by fifty pages and much new material has been introduced. The conciseness of the author has enabled him to crowd an immense amount of information into a comparatively small compass. While this necessarily interferes with detailed descriptions, more especially necessary for the beginner in surgery, increased opportunities are given for the reference to general principles which have been established in the author's mind after a long experience as a teacher and hospital surgeon. The work is profusely illustrated, contains one colored plate of streptococci, and some of the hackneyed historical cuts are replaced by new ones, mostly from the author's collection. The chapters on the eye, ear, and gynecology are excellent in their way, but are much too brief and unavoidably dogmatic to be of service to the student with one book on surgery. The part on surgical bacteriology, which is a new addition, is clearly and sufficiently presented, and is of proportionate value. In reference to some of the newer operations the author does not put himself in the advance with other writers; for instance, he does not approve of appendectomy, but only advocates operation for appendicitis when abscess has formed.

It is unnecessary to refer to the forcible style of the writer, which has been acquired by long experience as a contributor to surgical literature and a long service in practical teaching.

SYPHILIS: ITS TREATMENT BY INTRA-MUSCULAR INJECTIONS OF SOLUBLE MERCURIAL SALTS. By EDWARD COTTERELL, F.R.C.S., Eng., etc. Surgeon (Out-Patients) London Loch Hospital; Surgeon to the West End Hospital for Epilepsy and Diseases of the Nervous System; Surgeon to the Cancer Hospital, etc. London: John Bile & Sons. 1893.

THE author of this little brochure is a strong advocate of intra-muscular injections of sozoiodol of mercury in the treatment of syphilis, and he gives here his arguments in its favor and also his method of employing the salt. His plea is well and temperately expressed, and is likely to make converts.

SCIATIC NEURITIS: ITS PATHOLOGY AND TREATMENT. By ROBERT SIMPSON, L.R.C.P., L.R.C.S. Bristol: John Wright & Co. 1893.

THIS monograph is a plea for the more general adoption of massage as a therapeutic measure in cases of sciatica. The author has himself obtained such satisfactory results from this method that he naturally desires to see its employment become more frequent. He argues well and convincingly.

A Curious Phase of Professional Jealousy.—In this city it is not uncommon for two physicians to occupy the same house. In Western cities, a number of physicians sometimes occupy neighboring rooms in the same building. Contiguity is considered helpful rather than otherwise. But they do things differently in France. The Paris correspondent of *The Lancet* writes: "The tradition which sanctions the refusal of a French landlord to let rooms in his house to two persons pursuing identical or analogous callings, does not apparently extend to the medical profession. Those who, like myself, have acquired experience of apartment-hunting in Paris will know that, as a matter of fact, the presence of a *confrère* in any house constitutes almost invariably a bar to his own entrance therein; but that a landlord is within his right in 'taking in' two practitioners and even letting to them rooms on the same floor, is proved by a judgment recently delivered by the Fifth Chamber of the Civic Tribune of the Seine. Dr. S—— objected to the proximity of a new arrival, Dr. R——, and the intervention of the Syndicate of Doctors of the Department of the Seine, made at the request of Dr. S——, having failed to induce Dr. R—— to abandon his intention of taking the rooms, Dr. S—— sued his landlord for 10,000 francs damages, basing his action on the latter's verbal promise not to admit another practitioner into the same house. Seeing that the lease held by Dr. S—— contained no clause to that effect, the court non suited the complainant. *Apropos* of practitioners' residences, it may not be generally known that there exist in Paris no such 'doctors' streets' as, for example, Wimpole Street and Harley Street. Paris practitioners are not a gregarious class, and professional jealousy is, unfortunately, a not unknown quality."

Society Reports.

MEDICAL SOCIETY OF LONDON.

Suppurating Ovarian Cyst Communicating with the Rectum.—Mr. H. Cripps read a paper on four cases of suppurating ovarian cysts which had discharged into the rectum. In the first case the symptoms were acute pain in the left iliac region, which was soon followed by a swelling, and later by a copious discharge of pus per rectum. On examination the cervix was pushed to the left and a nodulated swelling could be felt. A small opening with ragged edges was found in the rectal wall. Drainage of the cyst through the vagina allowed the rectal fistula to heal. After a laparotomy and the the removal of two cysts the patient made a good recovery. The second patient had, two months previously, given birth to a child. Six weeks after this she felt something give way, and this was soon followed by a discharge of pus per rectum. Laparotomy showed a cyst apparently originating in the broad ligument and adherent to the bladder and rectum. Its removal was followed by a perfect recovery. The third case was one of tubal gestation communicating with the rectum in a woman of thirty. She had had three attacks of cramp-like pains, then the abdomen was opened and the sac and tube removed. The patient recovered. The fourth case of what was suspected to be old intra-peritoneal pelvic abscess died on the seventh day after the removal of a suppurating cyst in the broad ligament. These four cases were all that the writer had met in over one hundred cases of ovariotomy.

PATHOLOGICAL SOCIETY (LONDON).

Rupture of Sigmoid Flexure. — Mr. James Berry showed a sigmoid flexure which had become enormously distended, ulcerated, and perforated as the result of simple chronic constipation. There was no stricture or mechanical cause for the obstruction. The immediate attack of constipation which was followed by the rupture had been of ten days' duration. He regarded the dilatation of the intestine leading up to the rupture as purely passive.

Hermaphroditism.— Mr. E. Willett presented a specimen illustrating a well-marked example of hermaphroditism. The patient, a man forty-four years of age, married, and his wife had borne two children. In the pelvis between the two layers of the broad ligaments was an imperfect uterus and vagina. The scrotum contained two well-formed tunica vaginalis but no testes, as these were situated in the position normally occupied by the ovaries in the posterior layer of the broad ligament. From each testis a set of vasa efferentia led to form the globus major of the epididymis, and from the globus minor a convolute tube led to the side of the vagina. There was a solid Fallopian tube on each side going from the cornu of the uterus to the epididymis.

MEDICAL SOCIETY OF THE HOSPITALS (PARIS).

Variola and Vaccinia.—Dr. Juhel-Renoy said that variola and vaccinia had been considered clinical transformations of the same disease. In other words vaccinia had been considered to be a modified form of small pox. The Commission of Lyons presided over by Chanveau in 1835 had concluded the duality of these two affections. Meanwhile some experiments made in Germany since 1881, have tended to demonstrate the unity of the two affections. The writer, with the aid of his interne, Dr. Dupuy, made a series of experiments with a view of throwing some light on this question, and as the results of their experiments they are forced to the conviction of the duality of the two diseases.

Thyroid Feeding in Myxœdema.—Drs. Marie and Guerlain reported a case of myxœdema treated successfully by the administration of the sheep's thyroid and pointed out the accidents attending such treatment. The patient, a woman, had suffered with most pronounced symptoms of myxœdema for eight years. She was given what was supposed to be thyroids, for some time, without beneficial results, until a microscopical examination of the glands that were being used showed them to be the submaxillary. The real thyroid was then given, two glands at one dose. The next morning the temperature was 38° C. It continued to be elevated for two days, and later there was considerable perspiration, pricking sensations in the legs, and insomnia. A continuation of the thyroids aggravated these symptoms and the dose had to be lessened to one-half thyroid per diem. The amelioration of the myxœdematous condition was very prompt, and two months after the advent of the treatment the patient was entirely cured. The weight dropped from 102 kilos to 85 kilos. The mental symptoms kept pace in improvement with the physical. The readers of the paper emphasized the importance of this treatment and the necessity for care and prudence in its application.

BIOLOGICAL SOCIETY (PARIS).

Microbes in the Alimentary Tract.—Drs. Gilbert and Dominici read a paper on the number of microbes found normally in the digestive tract. They computed the number of microbes per milligramme in the fecal matter of two adult men. In one they found 67,000 microbes per milligramme, in the other 80,000. By a simple calculation it is seen that if the normal amount of fecal matter is 167 grammes that it will contain twelve thousand millions microbes. As to the relative number in different parts of the canal they attempted to compute by experimenting on dogs. One dog was killed two and a half hours, the other three and a half hours, after a full meal. In the stomach there were 49,000 for each cubic millimetre and in the duodenum 29,000. From the pylorus to the cæcum the number augumented progressively, so that in the jejunum there were 100,000 for each cubic millimetre. From the cæcum to the rectum there were 30,000. Contrary to the opinion generally held, their experiments prove that the acid of the gastric juice is not mortal to the microbes. Another interesting fact is the rapid decrease in the number of microbes the moment the great intestine is reached.

Diphtheritic Syphilides.—Drs. Hudelo and Bourges reported on the nature of the bacteria that are the cause of the formation of false membrane that forms on syphilides, their object being to demonstrate, if possible, an association with any single bacillus. They studied four new cases with the following results: In two cases the bacterium coli commune was found, in one the staphylococcus aureus, and in the other the streptococcus pyogenes associated with the staphylococcus aureus and albus. As they were able to isolate the bacterium coli commune in two cases, they believe it plays an important rôle in the formation of the false membrane.

Red Light on Small-pox.—It is announced that one of the small-pox pavilions at the Riverside Hospital on North Brother Island is to be fitted up with red glass windows, and with red-glass globes for the lights used at night, in accordance with the alleged discovery that the skin of small-pox patients is extremely sensitive to the violet-colored rays of light, and that it is these which give rise to the pitting. The experiments which it is claimed demonstrated this fact were made by Drs. Lindholm and Finsen, in the City Hospital, at Bergen, Norway. New York will therefore be the first city in this country to try the efficacy of the red light, which is the same as that used by photographers in developing sensitive plates.

The Central University of Kentucky.—On January 9th a new building for the Hospital College of Medicine and the Louisville College of Dentistry, which are departments of the university, was dedicated in Louisville.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, February 18, 1894.

SAMUEL B. W. MCLEOD, M.D., PRESIDENT, IN THE CHAIR.

President's Annual Address.—DR. MCLEOD, in his annual address, reviewed some of the work done by the association during the first ten years of its existence. It started its scientific work with a membership of about one hundred and nine. Meetings had been held monthly since, except during the summer. The attendance had been increasing, the average now being one hundred and forty members, or about one-sixth of the whole; the average attendance of medical bodies was about one fourth to one-sixth of the whole membership. Considering the manifold duties and engagements of medical men, the wonder was that the attendance had been so great, not that it had been no greater. There had also been an increase in the percentage of those who engaged in the scientific proceedings, either by presenting papers or participating in the discussions. An average of about nine had spoken each evening, but by no means always the same physicians. It was in the main a general practitioners' association, as it was desired to be.

So much had been said regarding higher medical education that the author thought it proper to refer to two subjects related thereto, and urged their practical application—the history and the science of correct reasoning. Historical examples of correct reasoning in medicine were found in the writings of Alonzo Clark, Watson, Bumstead, and others. The increasing influence of the profession in the community was shown by the fact that in Virginia there were ten physicians members of the legislature, by the work of health boards, etc. This influence would be still further enhanced if a cabinet officer should be appointed, as was recommended by the American Medical Association. The address also mentioned the work of the Aossciation of Railroad Surgeons and its value to science and to humanity. Its transactions contained especially valuable articles on injuries to the spine, so many cases of which came under the observation of railroad surgeons. Mention was also made of the organization of the medical staff of the national guard; also of the increase of insanity in proportion to the population. Referring to the prevention of that fatal malady, tuberculosis, he exclaimed, Let us be up and doing!

The formation of so many national and local associations was the outgrowth of the energy of our people, but there should be a combination of knowledge and unity of purpose. There were twenty national societies in America, not to mention local and State societies. It was almost impossible for one to attend all the societies in his own locality. There should be one association of which every practitioner in America should be a member—the American Medical Association.

A practical question was, What could we do the coming year to make our own association more useful? Many suggestions had been made and plans proposed, and some were under consideration; but it should be remembered that there were difficulties in the way of carrying out plans and ideas. There was always a conservative tendency, however strong might be the aggressive, and it should be remembered that the inhibitory nerves were just as important in their place as were those of acceleration in theirs.

Hydrogen Dioxide and Papoid in Pseudo-Membranous Inflammations.—DR. J. LEWIS SMITH read a paper on this subject. When B. W. Richardson began to experiment with peroxide of hydrogen in 1857 it was regarded as a chemical curiosity, and was soon forgotten after he published his first paper upon it in 1860. About thirty years elapsed when Dr. Squibb brought it prominently before the profession as the most powerful antiseptic and disinfectant. But it was found to have very disagreeable irritating properties, and believing these to be due to the acid which it contained, Dr. Smith had corresponded with Dr. Squibb, who gave the formula for making it, and as this covered six pages, it became evident that the process was not a very simple one and that some manufacturers would not take the pains to turn out a faultless article. Dr. Smith had also written Dr. Squibb whether the irritating properties due to sulphuric or phosphoric acid might not be neutralized by an alkali, and gave the formula which had been used in the New York Foundling Asylum. Dr. Squibb replied that the hydrogen dioxide had to be slightly acid if it was to be kept more than a few hours. If it were rendered neutral it would burst any ordinary bottle. But he added that Dr. Smith's proposition to add bicarbonate of soda was all right if it were done very near the time of using it. By keeping the bottle in a cool dark place, enough of the mixture could be made to last six or eight hours. For nearly a year, Dr. Smith said, they had used in the Foundling Asylum, in cases of diphtheria or pseudo-diphtheria, peroxide of hydrogen, prepared as follows: two ounces of peroxide of hydrogen in one bottle; fifteen grains of bicarbonate of sodium and two ounces of lime-water in another bottle. Take a teaspoonful from each bottle and mix together each time the nostrils and fauces were to be sprayed, or about every hour to every half hour. This did not smart nor irritate, for the alkali was sufficient not only to neutralize but to render the solution slightly alkaline. There was no agent which had such cleansing power as this in the removal of muco-pus from the fauces and nostrils, and it had given very satisfactory results at the Foundling Asylum, where, owing to the fact that the infants were farmed out, they had a great deal of diphtheria. He was unable to say how far it had solvent powers, which had been claimed for it by some, but by cleansing the surface it prepared it for the action of the papoid, of which he then proceeded to speak.

Papoid.—The digestive power of this agent had been fully investigated by Professor Chittenden, whose experiments demonstrated that it would digest coagulated egg-albumen in neutral or acid solutions; but its solvent powers were most marked in two to four per cent. of bicarbonate of sodium. Two to five minutes after the spraying with peroxide of hydrogen, papoid was applied to the diseased surface in diphtheria, being not only harmless, but believed to have solvent powers, for the results at the Foundling Asylum had been such that the sisters and physicians were unwilling to give it up. Out of 63 cases of true diphtheria, the Klebs-Loeffler bacillus having been found in all by Dr. Park, 50 recovered, which was regarded as a very favorable showing. The 13 deaths were from complications like broncho-pneumonia and acute nephritis, and not due to the primary disease. Treatment with these two agents appeared not only to destroy the bacilli, but also the toxin which produced paralysis, so that systemic infection or blood poisoning seemed not to take place if the treatment were begun early.

The author also referred to treatment of diphtheria by tincture of chloride of iron and pineapple juice, and stated that some European authorities had fallen back on vegetable acids, Professor Hennoch using acetic acid mostly.

DR. F. W. LESTER gave his experience at the Willard Parker Hospital. The great difficulty with peroxide of hydrogen had been that it was very irritating, even after free dilution. Not having been acquainted with Dr. Smith's formula, they had discarded the peroxide. They had also tried pineapple juice, giving it in teaspoonful doses, also as a spray, but they thought bichloride of mercury was better. This was used in a solution of 1 to 4,000 or 1 to 5,000 by irrigation, not by spray. The mortality from diphtheria at the Willard Parker Hospital during the four years he was there had been twenty four to twenty-five per cent., many of the cases having died soon after admission. Mild cases required little treatment.

DR. LEONARD LANDES read a paper, presumably in discussion of Dr. Smith's, but mostly on the general subject of diphtheria and its prevention.

Dr. J. Mount Bleyer said he had published a paper on peroxide of hydrogen in the Medical Record in 1886, having found it the strongest non-poisonous antiseptic then known. He, perhaps, was the first to advocate the irrigation method instead of the spray in all forms of clogged nares. He first cleansed the nostrils with lime-water, then used peroxide of hydrogen. He had not noticed irritating effects where iron, mercury, or other metallic substance had not been first used. Irrigation was made about once in fifteen minutes.

Dr. Hunter said he had been a student under Professor Chittenden, and according to his own observations and experiments, papoid had no digestive value. He expressed surprise that doctors lent the weight of their names to advertising useless remedies.

After some further discussion the next paper, "A Mechanical Demonstration of the Perfect Obstetrical Forceps," was read by Dr. James J. E. Maher, illustrated on the board and demonstrated on the manikin. A full description of the forceps and principle of their action can be found in the Medical Record, June 10, 1893.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

ALLEGED EXTRAVAGANCE OF THE ASYLUMS' BOARD—MORTALITY OF CASES IN FEVER HOSPITALS—STATISTICS IN LONDON AND LIVERPOOL—PROPOSED EXTENSION OF ST. BARTHOLOMEW'S HOSPITAL — DR. DICKENSON'S FAREWELL TO ST. GEORGE'S—TESTIMONIALS—CLINICAL SOCIETY—ADJOURNED DEBATE ON NEPHRECTOMY IN INFANCY — MULTIPLE EPITHELIOMATOUS FORMATIONS — ACUTE SUPPURATIVE PERITONITIS DUE TO APPENDICITIS.

London, February 17, 1894.

No little discontent has lately been expressed at the lavish expenditure of the Asylums' Board. Its fever hospitals have been crowded and the cry for more beds has been loud. Still the inhabitants of every district where it is proposed to plant another hospital are certain to object. The Board now proposes to spend £220,000 on another hospital at Shooter's Hill, and this sum does not include the site or the pumping machinery. No wonder the cry of extravagance has been raised, and considering this estimated cost is at the rate of £440 per bed, I cannot feel surprised if the outcry becomes louder.

There is, however, another side to the question, viz., the relative mortality of hospital and home cases. The statistics of our London fever hospitals have in this report excited much apprehension. The newspapers have disseminated alarming statements. It must, however, be remembered that several causes tend to increase the hospital mortality, one being the grave nature of many cases admitted, not a few dying within a short period. It has, nevertheless, to be acknowledged that the mortality has in many cases been seen to rise with the crowding of the wards. Attacks of diphtheria following scarlet fever increase in number whenever there is overcrowding, and are at once reduced when more space can be had. There is consequently much to be said in favor of giving plenty of space in any new hospital, and extension in this way means expenditure.

In reference to the mortality at the hospitals for infectious diseases, Liverpool seems to have obtained an enviable position. The Medical Officer of Health has just issued statistics showing that hospital treatment there has a less mortality than home treatment. Thus in the last three years the Liverpool hospital's mortality of scarlet fever was under six per cent., as against nine per cent. of those treated at home; and typhoid shows only twelve per cent. of hospital cases against nearly nineteen per cent. of home-treated patients.

Some land will probably be brought into the market for building purposes after the removal of Christ's Hospital, and it is suggested that a portion of this would be suitable for a much-needed extension of St. Bartholomew's Hospital. The out-patient department especially needs more accommodation. The college might be improved, and the resident staff and nurses have claims which demand consideration. The governors may well think it their duty to seize an opportunity of acquiring further space for their great hospital.

Dr. W. H. Dickenson's term of office as physician to St. George's Hospital having expired, he went round the wards for the last time on Monday last. Occasion was taken to furnish a demonstration of respect by a number of pupils—past and present—and friends accompanying him. Dr. Dickenson made some clinical remarks on some of the most interesting cases, one a very difficult one, mediastinal tumor, as to which he quoted Sir William Jenner's statement, that without external pulsation it is impossible to certainly diagnose thoracic aneurism. After the round the company followed Dr. Dickenson to the Board room, where he gave a brief address of farewell. Though he retires from the position of senior physician, the name will still be on the staff, for his son, Dr. Lee Dickenson, has been elected to the assistant physiciancy thus rendered vacant.

A committee has been formed to present a testimonial to Dr. Dickenson on his retirement, and will no doubt be successful. I do not much like the system of these testimonials, which has grown so much of late years. If one deserves such compliments, so does another, and it sometimes happens that retirements take place in rapid succession, and then colleagues and pupils begin to feel that a kind of tax is being levied, and some of these gentlemen can hardly afford to express their feelings through their pockets. I speak feelingly on the subject, having from circumstances been obliged to entertain a host of proposals to testimonialize my friends and acquaintances; and yet it requires real grit in men to enable them to refuse to succumb to the blandishments of promoters and secretaries of such committees.

At the Clinical Society, the adjourned discussion on the case of nephrectomy in an infant aged twenty-three months, was resumed on the 9th inst. by Mr. Bland Sutton, who held that these tumors were best let alone. He said a careful analysis of reported operations showed that more than one-half succumbed to the operation, and the lives of the survivors were rarely prolonged beyond a year, the longest being eighteen months, and of this there were only three instances. If the tumor removed by the author stood by itself it would probably be called a sarcoma, but a broad survey of sarcomata in children showed that they were characterized by peculiar kinds of tissue. Of these the most remarkable were large spindle cells transversely striated, resembling on section voluntary muscular fibres. Another form was cubical epithelium arranged as tubules or as solid columns. The presence of tubules was an almost constant feature of sarcomata arising in glands, and was due to enlargement of the tubular elements. In the renal sarcoma of infants these epithelial structures might be very abundant or almost absent. In the latter condition the tumor was very prone to contain striated spindle-cells in great abundance. It had occurred to him that tumors with abundant tubulæ might be less malignant than those in which striated spindles abounded, but further investigation did not support this view. There was nothing, in fact, in the histological characteristics of these tumors permitting anyone to distinguish between malignancy and non-malignancy. A case was recorded of a child whose tumor consisted almost entirely of the pseudo-muscle fibres, and a second case in which the histological characters were almost identical with those observed in the author's case. Both the children recovered from the operation and lived eighteen and fourteen months, respectively, so that it was obviously impossible to venture on a prognosis. The idea, therefore, that the non-recurrence of the tumor in the author's case had any connection with its histological structure, fell to the ground.

In both these cases the tumors were removed by simple enucleation out of the capsule, so that the removal of the capsule as an explanation of the immunity in the author's case must also be discarded. Considering the risks inseparable from the removal of these tumors along with the capsule, in infants, he said that they were increased two or three times when the capsule was removed as well. He doubted, therefore, whether it was desirable to attempt to get away the capsule. He thought, moreover, that there was no more reason to bring the ureter outside than there was to bring the tied end of a Fallopian tube outside, and he suggested that the tied ureter might very well be left to take care of itself. He further pointed out that surgeons removed tumors, 1, when there was pain; 2, when their presence gave rise to inconvenience; and, 3, when their existence threatened life. These renal sarcomata in children were painless, and could hardly be said to give rise to inconvenience. They certainly threatened life, but then chances of prolonging life by operation were very remote and the immediate risks of the operation great.

Mr. Alban Doran quoted Dr. Spencer's investigations, which showed that, out of one hundred and twenty stillborn infants, thirty-eight had hemorrhage in or around the kidney; in twenty-two the hemorrhage was in the capsule of the kidney, and in a few partly within and partly without the substance of the kidney. There was good reason to believe that these hemorrhages were often intrauterine, and he urged that they might prove the origin of sarcomatous growths and malignant tumors.

Mr. Malcolm, in reply, said that he saw no reason why these tumors should not be dealt with on ordinary surgical principles, and the removal of the investing membrane would be thought indispensable in operating on sarcoma elsewhere. He did not believe, moreover, that it added much risk to remove the capsule at the same time. He pointed out that the end of the Fallopian tube was surrounded by peritoneum, which was not the case with the end of the ureter; the former, moreover, was a tissue that most readily underwent repair.

Mr. Arbuthnot Lane then read an account of a case of "Multiple Epitheliomatous Formations Occurring at Different Periods in a Patient Suffering from Psoriasis in Infancy," and who had for thirty years been treated with Fowler's solution. Mr. Lane also read the notes of a case of "General Acute Suppurative Peritonitis Due to Appendicitis." On exploring the abdomen all the viscera were seen to be intensely injected, to move freely upon one another, and to be covered by a thin layer of pus, which was most obvious where the viscera came into apposition. The inflammation seemed to be equally intense everywhere, and there seemed no adhesions. On examining the right iliac fossa a very large appendix was found lying immediately internal to the anterior superior spine. It was exposed by an incision made over it, when it was found to be about as large as a thumb, intensely hard and congested, and to form part of a wall of a localized abscess cavity with adjacent viscera. It was evident that the general peritonitis resulted from the rupture of this abscess cavity. The appendix was removed and was found to be intact. It had no smell whatever, neither had the pus in its immediate vicinity. Of many cases like it this was the first he had saved. Some other members mentioned cases they had operated on and which had recovered.

A Catarrh Snuff.—The following is recommended by a writer in a French journal as a useful remedy for acute coryza:

℞. Salol	gr. xv.
Salicylic acid	gr. iij.
Boric acid	ʒ j.
Tannin	ʒ ijss.

Sig.: To be used as a snuff in the early stage of an acute rhinitis.

Anticylic Acid is the name of one of the most recent antipyretics and antiseptics.

OUR ROMAN LETTER.

(From Our Special Correspondent.)

STEAMSHIP LINES TO THE MEDITERRANEAN—RAILWAY JOURNEY FROM GENOA AND NAPLES TO ROME—HOTEL AND BOARDING-HOUSE ACCOMMODATIONS—FURNISHED APARTMENTS—CABS AND OMNIBUSES—CLIMATE OF ROME—PREPARATORY WORK OF THE CONGRESS.

Rome, February 22, 1894.

It is probable that most American physicians coming to Rome will take a steamer direct to Genoa or Naples, thereby avoiding the long and rather tedious railway journey across the Continent. There are three boats of the German Mediterranean Line which may be taken by those who wish to attend the Congress; these are the Fulda, sailing from New York on March 3d, and due in Genoa on the 14th; the Columbia, sailing the 10th, arriving in Naples the 21st and in Genoa the day following, and the Kaiser Wilhelm II., which leaves New York March 17th and arrives in Genoa the 28th, the day before the opening of the Congress. There are also three other lines to the Mediterranean, the Anchor, the Florio-Rubattino, and the Fabre, the sailing dates of whose vessels may be learned upon application to the officers of the companies in New York or to any of the agencies of Thomas Cook & Son. These boats are slower and the fares are not so high.

The journey from Genoa to Rome is made in eleven hours, the fair being $12.25 first class and $8.55 second class. There is a dining-car attached to the day train at Pisa, in which a very fair dinner may be had for 5 francs without wine. On the night-train there is a sleeping-car (not very comfortable) for which an extra charge of 16 frances ($3.20) per berth above the first-class fare is made; passengers holding second-class tickets are not admitted to the sleeping-cars. With a travelling rug and a pillow (the latter can be hired for one franc at the station in Genoa) one can be nearly as comfortable in an ordinary railway carriage as in a sleeper, provided a party of two can secure a compartment to themselves.

From Naples to Rome is a journey of four and a half to five hours, the fare being $5.60 first class and $3.90 second class. There is a sleeping-car on the night train, extra fare for berth nine francs above the first-class railway fare. The figures above given are for the regular fare, but for those who are accredited members of the Congress a very notable reduction will be made by the Italian railway companies.

There is abundant hotel and boarding house accommodation for visitors in Rome at ordinary times, but if the attendance at the Congress is as large as is now anticipated, those who come late may have considerable difficulty in finding comfortable quarters. Those who are wise will engage rooms in advance, either by writing themselves to the hotel they prefer, or by making application to the nearest agency of Thomas Cook & Son. The managers of the Congress have placed the matter of providing hotel accommodations for the members in the hands of this firm. The local agent of the company in Rome has engaged rooms and board in the various hotels and pensions for from one thousand five hundred to two thousand visitors at prices ranging from 12 fr. 50c. ($2.50) upward, according to location. Many applications have already been received, and those who wish to be sure of comfortable lodgings in a convenient quarter of the city would do well to write at once to the nearest agency of the company, stating the number of persons in the party and their relationship, whether single men or women, married couples, etc., and the price they are willing to pay. This company has also arranged for a number of excursions to Southern Italy and Sicily, before and after the Congress, and also for carriage drives and lectures upon the ruins of Rome. The rates for these excursions for independent travellers, or personally conducted parties, may be obtained upon application to any of the offices of the company in America. Those who intend to spend more than the Congress week in Rome, might find it to

their advantage to take furnished lodgings in some convenient neighborhood and get their meals at the restaurants, of which there are many in the city. A good furnished apartment of two rooms can be had for about one hundred and fifty lire ($30) per month, or fifty or sixty lire ($10 to $12) a week, if taken for a shorter period than one month. The morning coffee costs about one lire, breakfast (the noon meal) from two to four lire, and dinner from three to five lire. Coffee and wine at the two principal meals are extra, about 20 centimes for black coffee, and one to three lire for a small bottle of native wine.

Those who do not care to go out for their meals may have breakfast and dinner sent to their rooms from a neighboring *trattoria* (caterer's). Two persons may live in this way for from seven to ten lire per meal, exclusive of wine, bread, fruit, and cheese.

Furnished rooms as well as hotel accommodations may be secured through Thomas Cook & Son, but this mode of living is not to be recommended to those who do not propose to spend two or three weeks at least in Rome, or to those whose acquaintance with Italian is not equal to the expression of the ordinary wants of life.

The cabs in Rome, as in most European cities, are cheap as compared with those in New York. For a drive to any part of the city inside of the walls, the fare is eighty centimes for a one-horse open carriage, one lire for a coupé, and two lire for a two-horse carriage. When taken by the hour the rates for the three classes of conveyances are 2, 2.25, and 3 lire respectively. After sun-down the fares are about twenty per cent. higher. The regulations for drivers outside any of the gates of the city are somewhat complicated, and it is always well to make a bargain before starting. Omnibus and street-car lines run from all the principal squares in various directions, the fares being 10 or 15 centimes, according to the distance.

The climate of Rome during March is not very pleasant, because of its changeableness and the high winds. The Scirocco and the Tramontana (the southerly and the northerly winds) are contending for the mastery, and though the former conquers in the end it experiences many reverses during the struggle, and man suffers from the alternation of warm and cold, wet and dry days, almost all of them windy. The mean temperature for the month is about 50° F. April, on the other hand, is, after October, the pleasantest month in the year. There is much bright sunshine, the weather is mild and not very changeable, and the vegetation of the surrounding Campagna is glorious. One needs warm clothing, however, even then, for the air in the interior of churches and galleries is cold and, on entering them from the warm sunlight one feels a peculiar chill and is glad of the protection of a light overcoat.

The work of preparing for the Congress is going rapidly forward and everything promises to be in readiness before the visitors begin to come in. Receptions and entertainments are provided for every evening, one of them being a public reception on the Capitoline, with an illumination of the surrounding buildings and ruins, and no effort will be spared to make this congress a memorable one in the history of similar gatherings.

FISH AND PTOMAÏNE.

To the Editor of the Medical Record.

Sir: Having read in your edition of January 6, 1894, an account of what was supposed to be a "peculiar case of atropine poisoning," I am led to report a similar case which occurred in my practice only a short time ago, which was caused by eating so-called fresh fish, and which substantiates the facts quoted by Dr. A. W. Herzog in your issue of February 3, 1894.

The patient, a lady, married, of good physique, and naturally very healthy, was suddenly seized with violent pain in the epigastrium soon after partaking of her evening meal, and as the pain grew constantly worse, I was summoned in great haste to her house and found her in great agony. Her pulse was very rapid, face flushed, pupils widely dilated, so much so that the first thing she said to me was, "Oh, doctor, I can't see." She had also vomited several times, and upon inquiring as to what she had eaten for supper, she told me they had fresh fish, of which she had eaten quite heartily, and in less than a half-hour was seized with this pain, which gradually grew worse. I at once made the diagnosis of ptomaïne poisoning caused by eating fish which was not very fresh, and treated her accordingly. She made a good recovery in about three days, and has been well ever since.

Her husband also ate a little of the same fish and had some of the same symptoms, but not so marked.

Now, the point which this case illustrates very clearly is, that ptomaïnes do cause nearly the same symptoms as atropine when taken into the stomach in sufficient quantity to enter the circulation, and that our friend, Dr. H. H. Seelye, of Amherst, Mass., must have been mistaken in his diagnosis.

L. C. Osmun, M.D.

Hackettstown, N. J.

THE THERAPEUTIC VALUE OF SARSAPARILLA.

To the Editor of the Medical Record.

Sir: In an editorial of your issue of February 17th, you deny the existence of any ingredients in the official sarsaparilla root to which medicinal activity may be referred. In thus denouncing an old remedy without proper investigation, you do sarsaparilla injustice.

On page 53 of Maisch's "Organic Materia Medica," you will find a reliable analysis of the drug, and further, that it contains one-fifth of one per cent. of a glucoside called parillin, and that it is irritant. This irritant action might be made use of therapeutically, in large doses, as an emetic and purgative, which action is an effort of the vital forces to throw out an offending substance. In smaller doses vomiting and purging is not induced, the parillin is absorbed, and the vital forces find it necessary to excrete the irritant substance through the various emunctories of the body, viz., the kidneys, skin, lungs, etc. During this excretory process it is not unreasonable to suppose that the activity of these special organs is greatly increased, and that other offending substances are at the same time thrown out of the body, and thus the old empirical use of the remedy in rheumatism, syphilis, skin diseases, etc., is justified and its beneficial action explained.

This is true not alone of sarsaparilla, but of a number of other official drugs also, as for instance, xanthoxylum, stillengia, taraxacum, senega, apocynum, and a host of others. The presence of these excretory stimulants in the Pharmacopœia is therefore not without good reason.

Pittsburgh, Pa. Adolph Koenig, M.D.

ARE DISPENSARIES TO BE OR NOT TO BE?

To the Editor of the Medical Record.

Sir: In order to come to a mutual understanding about the much-ventilated dispensary question, we must only ask ourselves, "Is the public benefited by their existence?" The question whether one or the other physician is pecuniarily injured by them should not and must not be considered.

No doubt, in most cases patients derive much benefit by going to dispensaries, hence they are good, and what is good has a right to exist and will exist in spite of all aggression. The public in general calling at dispensaries belongs to the middle and lower classes; but let me say right here that I am well aware of the fact that some dispensaries are also frequented by people who can very well afford to pay a doctor or a specialist; but these are few and the exception, for they fear to be seen by somebody who knows them. Every dispensary physician will admit that by far the greatest portion of patients consists of incurables or chronics, some of whom had their doctors until they found themselves *vis-à-vis de rien*.

The specialist in the dispensaries also knows that very few of his clients would be able to pay his price at his office, and for certain reasons he would not care to have them all call at his office for free treatment.

Again, there is a certain class of people going to dispensaries who suffer from imaginary diseases, others to have the diagnosis of their family physician verified, and others are sent to the specialist in the dispensaries by their family physician, and their number is legion.

We, as physicians, cannot blame people who go to a dispensary, because it is not more than right for any woman to take a sick child to a place where it is treated free, if by the operation one and a half to two dollars can be saved, which is possibly all the husband gets for ten hours' hard work.

On the other hand, most all people understand well enough: 1. That in going to a dispensary they cannot be treated as carefully as when they call their family physician at home, and he explains things thoroughly. 2. That sitting for hours among a lot of sick people, a contagion of some kind may be acquired. 3. That if patient should get worse, in most all cases the dispensary doctors cannot be procured, as they mostly live out of their way.

The criticism, then, exercised toward the dispensary doctor, and dispensaries in general, by the doctor who is called in, is in most cases an unmerciful one. Even if the patient should die one or two weeks afterward, the dispensary is blamed for it.

The public in general, in this country, is as a rule very impatient. If there is a patient in a family this fact is discussed at once on the street, in the stores, and everybody recommends their own doctor. In some cases all are called in turn, each one abusing his predecessor. If the patient, in spite of this medical tourney, gets well, the last attending physician gets the credit; if the patient should die he is called his murderer, and this is his recompense for his ungentleman-like behavior toward his brother-practitioners.

Now, fellow practitioners, let us be satisfied that: 1. There is yet a certain class of people who ought to go to dispensaries, but who have too much pride about the matter. 2. That we are still called in in certain diseases, as eruptive fevers (small-pox, typhus, etc.), inflammatory diseases, confinements. 3. And that all doctors with now gilt-edged practices had to commence small, that after they have gone the way of all flesh, that there is hope for us, the younger generation.

The great howl of many doctors (who do not belong to dispensaries), that these institutions are the ruination of their practice, is nothing but egotism and jealousy toward men who, by having worked for years in dispensaries, have acquired a good standing among the profession, and who have derived possibly therefrom some material benefit.

What do we learn from the aforesaid? 1. That the number of physicians now existing is more than enough to cope with all the ailments affecting humanity for the next ten years. 2. That, if a young man studies medicine in order to acquire wealth, he makes a great mistake. Only after years of thorough studying and hard work will he be able to make a living for himself and family. 3. That in order to become known to the public he will have to join one or more dispensaries, or must have good social qualities, or must start a dispensary for himself. 4. That a Thomas or Emmet, a Virchow or Billroth, a Lister or Harvey, and a Charcot or Pasteur, are not born every day.

Respectfully,

H. F. Eichacker, M.D.

66 Cannon Street.

Coca.—The quantities of coca exported during 1892 were as follows: London, 2,672 pounds; Hamburgh, 932 pounds; New York, 221 pounds. The total amount was 3,825 pounds, valued at 400,000 francs. Coca leaves are exported principally from the province of Huanuco in Peru.

THE RELATIONS OF VEGETABLE DIET TO GROWTH.

To the Editor of the Medical Record

Sir: In reply to the criticism of George R. Elliott, M.D., which appeared in your issue of February 10th, kindly permit the following:

In writing my essay it was not my intention to be the propounder of a new theory but to give the results of: first, observation, then research; I have observed from nature, searched for proof in chemistry and brought facts from ethnography.

Have I really made such statements in my essay as Dr. Elliott pretends to have found? "Neither climate nor heredity directly influence . . ." I said; the word "directly" he seemingly overlooked.

At the end of his criticism he says: "No amount of vegetables would make the Esquimau large." I spoke of vegetables only as they contained earthy salts, which produced height; it is not the vegetable but the earthy salts it contains.

In how far can Dr. Elliott see a *direct* connection between climate and stature; upon what physiological process would he like to base his opinion? Is it probably due to a reflex action or a sympathy between that frigid Boreas and those unfortunate Greenlanders? That climate has its share in influencing man's stature is unquestionable, but it acts indirectly. A cold climate restricts or prevents the entire plant life from developing or growing and the poor inhabitants have to take refuge in other eatables.

Regarding the Patagonian, L. Figuier ("The Human Race") says: "If the poor little one is judged worthy to live (elsewise the new-born is exposed by its parents) its mother nurses it until it is three years old; and according to Ratzel (Völkerkunde), they subsist on the products of the chase, wild fruits, roots, and berries. We see, then, that the fundamental three-years' milk course is supplemented later by fruits, roots, and berries. They have consequently received in infancy the necessary foundation, and later they live on a mixed diet and not exclusively on meat.

Concerning the North American Indian, Ratzel says: "of roots they eat the Levisia rediviva, Apios tuberosa, Lupinus littoralis and several species of Oenothera. Of the edible mushrooms they like the so-called 'Indian potato,' Lycoperdon solidum, which occasionally weighs as much as thirty pounds. As salads and vegetables they eat the leaves of various kinds of Leontodon, Chenopodium quinoa, Phytolacca decandria, and Caltha palustris . . . a favorite food of the Wintun is clover."

From the report of the Smithsonian Institution for 1885–86, page 41, I beg to quote: "The accounts of some of the early explorers in the Southern United States mention cornfields of great extent; the Iroquois and some of the Ohio valley tribes also raised corn in great quantities." In the report for 1888, "On the Indians of the Northwest Coast," it says, page 276, "Fish and berries form the staff of life among the Indians of this region. Any kind of meat of wild animals is eaten when procurable. Roots, herbs, berries, and snails are among the luxuries of the summer season. Raspberries, salmon berries, salal, and thimble berries abound late in the summer. Some of these are collected and dried for winter's use, forming, with the dried fish, the principal winter's supply. . . . The inner bark of the spruce and hemlock forms an important part of the food supply of the Haida, Tlingit and Tsimshian; the southern Indian eats pine bark."

It seems, then, that neither the Patagonians nor the North American Indians are indifferent to Flora's rich donations. Why they should prefer hunger rather than reach after the voluptuous looking fruits and other products of the earth abundantly surrounding them, would be very strange, but fortunately it is not the case.

Dr. Elliott finds a connection between barbarism and inferiority of size. He also speaks of the Khirgiz, Kamstschadales and the Bushman as, "small irrespective of

diet," and of the Ostiaks that they are short-legged notwithstanding their being by no means flesh-eating tribes; but his statements are opposed by R. G. Latham, L. Figuier, and F. Ratzel, who describe those tribes as distinctly carnivorous.

But besides, it is not the mere fact that because one is a vegetarian he must be tall, or *vice versa*. All depends upon at what age one has been carnivorous or herbivorous; once the epiphyses have been united by bone to the apophyses the stature remains. In reference to the large heads of the herbivora, I admit not having expressed myself clearly. I meant to differentiate the cranium proper from what represents in them the face; it is this latter part that is so much more developed in the herbivora.

Concerning the rhinoceros as an example of herbivorous brevity, they seem to conform with our old *nulla regula sine exceptione*, but nature knows no exceptions, there must exist some cause of which I am yet ignorant. All is well that ends well. After Dr. Elliott eloquently refuted my statements, after he cut me down on the climate, Patagonian, North American, Indian, Khirgiz, and all their sisters and their cousins and their aunts, he finally says: "Through the modern process of selection and training the dray-horse is made to lose his gigantic digestive apparatus, etc. . . ." *Si tacuisset!* So he finally contradicts himself, saying that the artificial training of the dray-horse makes him change his stature in spite of the climate, altitude, and heredity.

Once more allow me to dwell, in brief, on climate. While climate is quite a factor in affecting man's stature empirically, yet it is never the direct and immediate cause; while the Esquimau is forced by reason of his climate to live on animals, his land not giving him any vegetables, save various species of moss, he is not necessarily excluded from obtaining a vegetable diet; while his climate forces him to live packed together in a highly vitiated atmosphere impregnated with disease, yet this condition is not unavoidable. No man can be, unavoidably or irremediably, forced by nature; nature must always yield to science.

MARK I. KNAPP.

NEW YORK, March 1, 1894.

PERMANGANATE OF MORPHIA AS AN ANTIDOTE FOR MORPHINE-POISONING.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the MEDICAL RECORD of February 17th I see an article from Dr. William Moor, of New York, claiming that potassium permanganate is an antidote for morphine poisoning. Several weeks since an account of the doctor's daring deed of swallowing three grains of morphine and then four grains of the potassium permanganate appeared in a New York paper; subsequently an account of several experiments made by him, and a number of other physicians, upon rabbits with these drugs appeared in the same journal. It was claimed that these experiments satisfactorily proved the efficacy of permanganate of potassium as an antidote in cases of morphine poisoning.

Of course a newspaper is an unreliable source from which to gain information regarding scientific experiments. However, the doctor refers in his article to encouraging experiments upon rabbits confirming his beliefs, hence, naturally, some credence is given to the newspaper article. According to this report one grain of morphine was given to a rabbit by the mouth through a flexible tube; a gastric fistula was then established, and within about three hours the animal was dead.

Rabbit No. 2 was given a similar quantity hypodermically, and in fifteen minutes three-fourths of a grain of permanganate of potassium, and in fifteen minutes more one-third of a grain more of the antidote was similarly administered, and within two hours the rabbit had practically recovered from the effects of the morphine. The same result was obtained, so the account goes, in two other rabbits to which had been administered by the stomach two grains and five grains of morphine respectively, the latter being termed the *pièce de resistance* "of the day," the morphine poisoning yielding readily to the influence of the permanganate of potassium. Another article brings a corroboration of Dr. Moor's investigations from several St. Louis physicians, who used dogs as their subjects, giving as a maximum dose by the mouth six grains of morphine.

Noting these interesting accounts I was led to make some personal investigations along this line, and as yet must acknowledge that my results have not been as satisfactory as those reached by others, though my eyes have been opened to the comparative harmlessness of exceedingly large doses of sulphate of morphia in certain of the lower animals. So far I have been unable to discover a fatal dose of morphine for either a dog or rabbit, and hence cannot accept anything as a "sure cure" until the drug first is proven poisonous to the animal experimented upon. I do not mean to say that dogs and rabbits cannot be killed by morphine, for, of course, they can; but I do say that the doses which these articles referred to state that the physicians have used will not kill either dog or rabbit, and hence, no one can know whether their recovery has been due to the so-called antidote or to natural causes.

On February 15th, in the presence of Drs. M. L. Wood and J. H. Noftel, of this city, I gave a dog, weighing ten pounds, three grains of sulphate of morphine by the mouth; in forty-six minutes she had a violent convulsion attended by a complete paralysis of the hind legs. Two grains of permanganate of potassium were administered, and in fifteen minutes a third grain was given hypodermically. After about twenty or thirty minutes the dog showed but little evidence of the morphia poisoning, except the continued paralysis of the hind legs, which lasted until the following day.

February 16th, two grains of morphine were given to a medium-sized dog, subcutaneously, and in three quarters of an hour decided symptoms of coma were apparent. One grain of the antidote, hypodermically administered, and followed by a second grain in fifteen minutes, was given. In about half an hour the dog was much improved and in about three hours was well, except the partial paralysis of the hind legs.

On February 17th, dog No. 1 was given three grains of morphine hypodermically and suffered much as the previous dog. No antidote was given and the dog recovered completely, though perhaps not so rapidly as before.

At the same time dog No. 2 was given six grains of morphine hypodermically. He experienced less sopor, though the general nervous effect seemed more profound than when two grains were administered. After about six hours the dog seemed perfectly well. On February 17th, in the presence of the Montgomery County Medical and Surgical Society, I injected hypodermically into a dog weighing fifteen pounds eight grains of sulphate of morphine. Immediately he showed signs of somnolency followed by excessive nervous excitement and paralysis of hind legs, but in a few hours passed from under the influence of the drug, eating heartily the next day. On the 19th the same dog was treated to a hypodermic injection of the enormous dose of twenty four grains of morphine; he suffered much as before, and to-day, the 20th, he is apparently as well as ever except some continued nervous excitability. Experiments upon rabbits point to similar results.

On February 17th I administered hypodermically one grain of morphine to a small rabbit, and in three hours, noting but little effect other than drowsiness and slowed respirations, the dose was repeated. The animal, without any alarming symptoms, made a perfect recovery in a few hours without antidotes. The same day I gave another rabbit three grains of morphine subcutaneously without lethal effect, and on February 19th I gave a third rabbit five grains hypodermically, and after a few hours of semi-drowsiness and slowed respiratory action he made a com-

plete recovery, and is now with the other rabbits and dogs in my barn-yard awaiting another treat of morphine.

According to the cases referred to by Dr. Moor the only death occurring was a rabbit given one grain of morphine through the mouth, and subsequently a gastric fistula was established. In my opinion if the doctor had discovered an antidote for the fistula instead of for morphia, his rabbit would not have died. My experiments have convinced me that one grain of morphine, either introduced through the mouth or hypodermically, will not kill a rabbit, furthermore, five grains subcutaneously will not do so. In dogs, as in rabbits, small doses seem to produce somnolency. However, they bear very large doses of the drug, six, eight, and then twenty-four grains, hypodermically administered, in dogs weighing not over fifteen pounds, have failed in my hands to produce any very alarming symptoms.

The largest dose reported followed by recovery in dogs, so far as I have been able to find, is six grains given by the stomach. This is surprising to me, since dogs are in such common use for experimental purposes.

During the past week, in company with several other physicians, I have made a number of experiments bearing on this subject, which I purpose tabulating and forwarding to your valuable journal within the next week. I write this not to criticise adversely Dr. Moor's apparent discovery, for, from personal observation I am led to believe that there is something in what he claims, but I wish to suggest to those who may see fit to prosecute these investigations further, to first ascertain the poisonous dose of morphine for the animal experimented upon before publishing an antidote therefor; and, secondly, I wish to note the unusually large doses of morphine which rabbits and dogs will bear with but little inconvenience.

GLENN ANDREWS, M.D.

MONTGOMERY, ALA., February 21, 1894.

Therapeutic Hints.

Bromidrosis. — Internally give ℥viij. tinct. belladon. in ʒ ss. fluid extract ergot, three times a day; externally, use on the body the following powder several times daily:

℞.	Salicylic acid	drachms	3
	Boric "	oz.	ʒ
	Zinc oxide	"	½
	Powdered starch	"	5
	Ottar of roses	minims	20

Pleuritic Exudation.—To prevent extension of exudation: Absolute rest in the recumbent position, until temperature has been normal for eight days, the heart and respiration being the guides as to increase of fluid. No movement to be permitted for the purpose of examining the chest or for any other object. Striking results reported.

Purulent Ophthalmia.—Carefully wash the eyes first; then:

℞.	Corrosive sublimate	gram.	0.02 (gr. ⅓)
	Syndenham's laudanum	"	0.05 (℥ viij.)
	Distilled water	"	150.00 (ʒ v.)

A few drops to be instilled every two hours, then every hour. No cauterization to be employed. Catarrhal symptoms soon begin to disappear. If slight conjunctivitis remain:

℞.	Sulphate of zinc	gram.	0.05 (gr. ¾)
	Boric acid	"	0 04 (ʒ j.)
	Distilled water	"	100 00 (ʒ iijss.)

To be used every two hours, in the same manner as the previous solution, and alternating with it.

Cardiac Weakness in Arterio-Sclerosis.—The distressing palpitation to which this gives rise may be greatly relieved by the following:

℞.	Chloral hydrate,		
	Sodium bromide	āā gram.	4 00
	Codeine	centig.	0.10
	Water,		
	Syrup of orange peel	āā gram.	45

M. Sig.: Take a dessertspoonful every two hours till the heart is quieted.

Sciatica.—

℞.	Opii pulv.,		
	Ipecac pulv	āā	gr. xij.
	Sodii salicylat		ʒ j.
	Ext. cascaræ fl		q. s.

M. Div. in pil. No. xij.
S. One or two pills for a dose.

—DR. BENJAMIN WARD RICHARDSON.

Fermentative Dyspepsia.—

℞.	Olei creosoti		℥ xij.
	Spts. tennoris		ʒ ss.
	Ammon. benzoat		ʒ ij.
	Glycerin		ʒ vi.
	Infus. caryophyl. q. s	ad.	ʒ vi.

M. S.: Tablespoonful in a glass of water.

—DR. B. W. RICHARDSON.

Atrophic Rhinitis.—

℞.	Thymol		0.08 ctgm.
	Alcohol,		
	Glycerine	āā	6 gram.
	Distilled water		3 gram.

M. Apply with atomizer.

Night Sweats of Phthisis.—

℞.	Sulphate of atropine		0.0005 gram.
	Sulphate of zinc		0.12 gram.
	Gallic acid		0.12 gram.
	Creosote		10 gtts.

M. Div. in pil. No. v.
S. One pill thrice daily.

Hæmoptysis.—

℞.	Gallic acid,		
	Ergotine	āā	1 gram.
	Distilled water,		
	Syrup	āā	25 gram.

M. S.: Teaspoonful every two hours, or, if the bleeding is severe, every hour. Better results follow the use of the ergotine in this mixture than when it is given alone hypodermatically.

Chapped Hands and Face.—A most excellent remedy for chapped hands and face, and one that, if properly used, will cure the most painful cases in from twelve to twenty-four hours, is compounded as follows:

℞.	Tr. benzoin co		℥ x.
	Alcohol		ʒ ij.
	Aqua rosæ		℥ xxx.
	Glycerine	q.s. ad.	ʒ j.

M. Sig.: Apply to chapped surfaces at night, after they have been washed with soap and warm water, and thoroughly dried.

A second application is rarely required. This remedy is equally efficacious in the treatment of fissured, bleeding, and sore lips.—W. P. SPRATLING, M.D.

Escharotic Paste for cancer, lupus, etc.—

℞.	Wheat-flour		7 ounces.
	Starch		2 ounces.
	Corrosive sublimate		15 grains.
	Pure iodol,		
	Croton chloral,		
	Bromide of camphor,		
	Crystal carbol. acid	āā	2½ drachms.
	Oxide of zinc		7 ounces.

Water, enough to make a homogeneous mass of the consistence of putty.

—FELIX.

Scrofula.—Iodoform may be given to young children for a long time. It is to be preferred to iodine and iodides.

℞.	Iodoform		gr. jss.
	Mellis		ʒ iv.

—BESNIER.

Bronchitis with difficulty in coughing up secretions.—

℞.	Ol. terebinthin		ʒ ij. to ʒ iij.
	Mucil. acaciæ		q. s.
	Aq. cinnamomi		ʒ j.
	Aquæ	q. s. ad	ʒ vj.

M. Sig.: A tablespoonful in a little water every four hours.

Filaria Sanguinis in chyluria may be driven out of the system by thymol gr. j. every four hours, with subsequent doubling of the dose.—*Bul. gén. de Thér.*

New Instruments.

A COMBINATION TEST-CARD.

By EDWARD B. HECKEL, A.M., M.D.,

PITTSBURGH, PA.

LECTURER ON DISEASES OF THE EYE AND EAR AT THE WESTERN PENNSYLVANIA MEDICAL COLLEGE (MEDICAL DEPARTMENT OF THE WESTERN UNIVERSITY OF PENNSYLVANIA), ETC.

In the issue of November 12, 1892, of the New York Medical Record appeared a wood-cut and a description of a combination test-card designed by Dr. Hunter, of New York. The *raison d'être* of such an apparatus for accurate work is too self-evident to require comment or endorsement. The writer simply desires to briefly describe an apparatus such as he has used in his office for about one year, with perfect satisfaction, and which has entirely eliminated the heretofore often heard expression, "I don't think I could make out that line if I didn't know the letters." It consists of a tripod upon which revolves a triangular box, presenting three flat surfaces, provided with grooves for the reception of strips of cardboard. There are nine of these spaces for the corresponding nine rows of letters from cc to x, inclusive, on each side, thus giving three distinct surfaces which can be presented to view by simply turning the triangular box. The one in use (see Fig.) is provided with ten distinct sets, including pot-hooks and German letters. This gives ninety rows of letters, which when used, nine at a time, enables us to make almost an infinite number of combinations; enough, at least, to outwit the memory of our brightest patients. In appearance it is neat, in structure simple, and can be moved about with ease. It is constructed of pine wood, and finished with dull black. The writer is indebted to Messrs. Feick Bros., for their co operation.



502 Penn Avenue.

THE HORIZONTAL POSITION FOR APPLYING PLASTER CAST.

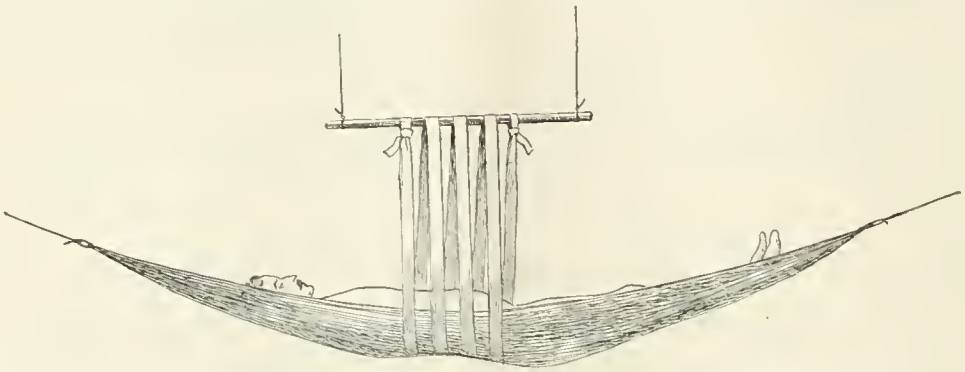
By T. W. SLOAN, M.D.,

SEATTLE, WASH.

Since the time when Dr. Sayre first presented to the medical profession his apparatus for suspending the patient for application of the plaster cast, I am not aware that any other method has been practised to any great extent, for notwithstanding the number of objections to suspension in the upright position no one has succeeded in devising a means by which a cast can be properly applied while the patient is resting in the horizontal position. With this object in view Dr. Dory offered, as a substitute for the suspension apparatus, the hammock; his method being to place the patient in the hammock, face downward, and after applying the dressing around the hammock, and allowing it to harden, the hammock was cut off at the upper and lower border of the cast. The objections to this method are obvious, for in addition to its being almost as uncomfortable to the patient as the upright position, the sagging of the hammock would tend to produce, rather than correct, posterior curvature, so the suspension apparatus of Dr. Sayre still held possession of this particular domain without a rival. The objections to the hammock are, that although it be stretched very tight, it sags under the weight of the body, which assumes an abnormal position, and the cast holds it permanently in that position, and when the patient is upon the back, the tension upon the hammock holds the plaster bandages away from the lumbar and lower dorsal regions, and the natural concavity of the back is not preserved in the cast.

For the purpose of overcoming the first objection to the hammock, Dr. Milliken (Medical Record, December 30, 1893, describes an apparatus by which a greater amount of tension can be produced than is possible with the ordinary hammock, which he calls the hammock splint. The ingenious device will undoubtedly correct to a great extent the sagging that is caused by the weight of the body when placed upon a hammock; but unfortunately for this apparatus, neither back, front, nor either side of the human anatomy is constructed so as to fit a plane surface. He will undoubtedly be successful in fitting a cast to his splint, but I doubt very much if it will fit the patient.

A few months since I had occasion to apply a plaster cast in a case of lateral curvature in a child, and I found that the deformity, though easily overcome by placing the patient across my knees, was not so corrected by suspension, though prolonged to the extent of causing decided discomfort to my patient. I then procured a child's hammock, and placed the patient on her back in the hammock, the latter being made moderately tense. By making traction upon the foot of the side to which the curvature was inclined, the shoulders being held by an assistant, the vertebral column was brought into line easily. The sides of the hammock were then trimmed off so that it would only encircle about half of the patient's body. A horizontal bar was suspended at convenient height above the patient, to which was attached the end of a gauze bandage. Three or four turns of the bandage were taken around the patient's body and up over the bar, leaving between each turn around the body a space of two inches. This procedure not only supported the weight of the body and held it in its natural position, but it caused the hammock, with the dressing to be applied over it, to fit the concavity of the back snugly. The plaster bandages were then applied, and the patient left in that position for two hours, at the expiration of which time the cast was found to be quite firm. The patient was then placed upon her feet, and the hammock cut off even with the upper and lower border of the dressing, and the suspension bandage was clipped off where each piece emerged from the cast. The turns of the suspension bandage are not in the way of



applying the plaster bandages, and when the dressing is completed they are compressed into mere cords where they emerge from the cast.

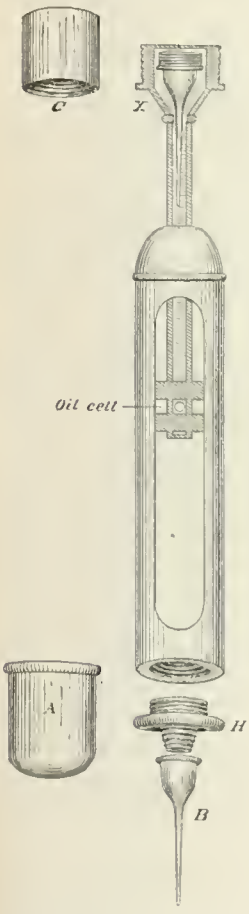
Since this time I have made use of the hammock, with the suspension apparatus above described, and each time the result has been so eminently satisfactory that I am confident anyone who gives this method a fair trial will be convinced of its merits. The suspension apparatus, consisting of a horizontal bar and a gauze bandage, effectually overcomes the principal objections to the hammock, for it at once prevents the hammock from sagging and makes the cast fit the concavity of the back in the lumbar and lower portion of the dorsal region. In posterior curvature the suspension should only be sufficient to hold the hammock in place, thereby allowing the weight of the body to correct the deformity, whereas, in anterior curvature the turns of the bandage must be drawn more or less tightly according to the amount of support required in each individual case.

A NEW HYPODERMIC SYRINGE.

By WILLIAM L. STOWELL, M.D.,

NEW YORK.

Although the market is full of hypodermic syringes, I have spent much time in arranging a new one which I venture to present.



It is of small compass, and without bottle, box or case. It is antiseptic and always in working order.

Referring to the illustration, *A*, is a chamber for morphine tablets. Its cap screws on part *H*, which allows the use of a needle with inside threads. A needle with outside threads will fit immediately in the syringe, where the tablet may also be dissolved. The essential part of the instrument is the hollow piston-rod of Messrs. Lincoln & Luchesi. The packing of this rod is in two portions; the intervening chamber is always full of oil from a small hole in the hollow rod. The rod ends above in a cup, X, to hold the needle when not in use. The cap *C*, is then screwed on, making the closed instrument three and a half inches long.

Castor is the best oil to use because it is the most viscid. Having nearly filled the cup of the piston, add a few drops of carbolic acid and you have an antiseptic oil in which the needle remains free from rust. The piston will never dry if a few drops of oil are put in the cup twice a year.

28 West Thirty-sixth Street, December 15, 1893.

Liability of the Husband for Medical Attendance upon the Wife.—President Judge Hanna, in delivering the opinion of the Orphans' Court of Philadelphia, in the case of Waesch's Estate, says: The liability of the husband for medical attendance upon his wife, even although she has a separate estate, is too well settled to admit of argument. He is primarily liable, and her estate is liable only in case he be insolvent. If any balance then remains for distribution, the expenses he should have paid will be deducted from his distributive share.

A NEW VAGINAL SPECULUM WITH CONSTANT IRRIGATION.

By A. A. HERZFELD, M.D.,

NEW YORK.

ASSISTANT TO THE CHAIR OF CLINICAL PATHOLOGY AT THE NEW YORK POLYCLINIC, FORMERLY VOLUNTEER ASSISTANT AT THE FRAUENCLINICS OF DRESDEN AND MUNICH.

The subject of vaginal irrigation through specula originated with Dr. Henry Greenway, of Plymouth,[1] who constructed an irrigating tube, with the view of irrigating a large surface of the vaginal mucous membrane. The instrument consisted of four rods about six inches long, united at their vaginal end; at the introitus vaginæ they were riveted into a cylindrical ring, thus forming a foot of fenestrated speculum. In the central axis of this instrument the irrigating tube passed up to the cervix. At the lower end of the tube the rubber hose was attached, which connected the instrument with the irrigator. Four rows of openings gave vent to the irrigating fluid, which, irrigating the cervix and a large surface of the vaginal mucous membrane, escaped through several holes at the sides of the instrument.

Dr. Holzer, of Franzenbad,[2] made use of the Mayer hard-rubber speculum in the construction of his "permanentes Douchebad des Uterus." Through the middle of the speculum passes the irrigating tube to the external os of the uterus. The instrument is closed by a plate in front, so as to cause a collection of the irrigating fluid in its interior. The fluid escapes through small holes at the sides of the instrument. This instrument is also fenestrated so as to allow a free irrigation of the vaginal mucous membrane. For constant irrigation the instrument is very valuable. For this purpose it is fastened by strings around the patient's body. Although a speculum is used to obtain this result, the instrument is no speculum in the true sense of the word, as its inlet is closed by a plate and we cannot see what we are doing. The credit for obtaining this result, combining the vaginal speculum with satisfactory irrigation, belongs to Fritsch, of Breslau, (now Bonn). In the construction of his instrument, he made use of the anterior plate of a Simon's platten speculum. By a very simple and ingenious device a constant irrigation is obtained through this speculum for diagnostic purposes as well as during operations on the perineum, cervix, posterior vaginal wall, etc. In the construction of my apparatus, I have made use for the time of a bivalve speculum, which can be converted into a single blade speculum, and in both of these positions irrigation can be obtained through it. The instrument is constructed on the plan of the Graves speculum. The upper blade is the one through which the irrigating fluid passes, this blade being double.

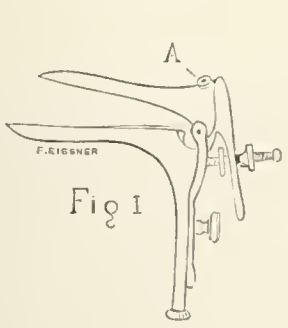


Fig I

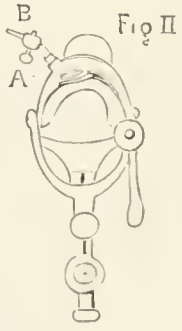


Fig II

At its point there is a narrow slit-like opening for the discharge of the irrigating fluid. The fluid enters the upper blade through a stop-cock (Fig. II, B), which is attached to it by means of a bayonet lock (Fig II., A). The amount of fluid entering is regulated by the stop-cock. In the position as bivalve the stopcock is placed on the left upper corner of the blade, so as to be entirely out of the working field. The lower blade corresponding

[1] Lancet, May, 1879.

[2] Illustrierte Vierteljahresschrift der aerztlichen Polytechnik, April, 1880.

to the posterior vaginal wall is 0.5 c.m. longer than the upper blade. On it the irrigating fluid collects and is carried away through a tube which represents the handle of the instrument. To avoid overflow of the liquid on entering this tube, a plate is attached behind the inlet of tube (Fig. II) in front of which the liquid collects. The screw at the middle of the handle of the instrument allows it to be taken apart, so that it can be used as a single-blade speculum, or the posterior blade can be used by itself, or the instrument can be arranged into a speculum assimilating Sims's. In this latter arrangement the posterior blade is used as a handle, the anterior blade supporting the anterior vaginal wall (patient in dorsal position) and permitting the irrigation of cervix, posterior, vaginal, and perineum. In this position I have made use of the instrument during the repair of a lacerated perineum. The stopcock is placed now to the right of the operator. The screw which holds the two plates together in bivalve position, permits their separation so as to adopt the speculum to the lumen of any vagina (Graves). The handle of the upper blade runs on a screw arrangement, permitting the separation of the upper from the lower blade after the introduction of the instrument into the vagina, and is steadied by two screws; one anterior, one posterior to the handle (see Fig. I.), so as to allow the adoption of this blade to any position of the anterior vaginal wall. This arrangement is particularly useful when the patient is in the dorsal position, and the instrument is used as "Sims's," the anterior blade holding up the vaginal wall.

I would like to express my gratitude to Dr. Vineberg for his kind interest, and to Dr. Charles G. Kerley and Mr. Eissner for their valuable aid in the construction of the instrument.

211 West Twenty-fourth Street.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 3, 1894.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	7	5
Scarlet fever	172	15
Cerebro-spinal meningitis	1	7
Measles	450	25
Diphtheria	189	48
Small-pox	30	6
Cholera	0	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0

Acting Assistant Surgeons of the United States Army.—Dr. T. Nagle has recently written a reply to the ruling of the War Department in the matter of the standing of the acting assistant surgeons of the army who served in the late civil war. According to the present status such officers are deprived from participating in the benefits of the act of 1863, which confers medals of honor on "officers, non-commissioned officers, and privates as have most distinguished themselves in action." Dr. Nagle has appealed from this ruling, and has been supported in his appeal by an opinion from the attorney-general, but the assistant secretary of war will not accept such an opinion, and claims that it is optional with his department so to do. Dr. Nagle's claim is that the acting assistant surgeons are just as much entitled to medals for distinguished bravery as are any other of the medical officers of the army during the civil war. The contention of the War Department is that "acting assistant surgeons were then, as they still are, necessarily assimilated, as to their duties, pay, and status to assistant surgeons of the army. So, when serving with the forces in the field they were subject to military discipline and to the jurisdiction of courts-martial, under the provisions of the 60th (now 63d) article of war. But they were neither commissioned, nor were they authorized or recognized by any legislation of Congress as a part of the military establishment. They were creations solely of army regulations and general orders, which are executive mandates and wholly powerless to constitute persons officers of the army. Those regulations and orders could and did authorize commanders to contract to 'employ' civil or 'private' physicians, to render professional service in connection with the medical department of the army, but could not and did not commission them or make them officers of regulars or volunteers."

Recognized After Many Years.—Colonel B. J. D. Irwin, Medical Director of the Department of the Missouri, U. S. A., has been awarded the bronze medal of honor which Congress, by an Act passed in 1864, authorized the War Department to confer upon officers or enlisted men for any specially meritorious conduct in action. Dr. Irwin has waited long for this recognition, for the act for which the medal is granted was performed almost thirty-three years ago. Colonel Irwin was then a young surgeon with the rank of second-lieutenant, and was serving in New Mexico, where the Apaches were on the war-path. The medal is awarded for bravery in fighting the redskins.

BOOKS RECEIVED.

Essentials of the Practice of Medicine. By Henry Morris, M.D. Third Edition. 12mo, 374 pages. Appendix, 48 pages. Examination of Urine, 66 pages. W. B. Saunders, Philadelphia, Pa. Price, $2.00.

Treatment of the Diseases of the Stomach and Intestines. By A. Mathieu, Physician to the Paris Hospitals. (Medical Practitioner's Library.) 8vo, 285 pages. William Wood & Company, New York. Parchment muslin, price, $2.50; flexible leather, gilt top, price, $3.25.

Operative Surgery. By Th. Kocher, M.D., Professor at the University, and Director of the Surgical Clinic at the Berne University. 8vo, 288 pages, 163 illustrations. William Wood & Company, New York. Extra muslin, price, $3.00.

Medical Jurisprudence, Forensic Medicine, and Toxicology. By R. A. Witthaus, A.M., M.D., Professor of Chemistry, Physics, and Hygiene in the University of the City of New York, etc., and Tracy C. Becker, A.B., LL.B., Counselor-at-Law and Professor of Criminal Law and Medical Jurisprudence in the University of Buffalo. In four volumes. Volume 1. Large 8vo, 845 pages, illustrated with wood-cuts and two lithographic plates in colors. Price, in muslin, $5.00; in brown sheep and in law style, $6.00 per volume. Sold by subscription only. William Wood & Company, New York.

Venereal Memoranda. By P. A. Morrow, M.D. 18mo, 322 pages. Wm. Wood & Co., New York. Price, $1 00.

The Nurse's Dictionary. By Honnor Morten. 16mo, 139 pages. The Scientific Press, London.

Notes on Nursing in Eye Diseases. By C. S. Jeaffreson, M D. 12mo, 90 pages, illustrated. John Wright & Co., Bristol, Eng.

Philadelphia Hospital Reports. Vol. II., 1893. 8vo, 292 pages, illustrated.

The National Dispensatory. Fifth edition. Royal 8vo, 1903 pages. Lea Bros. & Co., Philadelphia, Pa.

An Illustrated Encyclopædic Medical Dictionary. By Frank P. Foster. Vol. IV. Royal 8vo, pages 2323–3096, illustrated. D. Appleton & Co , New York.

A Text Book of the Theory and Practice of Medicine. Edited by William Pepper, M.D. Vol. II. 8vo, 1046 pages, illustrated. By W. B. Saunders, Philadelphia, Pa.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 45, No. 11.
Whole No. 1219.

NEW YORK, MARCH 17, 1894.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

THE TREATMENT OF URÆMIA.[1]

BY BEVERLEY ROBINSON, M.D.,

CLINICAL PROFESSOR OF MEDICINE AT THE BELLEVUE HOSPITAL MEDICAL COLLEGE, NEW YORK.

IT is admitted by many scientists, as well as practitioners of medicine, that there is a certain amount of doubt in regard to the essential cause, or causes, of uræmia. Nevertheless, there is a degree of acquired knowledge in this regard which enables us to interpret uræmia, when it becomes manifest in an acute or chronic form, with a clearer knowledge of the elements involved than formerly. We no longer believe that urea or ammonia causes it. We are convinced that the poisons retained in the blood are numerous. We know that cold and errors of diet are important factors in developing it, when with care in respect to exposure and food the renal lesion might not produce disquieting symptoms during long periods. This being admitted, the preventive treatment of uræmia is very important. If a patient who has Bright's disease is exposed to cold and subsequently develops symptoms of uræmia, we must primarily carry out the most rational indications. The first of these is to give warmth, by means of a warm room; or better still, a warm bed, when the symptoms are at all acute. In addition, it is wise, particularly if the skin is dry and inactive, to help restore the cutaneous function by a hot-air bath, or a hot-water bath, and subsequently wrapping the body in blankets until there is free sweating. If there is evidence of increased renal congestion, as shown by augmented albumin and blood in the urine, dry or wet cups over the renal region will be found most useful in relieving this condition. After these means have been employed, more or less successfully, dry frictions of the skin will be serviceable in increasing renal elimination through the reflex action thus brought about.

In those cases in which errors of diet have been committed, either in connection with, or independently of the effects of cold, we should urge upon our patients the importance of the adoption of a milk diet, for a while at least, and of an effort to use means for the proper oxygenation of this or other aliments. This may be accomplished by breathing pure air and by gentle exercise. Of course it should be understood and emphasized that undue fatigue, emotional excitement, and even slight intercurrent disorders, will be very prejudicial to the well-being of a patient affected with Bright's disease.

Underlying this treatment, as well as all those which have been considered valuable in treating uræmia, there are cardinal principles involved. These are, first, to subtract the poison—get rid of it, carry it out of the system; second, to neutralize it so far as possible. In order to carry out the first indication, we recur to the use of diuretics, or those drugs which increase the bulk of urine, and with it the amount of solid constituents eliminated. Among selected medicaments, potash salts are frequently employed, and no doubt at times with obvious benefit. Nevertheless, in view of acquired knowledge in regard to the poisonous effects of potash salts when taken into the body in the form of food in those who suffer from uræmia, we should be very careful in limiting the amount of these salts when taken as medicine. One of the favorite diuretic infusions is that of digitalis, yet to its employment there are distinct and important objections. Frequently, in these cases, the kidneys are almost, if not quite, impermeable. This impermeability may be due to one cause or a combination of causes. There may be a clogging up of the renal tubules; but there may also be a spasmodic vascular condition, or a passive congestion of the renal vessels. Digitalis, from its action on peripheral vessels, tends to increase this contraction or hyperæmia rather than to diminish it. Inasmuch, therefore, as very little of the drug can be eliminated through the kidneys, it is not infrequent to note the effects of its accumulation in the system, as shown by nausea and vomiting, repeated at times in a distressing and threatening manner. If these phenomena are correctly interpreted, and the dose of digitalis is diminished or temporarily given up, the patient will at times be relieved of the unpleasant symptoms referred to. If, on the contrary, the symptoms be regarded as uræmic, and digitalis be continued in the same or augmented doses, the morbid symptoms, instead of being favorably modified, or disappearing altogether, will continue and become worse. Of course the symptoms may be of a mixed origin. We may have the union of what pertains to uræmia, on the one hand, and digitalis intolerance, on the other. Under these circumstances, it is also rational to stop the use of the drug.

In those cases in which a weak heart is an important, not to say, a primary factor in causing uræmia, it is not amiss to give digitalis. In some of these patients, indeed, I have known it surely to effect very good results.

In regard to the vicarious ways of relieving the kidneys through the increased action of the skin and the intestinal tract, a few words may here be properly added.

Diaphoresis, as well as active purgation, remove a considerable amount of water from the body. They also abstract from the economy what is poisonous. In affirming this fact, however, I must modify it by saying that they remove relatively small amounts of poisonous excreta. These amounts, when compared with the effect of blood-letting, are about nine-tenths less. Besides, it must be remembered that if water be removed from the blood by these methods of treatment, a smaller quantity by so much will be able to pass through the kidneys, and these emunctories of poisonous excreta, of such primary importance, will not recover their normal fuctions so rapidly, or indeed so perfectly.

In addition to the foregoing means of treatment, and as one of undoubted great importance, and against which, I believe, no forcible objections can be urged, I would uphold the use of water by high enemata; as a rule, they should be given moderately cold. These enemata have been used quite a number of years by well-known practitioners with a view to causing the contraction of renal vessels through the reflex stimulation of the abdominal nervous centres. Besides, they act by increasing vascular tension through absorption of the water and filling the vessels. Thus diuresis is promoted. I am also convinced that they are directly of benefit in diluting the poisonous matters contained in the blood and thus diminishing the morbid symptoms due to these substances when present in a concentrated form. Certainly there can be no question about the absorption of the fluid employed in very considerable amount. Whatever portion is rejected by the bowels, no doubt brings away much of the fermentative products of the ingesta, which are un-

[1] Read at the meeting of the Practitioners' Society, February 2, 1894.

questionably more or less continued and added sources of toxæmia, in many instances. I have made use of such injections from these standpoints with the happiest effects in one instance (Case I.). In this example the patient was in such a depressed condition of lowered vitality that I thought it wiser to employ the water warm, rather than cold—the precise temperature being slightly above blood-heat. To the water was added about one per cent. salt, and high injections were given several times daily with a douche bag and a medium-size, long, soft catheter of red rubber attached to the nozzle of the douche bag. The patient lay in the dorsal decubitus during the time the injection was given. There was little or no question in regard to the benefit received from these injections: the pulse improved, the heart action was strengthened, increased flow of urine took place, vitality was evidently increased and the entire aspect and behavior of the patient was rendered more encouraging. The case was one in which, following upon typhoid fever,[1] the gastro-intestinal mucous membrane became affected, apparently with a low type of catarrhal inflammation, and symptoms of nausea and vomiting and non-assimilation of food were very threatening. These symptoms were connected with, and probably in part caused by, inadequacy of renal excretion under the dependence of slight or moderate renal changes.

Whenever the uræmic phenomena are at all menacing and other indicated therapeutic means have failed to relieve, in very many instances it is judicious practice to recur to venesection (Cases II. and III.), or blood-letting by means of cups (Case III.) or leeches. Sometimes coma or convulsions will disappear while the abstraction of blood takes place. In strong, robust patients there can be little doubt that blood letting in considerable quantity, up to twelve or twenty ounces, may be safely and advantageously employed. In other cases of delicate women or young persons blood-letting must not be too abundant on account of its possible weakening influence. Formerly, blood letting, as we all know, was used a great deal more in these cases than it is to day, and it is certain that it was frequently abused. Yet, it is clear that clinical evidence and scientific research justify and support its use, and go to prove that many lives are directly saved by this means, which would otherwise be inevitably sacrificed.

I have seen several patients suffering from uræmic phenomena of threatening nature, in whom all other rational means had been employed without avail, evidently greatly benefited by abstraction of a notable quantity of blood. In one instance, after the venesection I made use of saline transfusion, with at least temporary good effect (Case IV.). In another case, in which my house physician performed the operation of saline infusion, a temporary good result was also obtained (Case V.). In both these cases a fatal result followed, mainly because the renal changes were very far advanced and practically incurable. I am convinced, however, from close observation of these two cases of saline transfusion following abundant loss of blood by venesection, and from one other observed by me in which previously to transfusion there was no considerable loss of blood by venesection (Case VI.),[2] that the operation of transfusion in the treatment of uræmia may be at times very useful in tiding over an imminent period, and perhaps, in enabling the patient to recover, when without the operation he would surely die.

Numerous facts have been observed during the past few years and are reported in current literature, which establish on a firm basis the good effects which may occasionally be expected from this procedure. In certain cases, in which for one reason or another neither the high saline enemata, nor blood-letting, nor saline venous transfusion by itself or following venesection, are employed, we may have recourse to hypodermic injections of warm sterilized salt water, at about the same temperature and containing the same amount of salt that we should employ if we make intravenous transfusion.

In one instance that came under my observation, the hypodermic use of the saline solution apparently caused a considerable degree of pain (Case VII.). It is stated, however, by those who have made frequent use of them, that they are, as a rule, free from this objection. There is no doubt in my mind that even when a patient is in *extremis*, and the heart beats very weak, and the pulse a mere flicker, that these warm salt solutions may be taken up by the vessels of the subcutaneous layer in a remarkable manner. I was witness of this effect on one occasion when I resorted to the injection, more, indeed, to see what degree of palliation could be accomplished in this way than with the idea that any permanent curative effect could be produced. Death followed very soon after the injection, and yet at the post mortem examination, which was made within a few hours after the decease, the subcutaneous tissue when cut into at the site of the injection did not reveal the presence of any fluid. The amount of water injected was about half a pint (Case I.). It is probable that in conditions which are obviously uræmic and which come at the end of acute and exhausting diseases, that the hypodermic injections to which I have referred have a real value which should not be ignored. I would merely instance in this connection the remarkable and encouraging experiences which Professor Cantani, of Naples, has had with these injections, and with his method of high tannin injections in the bowels (enteroclysis) during the late epidemic of cholera in Europe, to show in what other important direction these procedures are available and useful. At times, and even in the presence of symptoms of acute uræmia, the methods described, for different reasons, may not appear the best, or the only ones to employ. The anæsthetic effect of chloroform may be confidently resorted to, and we are all aware that chloroform will at times shorten very manifestly a convulsive seizure. Chloroform is often, in my judgment, a very suitable and proper remedy to thoroughly test, previous to blood-letting, for the reason that we obtain in this way temporary relief, at least from tonic and clonic contractions, which will enable us to bleed our patient more accurately and successfully. West states, in this connection, that we can determine after anæsthesia from chloroform, and when the patient is comatose, how much blood we should take, always being guided by the strength and character of the pulse.

In certain instances, it would seem as if the hypnotic and quieting effects of chloral by the mouth or by rectal injections were especially called for; some cases of convulsions, followed or preceded by delirium, may be thus advantageously treated. In my judgment, in almost all cases in which we properly dread the injurious effects of the opiates, and especially of morphine, and yet feel as if they might be useful, chloral may often be very properly substituted for them. In moderate doses it is one of the few active drugs possessing marked hypnotic calmative properties, which are tolerated well, as a rule, by uræmic patients.

Opiates, as I believe, are of evident value only in rare cases. The reasons for this statement have been given by me elsewhere.[1]

Much has been said for and against the use of pilocarpine as an agent which is at once speedy and effective in arresting uræmic convulsions. On account of the readiness with which it can be employed hypodermically, and in view of its diaphoretic action on the skin, its favorable acceptance can be easily appreciated. In one instance, which I can now recall with great vividness, I am confident that this active principle was the direct cause of profuse salivation, which, taken with an œdema of the lungs, also occasioned by it, hastened, rather than retarded the fatal termination, primarily due to renal changes. It is

[1] At the autopsy it was shown that the case was one of ulcerative enteritis.

[2] Operation by Dr. Hollis, at that time house physician in St. Luke's Hospital.

[1] Vide Transactions of Society of American Physicians, 1893.

also true that at times even a small or moderate dose of pilocarpine will occasion symptoms of heart failure which require immediate stimulation by means of brandy and ammonia to overcome. No doubt the danger from profuse salivation and œdema of lungs should be dreaded in cases in which the skin and subcutaneous tissue are infiltrated with serum, and in which our power to re-establish the function of the kidneys is very imperfect. On the other hand, it would seem as if pilocarpine were a drug that could occasionally be usefully employed. This affirmation is true in cases in which pilocarpine in ordinary doses produces profuse diaphoresis without causing cardiac depression, and without causing excessive action of the salivary glands, or of the glands of the mucous membranes of the bronchi.

While chloroform, chloral, the bromides, and pilocarpine may at times control, in a measure, and visibly shorten the severity and duration of different nervous phenomena connected with, or dependent upon, a uræmic state, none of them meets satisfactorily the underlying pathological causative conditions. For this reason, we must keep in view the fact that it is essential that a diet composed mainly of milk should be adhered to, at least during the acute manifestations of uræmia. It must be insisted upon for many different reasons, among which we shall enumerate a few of the most prominent: Milk by its action lessens the flow of bile, is readily assimilated, does not produce fermentative changes, as a rule, in the digestive tract, forms a small amount of residue from which injurious poisons may be taken into the circulation, contains no injurious potash salts. Doubtless the action of the milk may be aided at times by the moderate use of the neutral salts which carry out of the intestinal canal any injurious substances which are prone to remain there. Further, according to Bouchard, the bile pigment itself, which is according to him the special poisonous element of the bile, may be decolorized and thereby rendered innocuous to the system by the rational use of charcoal given by the mouth. Care in alimentation, above other things, should be emphasized, and although at times, boiled meat, eggs, and cheese may be usefully added to the dietary, as well as other aliments according to the nature of the case and the idiosyncrasy of the individual, yet such variations of diet must be limited and rigidly scrutinized.

Finally, intestinal antisepsis is one of the most important indications to be carried out actively. Naphthaline, benzo- or beta naphthol, salicylate of bismuth, sub-gallate of bismuth, are all useful remedies in lessening the amount of intestinal fermentation, which is a powerful factor in the continuance of many cases in which uræmic manifestations are not infrequent in a mild or chronic form

I have thus given the outline of a general treatment of uræmia, which seems to me rational. Of course certain special symptoms may and do require means of relief. If, for example, there be very marked dyspnœa and this dyspnœa be connected with notable congestion of the lungs, counter-irritation by means of frequent applications of dry cups or warm mustard poultices will give very evident relief on many occasions. In connection with this marked infiltration of the pulmonary structure, if the quantity of urine be notably diminished, or almost suppressed, it is plainly indicated to make use of active purgation, despite the objections already urged by me against its inconsiderate or too frequent employment. If the toxic phenomena shown be rapidity and oppression of breathing, but with no evident local phenomena clearly present, we frequently have reason to be grateful for the magical relief afforded by the nitrites, nitro-glycerine, or nitrite of amyl by inhalation (Case VIII.). In similar instances, there can be little doubt that oxygen—if pure and diluted with a proper proportion of nitrogen—may be inhaled frequently, or almost continuously, with very great relief to a patient's suffering and menacing condition. Not all such cases are thus relieved, any more than all cases of toxic dyspnœa are relieved by nitro-glycerine even in frequent and considerable doses. But this is merely an admission of the fact, alas! too often true, that the organic changes of the kidneys are such that life may be more or less prolonged, but the fatal termination must inevitably occur, and that too, very soon.

Delirium is best managed with chloral and the bromides. Gastric phenomena of nausea and recurrent vomiting with lime water, vichy, brandy, kirsch, creosote, iodine, etc.

At times, a collapsed and almost moribund patient may require hypodermic stimulation with extract of coca,[1] strychnine, or ether.

The following letters, which were sent to me by Dr. Charles Thorndike Parker, one of the attending surgeons to the Chambers Street Hospital, appear to me of considerable interest. It affords me great pleasure to state, in this connection, that I am personally indebted to Dr. Parker for demonstrating to me, several years ago, the efficacy of intravenous saline infusion. At that time Dr. Parker was house surgeon to St. Luke's Hospital.

"46 East Thirty-fourth Street, February 2, 1894.

"Dear Dr. Robinson: Enclosed is a report from the House Surgeon of Chambers Street Hospital. As we do not keep any records of these cases it is hard to get at the facts. All I can say is that we use this method on all subjects in uræmic coma and have found it answers better than any other. In cases where they are very plethoric we draw off blood from the other arm while infusing, but when anæmic we simply infuse.

"All our results are not as good as the three mentioned in Dr. Brinsmaid's letter, although they have all shown marked improvement very quickly.

"Very truly yours,

"Charles T. Parker."

"Chambers Street Hospital, 160 Chambers Street, February 1, 1894.

"Dear Dr. Parker: In answer to your request for the history of the cases of uræmia treated by saline infusion, I am sorry to say that they have all been Reception Ward cases, and that, therefore, no complete histories were kept.

"To my knowledge, three cases have been treated by this method, all showing very nearly the same effect. The last of these cases was brought in in a state of complete coma, sensations entirely absent, even in the conjunctiva. Hot-air baths were given and produced no effect, not even starting up any perspiration; his median basilar vein was opened and about one quart of blood allowed to escape, during this time double that amount of saline infusion was injected into the same vein on opposite side; in about five minutes he showed signs of returning consciousness, and at the end of fifteen minutes was in a profuse perspiration, and was able to sit up and give his name and address, sensation having completely returned. He had no other attack while under observation, and was discharged at end of twenty-four hours, and walked out seeming perfectly well. The other cases have shown almost similar results, although recovering more slowly; they were all under forty years of age. One was not plethoric and, therefore, was simply infused and no blood taken from him. I am sorry to give you such an incomplete history, but, as you know, these cases do not go to the wards, and, therefore, no elaborate data are kept.

"I am, very respectfully yours,

"W. B. Brinsmaid."

Case I. *Ulcerative Enteritis and Nephritis—Uræmic Convulsions Treated and Cured with Saline Solution: Enemata—Rapid Absorption of Subcutaneous Injection of Salt Solution Immediately Before Death—Gavage Successful when other Methods of Feeding Failed.*[2]—Michael

[1] The solution I recommend is made according to the following formula: To four ounces fluid extract coca, add one ounce glycerine, heat upon water-bath until all alcohol has been driven off, then add sufficient water to make product measure two fluid ounces.

[2] I am indebted to the courtesy of Dr. Martin, my house physician, for the history of this case.

S——, aged seventeen, single, native of Germany, was admitted to St. Luke's Hospital, September 14, 1892. Family history was negative. The patient states that he has never been ill before the present sickness, which began two weeks ago, with headache, feverishness, and loss of appetite. These symptoms continued, and three days ago the patient felt prostration enough to confine him to bed, and also began to suffer from a slight diarrhœa.

On admission patient complained chiefly of prostration and malaise. His pulse was 106; respiration was 30 to the minute, and temperature by rectum 102⅘° F. The urine was acid, specific gravity 1.020, there was a trace of albumin, sugar was absent, Ehrlich reaction was obtained as far as color is concerned, microscopic examination revealed hyaline casts.

The physical examination by the house physician was negative, excepting slight tenderness and gurgling in right iliac region. Spleen was not felt. The patient was fairly well nourished. There were a few spots, resembling the eruption of typhoid, on the abdomen. Tongue was furred in the centre. The case was supposed to be one of typhoid fever, and the patient was treated on the Brand plan. A tub-bath, the temperature of the water being 65° F., was given whenever the temperature was above 103° F. The patient bore the bathing well, and the tubs were followed by marked fall of temperature, once dropping from 103⅘° to 98° F. The temperature continued most of the time above 103° for seven days, after that it began gradually to subside and in four days had reached normal temperature.

The patient began at this time to complain of extreme abdominal tenderness, and his urine at the same time was acid, specific gravity 1.012, albumin was present to the extent of fifteen per cent. by volume, microscopic examination showed red blood-cells and casts.

The patient a few days later began to vomit, this vomiting continued day after day for several weeks, several times the vomitus contained blood. The vomiting at no time was very severe, but since it was uncontrolled by various expedients, nutrient enemata were resorted to. The patient had by this time become extremely emaciated, and an hemorrhagic eruption had made its appearance about ankles, wrists, elbows, and anterior-superior spines of ilium. The urine at this time, October 11th, contained forty per cent. by volume of albumin, casts, and some red blood-cells. Patient was passing from thirty-two to forty ounces of urine on that day and several previous days.

October 12th.—The patient had five convulsions in the course of several hours. The convulsions were general, there was some tension of radial pulse during the seizures. The patient was given a hot bath, glonoin, and chloral, during and immediately after the convulsions.

The next day, two high enemata of, water, two pints; salt, two drachms, at 100° F., were given. These injections were given with the idea of diluting the poison which, circulating in the blood, caused the convulsions; about thirteen ounces were usually retained. The amount introduced into the bowel was afterward reduced to one pint: of this about ten ounces were retained.

The patient had no convulsions after the rectal injections were begun; whether this was due to the water thus absorbed or to chloral, glonoin, etc., which were given with the idea of diminishing arterial tension, is uncertain.

October 16th.—The patient began to complain of rectal pain after enemata: also passed blood from bowel, and vomited greenish fluid several times. Nutrient enemata were now stopped. Gavage was now resorted to with beneficial results. The patient was given by stomach-tube, four times daily, one egg well-beaten; peptonized milk, four ounces; whiskey, one-half ounce. This nourishment was retained, the hemorrhagic spots became less, the tongue became more moist.

October 20th.—Patient objected to passage of stomach-tube, and the attempt to forcibly pass it exhausted him so much that feeding by this method was stopped. Warm saline injections were also stopped. The patient from this time on began to fail. He daily became more emaciated and feeble, the hemorrhagic spots increased in number. The eruption in places was vesicular, the vesicles containing blood. From time to time greenish fluid and blood were vomited; there were frequent small passages of blood from the bowel. The temperature was subnormal most of the time, once being 96° F. The pulse was rapid, and at times very feeble. The patient was stimulated with champagne and whiskey, and oxygen inhalations were frequently given, but no benefit was derived therefrom.

October 29th.—It was evident the patient was sinking rapidly. At 8 A.M., temperature was 101° F., respirations 40, and pulse 136. At 11 A.M. pulse was almost imperceptible, the breathing rapid and shallow. At 11.36 A.M. 100 c.c. of salt solution were slowly injected beneath the skin. The patient died quietly, twenty minutes later.[1]

Autopsy showed very abundant, irregular ulcerations in lower five or six feet of ileum, leaving in parts only scattered islands of mucous membrane. Peyer's patches less affected than the rest. Other organs normal, excepting slight opacity of cortex of right kidney. There was no evidence of salt solution in cellular tissue in which it was injected, thus showing that it was absorbed.

Diagnosis. Ulcerative enteritis and nephritis.

The interesting points in the case were: That there were no more convulsions after saline solution enemata; that when other methods of feeding failed, gavage was successful, and that 100 c.c. of salt solution were rapidly taken up immediately before death.

CASE II. *Profuse Epistaxis in Case of Chronic Endocarditis and Tubercular Arthritis of Knee—Beneficial Effect of Injection into Rectum of Two Pints of Warm Transfusion Fluid—Transfusion Fluid all apparently Absorbed.*[2]—Caroline L——, aged eighteen, admitted November 27, 1893, suffering from tubercular arthritis of knee, and chronic endocarditis. Examination of heart: marked thrill over apex, presystolic and systolic murmur; heart enlarged.

On January 28th patient had a severe epistaxis. Hemorrhage lasted about twelve hours, posterior nares were then plugged, thus stopping hemorrhage. Patient was weak; pulse, poor force; complained of "air hunger." These symptoms continued, and on January 29th two pints of warm transfusion fluid (sodium carbonate, fifteen grains, sodium chloride, one and one-half drachms, aqua, two pints) were slowly injected into rectum. The injection was given in two parts, one-half hour intervening. Transfusion fluid all retained, and apparently absorbed. Patient's condition was much improved, pulse better force, and this was shown in sphygmographic tracings.

CASE III. *Uræmia—Phlebotomy on Two Occasions—Chronic Diffuse Nephritis—Uræmia cured; Nephritis Improved.*—Peter B——, aged forty-three, married; Ireland; brass finisher. Family history negative. Last winter patient began to have swelling and stiffness of lower extremities. The swelling has been more marked during the last seven weeks. During this time the water has been diminished in amount: has had severe dyspnœa and palpitation. The dyspnœa was so severe that patient had to sit up in bed and was unable to sleep. Has lost considerable flesh and strength, abdomen began to swell three weeks ago, and since last Monday the hands have been swollen. During the last week, patient has been vomiting. Has used moderate amount of liquor, and has taken it before breakfast. On admission, appetite poor, bowels constipated. Urine acid, 1 017; no albumin, no sugar; microscope: hyaline casts, epithelium.

January 15th.—Heart apex, sixth space in mammal line. Thrill conveyed to finger at tip of ensiform carti-

[1] From October 14th until death patient passed from twenty-eight ounces of urine down to ten ounces at end of life.

[2] This case is reported merely to show the beneficial effect of saline solution enemata after abundant hemorrhage.

lage. Over apex there is a systolic murmur, transmitted into axilla; over pulmonary area there is a double murmur, systolic and diastolic, heard over second and third spaces at left of sternum; at tip of ensiform cartilage there is a pre-systolic murmur; there is epigastric pulsation; no murmur heard in back. There is venous pulsation on both sides of the neck, increased on pressure over the liver. Systolic murmur heard in vessels of neck, can be heard in brachial artery near bend of elbow. Lungs: Over lower hand-breadth of both chests, behind, there is flatness and diminished voice sounds; superficial crepitation heard over left base. Liver extends two finger breadths below free border of ribs in right mammal line. Spleen negative; abdomen negative; no ascites. Inguinal glands easily felt. Very slight œdema of lower extremities. Enlargement of scrotum on right side; considerable œdema of skin.

Fluid extract of digitalis, one minim every four hours. Milk diet. Tincture of chloride of iron, ten minims; glycerine, one drachm; spirits chloroform, ten minims t.i.d.

Double murmur scarcely heard over aortic space, both heard slightly along left border of sternum, especially that accompanying the first sound. There is considerable enlargement of the heart, dilatation of both cavities, considerable dilatation of veins. There is an aortic direct and regurgitant murmur, the direct being more prominent, and a mitral regurgitant murmur. No marked irregularity of pulse.

January 17th.—Urine alkaline, 1.023. No albumin. No triple and amorphous phosphate ammonium-urates.

January 22d.—At about 10.30 A.M. yesterday, patient tried to get out of bed, did not recognize his wife, and was very restless. At 1.30 P.M. patient had a convulsion, uræmic in character. At 2 P.M. another, and another at 2.45, when he was put in a hot-air bath. In the interval between the convulsions was very restless, and had to be tied down. While in the bath was given pilocarpin, one-fifth grain, hypodermically. At 4 P.M. had another convulsion. Venesection was performed on right arm, and seven ounces of blood withdrawn. Was quiet during the night. During the convulsions the pupils were widely dilated. This A.M. are moderately contracted. There is hyper resonance of voice at right apex posteriorly beneath right clavicle; prolonged expiration and increased voice. Omit medicines to-day.

R. Glonoin, $\frac{1}{100}$ grain, every hour, fifteen doses daily. Only passed two ounces of urine up to 5 P.M.

January 25th.—Urine acid. Albumin, trace; no uric acid. Spermatozoa leucocytes.

January 26th.—At 7.15 P.M yesterday patient had a uræmic convulsion, pupils were dilated, but was not followed by coma. Seven ounces of blood were withdrawn from median basilic vein by house physician, the left side. At 7.45 had another convulsion, followed by coma, and patient was conscious at about 8 15. At 1.15 A.M. patient had another slight convulsion. Urine, acid; 1.011: albumin, trace; microscope: hyaline and granular casts.

January 28th.—Tincture of chloride of iron, 10 minims; glycerine, one drachm, t.i.d. after meals.

January 31st.—Urine alkaline, 1.016; albumin, one per cent.; microscope negative.

February 9th.—Mitral regurgitant murmur heard over apex. Heart action quiet.

February 19th.—Allow farinaceous diet.

February 26th.—Urine acid, 1.013; no albumin; microscope: spermatozoa; leucocytes.

March 16th.—Heart apex fifth space just outside mammary line, no murmurs.

Discharged. Uræmia cured. Nephritis improved.

URINE RECORD.

	Ounces.		Ounces.
January 15	12	January 19	42
" 16	25	" 20	36
" 17	28	" 21	28
" 18	34	" 22	12
" 23	28	February 18	84
" 24	26	" 19	80
" 25	24	" 20	74
" 26	36	" 21	66
" 27	32	" 22	82
" 28	26	" 23	86
" 29	40	" 24	84
" 30	56	" 25	102
" 31	80	" 26	102
February 1	60	" 27	98
" 2	96	" 28	106
" 3	84	March 1	100
" 4	100	" 2	102
" 5	94	" 3	104
" 6	82	" 4	100
" 7	88	" 5	102
" 8	48	" 6	94
" 9	74	" 7	92
" 10	80	" 8	100
" 11	104	" 9	92
" 12	68	" 10	96
" 13	82	" 11	94
" 14	26	" 12	96
" 15	82	" 13	92
" 16	80	" 14	
" 17	72	" 15	88

CASE IV. *Chronic Nephritis and Chronic Endocarditis—Acute Pulmonary Œdema—Notably Relieved by Venesection to the Amount of Thirty Ounces.*—Edward Dunne, aged thirty, Ireland, single, stableman. Family history, negative.

Personal history: Scarlatina when young. Gonorrhœa once, five years ago. No rheumatic or malarial history. Marked alcoholic habit since seventeen years of age; for past seven weeks has left off whiskey and taken to malt liquors, but not heavily. Otherwise history negative, and patient has always been in good health up to time of present trouble.

Present trouble commenced seven weeks ago with slight cough and some dyspnœa, both of which were much and suddenly increased after a trip of thirty miles on horseback leading another horse, which gave considerable trouble, requiring unusual strain. At one time since raised some blood on coughing, but not much. Cough has become better during past three weeks, and also dyspnœa for past week is much better. Feet and legs swelled shortly after his trip on horseback; swelling disappears somewhat on lying down.

On admission complains chiefly of cough and dyspnœa. Appetite good, bowels regular. Pulse, 102; respiration, 28; temperature, 103⅕° F.; urine, 1.017, four per cent. albumin; no sugar; leucocytes, red blood cells, granular and blood casts. Diet, milk.

Cardiac impulse very diffused, dulness from one inch to right of sternum to base, nipple line from second space to seventh costal cartilage, moderate epigastric impulse, slight apical thrill, maximum intensity of first sound, sixth space, one and one half inch outside parasternal line; action regular, rapid, and forcible. Over apex is a loud, rasping murmur, which runs sharply up to sound of mitral closure (presystolic?). There is a faint double murmur over aortic area. From left nipple to middle of sternum, and second space to sixth rib, is a superficial respiratory friction crepitus. Lungs: Impaired resonance beneath right clavicle; many sonorous and sibilant râles over whole chest; dulness at both bases $\frac{1}{6}$ with numerous fine, moist râles posteriorly. Liver: Dulness sixth rib to second below costal arch; edge cannot be distinctly felt. Splenic dulness to free border of ribs, edge thought to be felt. Dulness in both flanks. Abdomen not distended, thought to contain a little fluid. Lower extremities, well marked œdema, several old cicatrices, and large area of pigmentation on legs. Pulse, 136, regular, quite forcible; increased tension. Nutrition good; no cyanosis.

Ice-bag to precordium 5.30 P.M. Fluid extract digitalis, two minims every four hours. Glonoin, $\frac{1}{100}$ grain every two hours. Codeine, $\frac{1}{2}$ grain, every four hours.

At 8.30 P.M. dyspnœa became suddenly marked; rapidly increasing œdema of lungs; pulse full and rapid;

considerable cyanosis. Oxygen ordered; anterior and posterior chests dry cupped. Eighteen ounces of blood taken from right forearm, and twelve ounces from left, giving great relief, between 9 and 10 P.M. Strophanthus, five minims hypodermically at 10 P.M. Mustard poultices, 1 to 5, followed cupping of chest. The oxygen seemed to cause patient more difficulty in breathing than relief. At 12 P.M. there was some return of œdema of lungs, confined to upper chest. Strychnine, $\frac{1}{60}$ grain, and atropine, $\frac{1}{100}$ grain, hypodermically, at once and to be repeated in two hours. Strychnine then to continue by mouth, alternating with glonoin, $\frac{1}{100}$ grain, every two hours, all other medicine being stopped until morning rounds. At 2 A.M. patient was sleeping quietly.

November 10th.—On morning rounds strychnine was continued, held at $\frac{1}{100}$ grain. Digitalis stopped, and hypodermic of $\frac{1}{100}$ grain atropine given and chest ordered to be cupped and followed by mustard poultices, 1 to 5. Patient has been quiet and comfortable all day, sleeping a good deal. He stated that the attack of last night was similar to his original attack after having ridden the thirty miles, only considerably worse, not treated at time, better next morning.

Heart action regular; good force, 124; apical murmur distinctly presystolic; still a few subcrepitant râles here and there over both chests, 10.40 A.M. Urine neutral, 1.017; albumin, four per cent.; red cells and casts.

November 11th.—Make glonoin $\frac{1}{60}$ grain. Very comfortable night. Urine, albumin, one per cent; 1.017; red cells and casts.

November 12th.—Stop mustard poultices. Very comfortable all day.

November 13th.—Stop codeine. Carbonate of iron, 1 drachm, t.i.d. Maximum intensity of first sound in fifth space just within nipple line. Auriculo-systolic murmur rather soft in quality. Marked accentuation of pulmonic sound. Lungs negative.

November 14th.—Small amount of light diet; much improved.

November 15th.—Make strychnine sulphate $\frac{1}{60}$ grain every four hours. Urine alkaline, 1.011; small amount of albumin; no casts; no blood.

November 16th.—Maltine and peptone, one-half ounce, t.i.d.

November 17th.—Patient improving daily; appetite good. Cascara, 10 minims, t.i.d.

November 18th.—Allow up. Make glonoin every four hours.

November 19th.—Urine alkaline, 1.016; albumin, small amount, no sugar, no casts.

November 21st.—Murmur still softer. Heart action quite regular and conservative.

November 22d.—Weight, 122 pounds.

November 25th.—Make glonoin $\frac{1}{100}$ grain. Make strychnine, t.i.d.

November 26th.—Allow clothes.

November 29th.—Urine negative. Weight, 127 pounds.

December 5th.—Stop cascara. Bowels regular. Omit glonoin and strychnine for twenty-four hours. Has been complaining of dizziness. Some cough. Compound licorice mixture, one drachm every four hours.

December 6th.—Weight, 131 pounds. Some pain in right chest on taking long breath. Iodine applied.

December 9th.—Blister to right chest.

December 10th.—Relieved by blister.

December 12th.—No more chest pain. Maximum intensity nearly $\frac{1}{6}$ in nipple line; action regular; murmur distinct; somewhat softer than formerly; few pleuritic friction sounds over base of right lung. Pulse, 104; regular, good force.

December 13th.—Make glonoin $\frac{1}{60}$ grain.

December 14th.—Sitting up daily and doing well.

December 16th.—Urine acid, 1.022; faint trace of albumin; no sugar; no casts.

December 17th.—Right chest painted with iodine.

December 21st.—Still complains of pain over right chest. Iodine no good. Cauterized.

December 27th.—Weight, 134 pounds.

December 29th.—Patient up and about ward; doing well. No more pain in chest for some days back.

January 3d.—Weight, 135 pounds. Condition good. A little weak. Heart doing well now, but murmurs still present.

I. Nephritis improved; II. Œdema cured.

Case V.—*Œdema of Lungs Causing Intense Dyspnœa, and Doubtless Due to Uræmia, Greatly Relieved by Wet Cups, Caffein, and Jalap Powder when other Treatment Failed to Relieve.*[1]—Eliza T——, aged fifty, born in Ireland, single, seamstress by occupation, admitted to hospital November 20, 1893.

Family history negative. Patient enjoyed good health until sixteen days before admission. At that time she began to be short of breath and to notice swelling of feet and abdomen. These symptoms continued increasing in severity up to the time of admission to hospital.

Physical examination of patient at that time showed heart a little enlarged, and the second sound accentuated. There was a slight effusion into each pleural cavity, over both lungs a few subcrepitant râles could be heard. Pulse was 104, tense; patient looked anæmic.

Examination of urine showed specific gravity of 1.018, a trace of albumin, hyaline and granular casts.

Patient was kept in bed, on milk diet. Glonoin, $\frac{1}{100}$ grain, was administered every two hours. The next day patient became decidedly worse; pulse more tense, breathing labored, and signs of slight œdema of lungs became marked. Only seven ounces of urine were passed in the twenty four hours. Glonoin was given, $\frac{1}{100}$ grain every hour; chest cupped; patient a little relieved by treatment.

For the next few days patient continued about the same, severe dyspnœa almost constant, except when temporarily relieved by inhalation of espic cigarettes, or by cupping. Urine varied from sixteen to twenty-four ounces in the twenty-four hours. Hot-air baths were given daily.

On November 25th dyspnœa became more severe, signs of œdema of lungs rapidly appeared. Both chests were cupped, a drachm of compound jalap powder was given as a purge. Wet cups were applied over kidneys. Caffeine citrate in one grain doses was administered every hour.

The patient under this treatment improved, breathing became easier, quantity of urine in next twenty-four hours increased to thirty-four ounces. Pulse became less tense. Examination of urine at this time showed specific gravity 1.020; twenty-five per cent. by volume of albumin, numerous hyaline and granular casts.

From this time on patient improved, dyspnœa disappeared, swelling of feet became less. Albumin in urine gradually diminished, quantity of urine increased.

January 13, 1894.—Patient discharged from hospital greatly improved. The case then was evidently one of chronic nephritis, during an exacerbation. The prominent feature was the dyspnœa, evidently dependent on the contraction of the arteries, and the feeble heart action, and relief therefore by the caffein—a heart stimulant, and glonoin—an arterial dilator. The wet cups over the kidneys seemed to markedly lessen the congestion of those organs, as the quantity of urine was increased and the patient's condition accordingly improved.

Case VI. *Chronic Nephritis—Repeated Uræmic Convulsions—Temporary Benefit from Blood letting and Saline Infusion—Death.*—M. B——, aged seventy-eight, single, entered St. Luke's Hospital October 18, 1889. Perfectly well until two months ago when patient was taken with a heavy cold; then noticed swelling of the feet. During last three weeks this has increased, involving legs, hands, and face. Frequent micturition, especially at night. Moderate prostration for one week.

On October 16th had six convulsions, which were pre-

[1] Notes of cases taken by Dr. Martin, of the House Staff.

ceded by ocular disturbances. Convulsions said by family physician to be uræmic in character.

Urine alkaline, ninety per cent. albumin (by precipitation); no glucose; microscope showed red, white, and epithelial cells; few granular casts. Patient well nourished and very anæmic. Heart apex in fourth space about four and one-fourth inches from median line. Impulse forcible; no murmurs; accentuated pulmonic sound. Pulse, 104; small, some increase of tension.

Treatment.—Sulphate of magnesia two drachms every two hours; cups to kidneys, hot-air baths, milk diet.

October 19th.—Glonoin, $\frac{1}{100}$ grain, every two hours.

October 21st.—Acetate of ammonia and iron mixture, one-half ounce, t i.d.

Between this date and December 17th frequent urinary examinations were made. Specific gravity remained between 1.012 and 1.018. Urine always acid when examined. Grammes of albumin to litre varied from five to sixteen. Urine was usually loaded with casts, mostly fatty, also hyaline and granular; bowels kept freely open. Frequent hot-air baths.

December 21st.—Urine decreasing; œdema increasing; considerable tension of radial pulse. Infusion of digitalis (cold), one half ounce every four hours.

December 30th.—General convulsion at 7.30 A.M., repeated several times during day. Croton oil, one minim, on tongue; hot-air baths; chloroform for convulsions; entirely unconscious. 5 P.M.—Convulsions continue; wet cups over kidneys; venesection to eight ounces, followed by saline infusion to a similar amount.

December 31st.—No more convulsions since venesection, etc. Temperature, 105° to 106° F. Coma complete; some rigidity of right upper extremity; one or two loose alvine dejections. Radial pulse almost imperceptible at wrist; 170 to 180. P.M.—Face flushed; surface body moist; breathing, cog-wheel in character; hypostatic congestion; left pupil more dilated.

January 1, 1890.—Patient died about 9.45 A.M. No autopsy.

Case VII. *Chronic Diffuse Nephritis—Uræmia—Infusion with Salt Solution—Temporary Improvement—Death.*—William C——, aged twenty-nine; male; Bohemia; cigarmaker. Family history negative.

Patient never has had rheumatism, scarlet or intermittent fevers; uses alcohol moderately; no distinct history of specific infection; had diphtheria three months ago; since July has had occasional chill followed by heat and sweating, last chill occurred last Sunday, these chills occured irregularly; has had shortness of breath and some obstruction in nose for the past week; since July urine has been high colored; swelling of feet; puffiness under the eyes in the morning; dimness of vision; vomiting, and a great deal of headache; has had diarrhœa for the past two days.

On admission patient is well nourished; appetite poor; tongue coated; pulse, 100; respiration, 38; temperature, 96° F. at 8 A.M. Urine, 1.010, acid; albumin, twenty-three per cent., no glucose; microscope: epithelial casts, granular matter, kidney epithelial. Heart: apex fifth space just outside nipple line; impulse heaving; cardiac sounds exaggerated; no murmurs. Lungs: anteriorly, numerous fine and coarse moist râles on cough; posteriorly, râles much less numerous than anteriorly. Liver negative. Spleen negative. Abdomen, some sensitiveness on pressure in epigastric region; inguinal glands easily felt on both sides. Extremities: slight œdema of lower extremities; right tibia is much enlarged, bows forward, and over its anterior surface are two large cicatrices surrounded by bluish-black areas evidently of long standing. Chloride of ammonia mixture one drachm every four hours. Milk diet.

October 30th.—Allow farinaceous diet.

November 1st.—Allow acid drink, Hosford's, one drachm to one pint.

November 2d.—Stopped chloride of ammonia mixture. Tincture of gentian, three minims, t.i.d. Glonoin, $\frac{1}{100}$ grain, every two hours.

November 3d.—Partial obliteration of right labio-nasal fold. No deviation of tongue.

November 4th.—Patient has passed no urine since yesterday P.M. Cups ordered over kidneys, followed by a digitalis poultice. Hot air bath to be given this P.M. Compound jalap powder, one drachm, immediately. Salol, ten grains, every six hours. P.M.: Stop salol. Naphthaline, fifteen grains every four hours. Stop peptonoids. Peptonized milk; infusion digitalis, two drachms, t.i.d.

November 5th.—Urine, 1.012, acid; albumin, thirty per cent.: no glucose: urea, four grains to one ounce; microscope: granular, epithelial casts, blood casts, red blood cells, some uric acid crystals.

November 6th.—Patient yesterday, at about 3 P.M., had a convulsion; was freely stimulated. Infusion with salt solution.[1] Patient rallied, but only temporarily, and died at 6.40 P.M. No autopsy.

Urine Record.

	Ounces.		Ounces.
Oct. 27	37	Nov. 1	30
" 28	34	" 2	32
" 29	32	" 3	12
" 30	42	" 4	20
" 31	32	" 5	41

Case VIII. *Chronic Diffuse Nephritis—Transfusion of 650 c.c. of Salt Solution, followed by Temporary Amelioration of Symptoms.*—Julia H——, aged twenty-two; domestic, married. Admitted to hospital, October 15, 1891. Family history negative.

Personal history: Five years ago had an attack of dropsy, recovered in three months, had a miscarriage some months ago. Has not been unwell for last three months, but does not know the exact date of last menstrual period.

Present illness began suddenly two weeks ago at night, with nausea and vomiting, which recurred all night: the next morning at five she began to have fits, her friends told her they lasted for two days; that she had spasms and bit her tongue; till three days afterward she was unconscious. When she came to herself she had a dreadful headache, which has persisted more or less intensely ever since. Till three days ago says she often saw lightning.

Has had complete anorexia, no more nausea or vomiting. She has passed a small amount of water since her illness began and has noticed general swelling of body. Her bowels have been constipated. Temperature, 99° F.; pulse, 100; respiration, 24.

Examination by house physician negative, excepting slight flattening of left side of face, and slight weakness of left arm and leg. Urine was acid; specific gravity, 1.007; a trace of albumin was found; no sugar present. Microscopic examination showed pus and epithelium; amount passed in twenty-four hours was forty-eight ounces.

Patient was put on milk diet. Medication consisted of potassium citrate, ten grains t.i.d. Reynolds's mixture, 2 drachms, afterward.

October 18th.—There was marked arterial tension and glonoin, $\frac{1}{100}$ grain, was given every hour. Urinary examination was negative. Amount passed in twenty-four hours was twenty-two ounces. For the next ten days patient continued to have high arterial tension; she also vomited from time to time, and was troubled with persistent and severe headache. Urinary examination showed that forty per cent. of albumin was present in urine, and considerable blood. Specific gravity, 1.012, and few granular casts. Amount of urine passed, thirty-four ounces. A few days later patient began to suffer from dyspnœa.

October 31st.—In the afternoon pulse became much slower and very irregular; dyspnœa was much more severe. Anterior chest was cupped, and two ounces of whiskey were given every four hours. Patient was very restless, thrashing about in bed from 4 P.M. to 8 P.M.

[1] In this case, although no mention is made of the fact, a considerable amount of blood was probably taken from the patient previous to transfusion.

Temperature rose to 101° F.; respiration, 40; pulse, 112.

At 8.30 P.M., 650 c.c. of salt solution at 100° F. was infused into right median cephalic vein, operation well stood, followed by period of quietness, slower respiration and more regular pulse. (This improvement probably due to infusion.)

For the next three or four days patient continued about the same; vomiting, however, was more persistent, and nutrient enemata were resorted to.

November 4th.—Enemata were stopped. Oxygen was given twice daily, and caffeine, two grains, every two hours. She was restless and noisy all day; respirations slow and shallow; pulse under 80, fairly regular. No urine passed. Toward night she grew worse; breathing became very bad.

November 5th.—At 12.25 there was slight twitching of face and hands, head extended, no real convulsions. Respiration gasping in character, but pulse was of good force, tension rather great. At 1.30 A.M. she died quietly but suddenly. No autopsy.

The case was evidently one of chronic diffuse nephritis, the point of interest being the apparent relief given by the infusion of 650 c.c. of salt solution into a vein, but the beneficial effects seemed to be of very short duration.

CASE IX.—I am indebted for the history of the following case to the courtesy of Dr. Charles T. Parker. It is one of albuminuria accompanying uræmic convulsions. The treatment was venesection, followed by saline transfusion. Rapid recovery took place. The history reads as follows: On a call for the Chambers Street Hospital Ambulance, August 27, 1891, it was sent to the City Hall Park, where a man was found lying on a bench unconscious. Patient was removed to the reception ward, his urine examined and found to be loaded with albumin. Before reaching the hospital it is said that he had a uræmic convulsion. Once there, every effort was made to arouse him, but in vain. Ten minutes after admission to the ward patient had a typical uræmic convulsion in which his face became cyanotic. The pupils were equally dilated and their reaction lost; the pulse was of high tension; the respiration intermittent and tonic spasm of the chest muscles occurred. The temperature was slightly raised above normal and the reflexes were lost. The convulsion began with a tonic contraction of the muscles. The mouth was tightly closed, the patient's head extended, the trunk slightly curved backward. The extremities became stiff and rigid and the fingers were clinched. This tonic stage of the convulsion lasted about fifty-five seconds and the clonic stage immediatety followed, in which the facial muscles were drawn so as to exhibit violent contortions. The eyeballs rolled from side to side, and the muscles of the upper and lower extremities underwent clonic spasms. The tendon reflexes were completely lost. Subsequently the patient seemed to be at ease for a time, and during this period he suddenly raised his head voluntarily more than once.

Infusion was advised and performed. Patients' arms were washed with green soap and water and afterward rubbed with ether. Venesection was then made and two pounds of blood were allowed to escape from the vein at the elbow. Immediately after the bleeding two quarts of freshly made salt solution were injected in the vein at the same spot. This injection seemed to work like a charm. No sooner was it terminated than the patient's limbs began to move, his face appeared normal, his breathing was greatly improved, and the reflexes returned. Twenty minutes after the transfusion patient was able to speak clearly about himself and remembered that he went to the Park and fell over on the bench.

Wound healed rapidly and patient was discharged cured in five days.

CASE X. *Typhoid Fever with Uræmic Phenomena, Treated by means of Hypodermic Saline Solution—No Apparent Benefit—Death.*—John M——, aged twenty-two, born in New York, admitted October 25, 1892, with symptoms of typhoid fever. Disease ran a rather severe course. Patient on the fifteenth day of his illness became much worse. Delirium of a low muttering character was present most of the time; mouth dry; pulse irregular. Urine, alkaline, 1.008; albumin, four per cent. Microscope showed blood-cells.

Symptoms of this character continued, and on November 4th, 75 c.c. of warm saline solution were slowly injected subcutaneously in gluteal region; fairly good absorption, but injection accompanied by great pain. Infusion was given with the idea of diluting toxic substances in blood which were causing the severe constitutional symptoms. The patient was not benefited by injection, he became steadily worse and died on November 6th. There was no autopsy.

CASE XI. *Chronic Nephritis showing Notable Temporary Effect of Inhalation of Nitrite of Amyl in diminishing Tension of Pulse.*—In this case $\frac{1}{75}$ grain of nitroglycerine had been given every hour for fifteen consecutive hours without obvious influence on tension of pulse. It was stopped because it caused intense throbbing sensations in the head.[1]

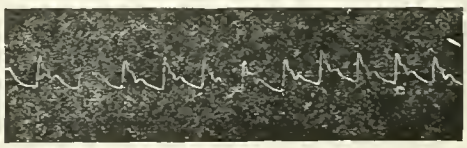


FIG. 1.—Mary H——. Tracing taken from right radial. Pulse rather small and hard. Artery is thickened. Percussion stroke (lines of ascent) line slightly slanting.

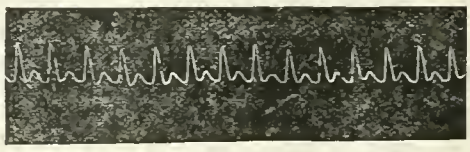


FIG. 2.—During inhalation of ♏ iv. amyl nitrite. Tension is now absent. Arterial coats relaxed and pulse dicrotic. Although the muscular fibres are relaxed the artery is still felt thickened, showing arterio-sclerosis. Line of ascent vertical.

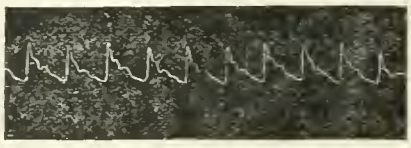


FIG. 3.—Tracing ten minutes after amyl nitrite, showed pulse practically returned to previous condition.

Mary H——, aged twenty nine. Severe headaches, nausea and occasional vomiting, prostration. Urine acid, 1.017; albumin, twenty per cent; no sugar; hyaline casts and red cells. Passes 50 ounces daily. Is getting daily hot-air baths, occasional doses of morphine and is allowed light diet.

NOTE.—During inhalation (just before second tracing) patient's face flushed and became slightly cyanotic; pulse became more rapid than in second tracing, pupils dilated, and extensors of limbs were tonically contracted. For about one minute patient was partially unconscious. This condition lasted two or three minutes and was followed by profuse sweat.

Lactophenin.—Landowsky (*Sem. Méd.*, February 7th) has tried the effect in several cases of lactophenin, a substance very closely allied chemically to phenacetin. This drug has anti-neuralgic properties analogous to antipyrin, and has, besides, a genuine hypnotic effect. The amount given daily was from sixty centigrammes to three grammes, divided into several doses. The only disagreeable by effects caused by the drug seemed to be diaphoresis and slight giddiness in a few of the patients.

[1] Notes and tracings were given me by Dr. Thomas, of the house staff at St. Luke's Hospital.

THE SELECTION AND PHYSICAL EXAMINATION OF THE RECRUIT.

By CHARLES B. EWING, M.D.,

CAPTAIN AND ASSISTANT SURGEON, UNITED STATES ARMY.

All men offering for military service are included in the general term "Recruit." By "recruiting" is meant "the operation by which men who compose an army are raised."

Definite rules and regulations for the selection of the soldier in our service were not formulated till 1840, when Assistant Surgeon Thomas Henderson published his "Hints on the Medical Examination of Recruits for the Army," etc. This continued to be the authoritative work till 1856, when it was republished with additional matter by Assistant Surgeon R. H. Coolidge. In 1858 Surgeon Charles S. Tripler published his first volume, in which he took the "Aide-Mémoire de l'Officier de Santé" for the French army as the basis of his work on "Recruiting and Inspection of Recruits." Though this was republished in 1866, the death of the author prevented the completion of the second part. In 1863 Assistant Surgeon Bartholow compiled a manual founded upon statistics issued by the Provost-Marshal General's Bureau. This work, though printed thirty years ago, contains much valuable information and is well worth perusal by all examining surgeons. The books of Assistant Surgeons Tripler and Bartholow were the official guides till 1884, when Colonel Greenleaf, Deputy Surgeon-General, wrote an epitome of Tripler's Manual, which underwent revision by the same author in 1890 and 1893, much new information, with some modifications of the old, appearing.

Recruiting in our service is conducted by the Adjutant-General, under the direction of the Secretary of War. It is both general and special. General when performed by officers selected and detached for such duty in the various cities where rendezvous are established. Special when confined to the department, regiment, or particular military organization. Field officers are detailed to superintend the service and command the depots, which are three in number, two for infantry and artillery, and one for cavalry. I find, upon perusal of the regulations of 1839, that the general organization of the recruiting service of to day does not differ materially from that of the former period.

After the recruit has submitted two recommendations as to character, which have been verified by the recruiting officer, he is examined. If found fit he is sworn in as soon as practicable, within six days after his examination, uniformed, and sent to the depot of the arm of the service which he is to enter, when, after remaining three months, he joins his regiment.

The physical examination of the recruit is conducted by the medical officer in the presence of the recruiting officer. This duty falls upon the recruiting officer when there is no medical officer present; in which case the medical inspection is made, within two days after the arrival at the depot or post, by the surgeon in charge.

Paragraph 925, A. R., says that "the physical examination of recruits will be conducted in accordance with Greenleaf's 'Epitome of Tripler's Manual for the Examination of Recruits.'" Colonel Greenleaf's Manual, having passed through three revisions, is a most excellent one. His task has been particularly difficult, because it governs the examining surgeon and likewise the recruiting officer, in the absence of a medical officer. The result is, that when recruits are passed as fit at the rendezvous, then found disqualified at the depot by a Board of Inspectors convened in such cases, it becomes very unpleasant for both concerned, and particularly the medical officer, upon whom the onus usually falls. While the Boards of Inspectors at depots closely scrutinize the acts of the recruiting officer, he escapes much criticism, by reason of his not being a medical man, that falls to the lot of the examining surgeon. The surgeon, therefore, has a dual rôle, the first being to obtain the very best men and pass only those who are fit, and the second, to please the recruiting officer, who usually wants a larger number enlisted. As it resolves itself into a question of quantity at the expense of quality, the experienced examiner will decide in favor of the smaller number physically fit.

I shall consider briefly our regulations governing the selection of the soldier (recruiting), and point out, according to my experience, where I think they should be modified, following with some suggestions looking to an improvement in our present methods.

Vision.—Particular attention should be given by the examining surgeon to this part of his duty. A large number of rejections at the present time are due to defective vision, though no particular care is taken to determine its character except in special cases. It is interesting to note the developmental phases of this branch of our work. The only one of these mentioned by Tripler, in his edition of 1858, is myopia, which he says "is an objection to a recruit," and repeats this in the edition of 1866. No mention is made of hypermetropia or astigmatism. Presbyopia is spoken of in both editions, but is not disqualifying, "unless decided."

The above was changed in G. O. 82, A. G. O., Washington, D. C., August 13, 1879, when very important and comprehensive instructions were given in lieu of the paragraphs I have quoted in Tripler. Accompanying these was a pamphlet containing a very clear and complete description of the optical appliances enumerated in the Order. This, taken altogether, was the most important regulation ever issued to the medical department of the army on vision, being both practical and sensible.

None of the anomalies in the refraction of the eye were disqualifying unless accompanied by disease which impaired vision to such a degree as to prevent the counting of the test-spots. These test-spots were "black" and circular, four tenths of an inch in diameter, placed on cards, and were to be counted at twenty feet. This being equal to seeing, at six hundred yards' distance, a black centre or bull's-eye three feet in diameter, on a white ground.

Besides the pack of test cards the following were furnished: A simple optometer with spectacle glasses and test-types, and a set of test-wools for detection of color-blindness.

The regulation just mentioned lasted eight years, when changed by circular dated Surgeon General's Office, Washington, June 7, 1887. This did away with the test-cards, types, and circular spots, substituting the Snellen types of twenty feet, and modified materially the whole question of vision in the recruit.

Myopia and astigmatism are absolutely disqualifying, and hypermetropia, "except when moderate and free from disease." Amblyopia, amaurosis (dim vision), and presbyopia are not thought worth mentioning.

We quote the circular, which is as follows:

"This examination requires the greatest care and patience on the part of the recruiting officer; it is made with cards bearing the 20-feet test-types and test-characters. To use the cards measure off a distance of twenty feet in a straight line; place the applicant with his back to the light at one end of the line, while the examiner stands at the other and holds the card exhibiting the test types or characters in full view of the applicant, and so that a good light falls on the card. Each eye should be examined separately, one being covered with a card (not with the hand) by an assistant, who, standing behind the applicant, directs him to read the types on the card held by the examiner. If he cannot read, the card bearing the characters is presented to him, which he is directed to describe. The types should be read first from left to right and then from right to left; the characters should be described as to the number of arms seen on each and the direction in which they are pointed, whether upward or downward, to the right or left. If the applicant should be unable to read the

test-types or describe the test characters correctly with either eye, he must be rejected."

It is only necessary to establish simply the defect according to this.

The inference drawn that *every* eye is perfectly emmetropic, to say the least, is fallacious. It does not state how the refractive defects—myopia, hypermetropia, and astigmatism—are to be determined by using simply the Snellen 20-feet type and characters. The optometer and prisoptometer are not mentioned.

The army which approaches our own the closest in its method of recruiting is the English, who have only to do with voluntary enlistments. The cost of putting a recruit into the army, due to their residence in all parts of the world, is greater than that of any other country. Here vision is tested with the much-abused "test-dots," or miniature bull's eyes, Snellen types, the ophthalmoscope, and optometer. The quality of eyesight is determined by Snellen's optotypes; if, however, these can only be read short of the normal distance some defect exists, and the ophthalmoscope and optometric apparatus are brought into use; particularly where the recruit is unable to read are the test dots substituted for Snellen's.

The English regulation is to the effect that myopia, hypermetropia, and astigmatism are only disqualifying when accompanied with vision inferior to one-fourth Snellen. This is qualified by Longmore in the paragraph headed "Quality of Vision for a Marksman at Full Rifle Range," where he says "vision in the right or aiming eye should be normal, and this can only exist when the eye is emmetropic, or as nearly so as not to exceed 0.5 D, or one-eightieth inch of ametropia and when the accommodation is normal; at the same time the left, or eye not employed in taking aim, ought not to possess less than three fourths of the normal standard of visual acuteness."

I have carefully scrutinized the regulations governing vision as it relates to recruiting in foreign armies, but as "conscription" is in force in the majority of them defective vision does not exempt from military service, for if found unfit in one branch the recruit is utilized in another, so that only very extreme errors of refraction act as a bar.

From my experience as an examining officer, I am of the opinion that the test-cards and characters supplied are entirely inadequate to the proper determination of vision, and that many applicants are rejected who would otherwise be accepted. To obviate this I think the regulations governing vision should be modified. It is quite apparent that the dots are better objects with which to test vision, especially where the applicant cannot read, than rectangular objects, as the question at issue is, after all, whether or not the recruit can become a marksman. Therefore I suggest:

1. That our nomenclature as it relates to vision be revised.

2. That other diseases which are disqualifying, besides those of refraction, be added to our present list.

3. That the test-dots or miniature bull's-eyes be used, but that they be changed to conform to the elliptical bull's-eye of the target now in use in the army, and that, as the present bull's-eye of the 600-yard target is 18 × 24 inches in its vertical and transverse diameters, the test-dot should conform to this, to be seen at 4 5 m. or 15 feet; both would subtend the same visual angle. The eye is supposed to occupy the apex of a triangle, of which the diameter of a circle seen at any given distance forms the base; then, if the distance of the circle be increased or diminished, its diameter must increase or diminish in the same ratio, if the angle at the apex of the triangle is to remain unchanged. In similar triangles the bases are to each other as the altitudes. Therefore the diameter of a circle which at 4.5 m. or 15 feet distance shall be equivalent to a circle 24 inches (vertical diameter of bull's-eye) in diameter at 600 yards (1,800 feet) is found by the following proportions:

1,800 feet : 15 feet : : 24 inches : 1-5th of an inch.
1,800 feet : 15 feet : : 18 inches : 3-20ths of an inch.

Hence the size of the ellipse seen at 15 feet would be 1-5th x 3-20ths of an inch in diameter.

If we desire 20 feet as the distance at which the elliptical dots should be seen, then the following proportions would obtain:

1,800 feet : 20 feet : : 24 inches : 4-15ths of an inch.
1,800 feet : 20 feet : : 18 inches : 1-5th of an inch.

Thus at 20 feet the size of the ellipse would be 4-15ths × 1-5th of an inch in diameter.

A greater number of these dots should be placed upon one large card instead of upon numerous small ones, as heretofore. Thus the test would be more exact and the applicant would be unable to obtain knowledge of groups of dots as he could upon the small cards formerly in use.

4. That where defect is discovered, its quality be determined, also that the prisoptometer be furnished all recruiting rendezvous, so that recruiting officers, in the absence of the examining surgeon, might be able to find quality of refractive error of vision. This instrument is very simple in construction, and recruiting officers should have little difficulty in using it. Of course this would only apply to determination of simple and not compound refractive errors.

5. That the present degrees of disqualification, especially as they relate to anomalies of refraction, be modified as follows:

a. Myopia.—When the elliptical test-dots cannot be counted at 4.5 m., and where myopia is found to be greater than 1-20th in right eye and less than 3 4ths vision in left.

b. Hypermetropia.—Where the test dots cannot be counted at 4.5 m. by right eye and less than 3 4ths vision in the left. The disabling effects of hypermetropia are more or less felt in both far and near vision, and increase with age at certain ranges.

c. Astigmatism.—Where myopic or hypermetropic ametropia exists with vision inferior to 1-4th.

Amblyopia not being a refractive defect, and not corrected by glasses, should disqualify unless the 1-5th × 3-20th inch test dots be counted at 4.5 m.

Amaurosis, an affection of the retina, for a like reason should disqualify.

Pterygium only when it impinges on the cornea should disqualify.

6. The room in which vision is tested should be well lighted and at least 20 feet square.

Hearing.—This is such an important requirement to the recruit for entrance into our service that a few words will not be out of place.

The "Epitome of Tripler's Manual," edition 1884, under the caption "The Ears," says that "Deafness of either ear constitutes an absolute cause of rejection. The applicant should be placed about twelve feet from, and with his back toward, the recruiting officer, and be required to repeat certain words, addressed to him in a low tone of voice; his failure to respond will speedily show this defect."

This was modified by circular dated Headquarters ot the Army, A. G. O., Washington, June 7, 1887, as follows:

"Strike out paragraphs following 'Deafness of either ear constitutes an absolute cause of rejection,' and substitute:

"As the distance at which the natural tone of voice may be heard in a closed room, when both ears are normal, is about fifty feet, the distance at which the applicant is to stand from the examiner must be as great as the apartments will allow, not to exceed fifty feet. The applicant will stand with his back to the examiner, who is to address him in a natural tone of voice. When the distance is less than forty feet, it should be specified on the examination form, and the tone of voice will be lowered. Failure of the applicant to respond to the address of the examiner will demonstrate a defect.

"The personal attention of the recruiting officer or sergeant must be given to closing the entrance to each ear separately, by pressing with the thumb the small lobe

(tragus) situated in front of the opening to the inner ear.

"Advantage should be taken of the absence of other sounds to make the examination. Recruiting officers should remember that a man may be totally deaf in one ear, and yet may hear all ordinary conversation perfectly if the sound ear is not completely stopped. Deafness of one ear is a bar to enlistment, but in ordinary occupations it might not be observed."

The present governing manual of 1893, a revision of former epitomes, orders, and circulars, contains all the above with this addition:

"All men enlisted for the artillery arm of the service at a military post, or assigned to that arm from a depot, shall, before such enlistment or assignment, besides undergoing the ordinary examination, be examined specially with a view to establishing the fact of the patency of the Eustachian tubes and the integrity of the tympanic membranes, in default of which the men are unfit for that arm. In time of war deafness of one ear is not cause for rejection. It should be borne in mind that defects in hearing are easily feigned; therefore, when they are alleged by conscripts, the examination should be made by a medical officer. Genuine deafness cannot be concealed."

It does not require very careful perusal of what I have just read to conclude that our methods of testing hearing should be more exact. The rooms in which recruits are usually examined at rendezvouses, vary in size, being rarely over twenty and never fifty feet in anyone dimension. Again, it is very difficult to so modify the "natural tone of voice," as to give any specific value to it when heard at less distance than the maximum stated. Further, the test of hearing as determined by the voice is not a fair one; hence I suggest the apparatus of Galton, which is most excellent for the exact determination of hearing.

It consists of an india-rubber tube which communicates through five others with five fixed whistles of small bore, and at depths that will give 50, 40, 30, 20, and 10 thousand air-vibrations in a second, respectively—that is, of the several depths of 0.067, 0.084, 0.113, 0.169, and 0 380 inch. Each tube is nipped by a separate clamp. These are numbered in order, 5, 4, 3, 2, 1, and serve as keys. When anyone of them is depressed, air is blown through the corresponding whistle, and is thrown into vibrations that can be heard by some as a shrill and pure note, while others hear merely a puff or nothing at all. Every person has his limits of power of hearing high notes, quite independently of the general acuteness of his hearing. The test lies in ascertaining which is the shrillest of the five notes that is audible. The precise limit of audible sound may be found by using a whistle that has a movable plug for its base.

Age.—At present, in our service, no particular importance is attached to age and its "physical equivalents" in relation to height, weight, and vital (chest) capacity. Much attention has been paid to the relative values of height, weight, and chest-girth, considered singly and collectively, but not as connected with age. Definite rules are given for the determination of certain weights where the heights are fixed; likewise specific statements are made showing the relation of chest-girth to height; but one looks in vain for a column of ages to correspond with the physical equivalents mentioned.

In the very earliest days of the Republic, as shown by the Statutes at Large, page 119, vol. i., the limits of age in the army under Washington were from eighteen to forty-six. During the war with France, in 1798, the age was any that the President might direct. By an enactment of Congress, March 16, 1802, the maximum age was reduced from forty six to thirty-five, which obtained till January 11, 1812, when the maximum was again raised and fixed at forty-five. The War of 1812 arose, and as hostilities became more active, demand was made upon Congress for more troops, so that the Act of December 10, 1814, called out all "effective men" between the ages of eighteen and fifty. These limitations were not trenched upon till 1825, when the maximum was again reduced to what it had been twenty-three years before, and became thirty-five. The Mexican War did not change these figures so far as the regular army was concerned, though many volunteers were in the field possessing ages above the maximum stated. During the War of the Rebellion the minimum age was raised to eighteen in the regular army, the maximum still remaining at thirty-five. Under the enrolment act, however, the ages were fixed between twenty and forty. The minimum in our service was again modified April 23, 1874, by War Department circular, so it became sixteen. Our present regulations prescribe the minimum and maximum to be sixteen and thirty-five, respectively; though the age below eighteen is limited to musicians, and between eighteen and twenty-one to those who obtain consent of parents or guardian. By circular dated A. G. O., May 26, 1892, the maximum age was reduced from thirty-five to thirty for original enlistments, no maximum existing, so far as I know, relating to re-enlistments. Some stress is laid by our governing manual upon the fact that for "acceptable colored recruits the age of twenty five or twenty-six is practically the maximum, because after that they are liable to be physically stiffened and mentally dulled."

I should say that about nine-tenths of the original enlistments in our army are between twenty-one and thirty years of age. The limits fixed for entrance to West Point are seventeen to twenty-two.

The consensus of opinion is well put by the lamented Dr. Parkes, of the medical department of the English army, in these terms: "That although a recruit may be usefully trained at an early age, no man under twenty years of age can be regarded as an efficient soldier fit for service." Actual experiences of many competent observers confirm this.

The first Napoleon said, after the battle of Leipsic: "I must have grown men; boys serve only to fill the hospitals and encumber the roadsides." The Duke of Wellington thought old soldiers the "soul and strength" of the army. General Roberts, in his great march from Cabul to Candahar in 1886, found it was the young soldiers who succumbed, while the old became stronger each day. Sir James McGrigor found the soldier under twenty years of age unequal to the "harassing duties of service" during the Peninsular War of 1805 to 1814. Lord Raglan, the commander-in chief in the Crimea, found the recruits sent him "so young and unformed that they fell victims to disease and were swept away like flies" The Duke of Cambridge and Viscount Hardinge give like testimony. The annual report of the Surgeon-General of the Army for 1885 showed such a marked increase of sickness, and "the rate was so much above the mean for the whole army, that he questioned whether the services rendered by these young men are equal to the cost of their maintenance."

Minimum Age.—It seems the general opinion that before a recruit has acquired the physical and moral qualities necessary to enable him to execute the duties incident to military life, he must have attained a certain age. This should not be below eighteen when the training of the recruit is to commence, and under twenty as a soldier in the ranks.

The equipment is of such weight that only the strong, healthy, and robust can carry it and at the same time render service.

Dr. Fallot says: "Conscripts at the age of eighteen have not attained their full growth, and medical men are well aware that the complete development of the human body requires an exemption from great fatigue, abundance of healthy nourishment, undisturbed sleep, and a tranquil mind—a concurrence of circumstances which never occurs in the army."

Coche, in his "De l'Opération Médicale du Recrutement et des Inspections Générales," expresses a similar view, "that recruits at eighteen years of age are commonly unfit for the duties of the army, not only in time of war but in a period of peace." Kirckhoff, who had much

experience with troops in active warfare in the Netherlands, says: "We ought to establish it as a general rule not to receive a recruit into the army below twenty years of age or above twenty five. Under twenty years of age a man has not requisite strength to enable him to undergo the fatigue of military duty, and after twenty five his joints do not possess that flexibility or freedom of motion which is necessary for acquiring the discipline of a soldier." He also lays stress upon the fact that only about five per cent. of the infantry exceed forty years of age, and that at that time they nearly all become unfit for active service. Therefore the period of a man's active service, according to this observer, is from the twentieth to the fortieth year.

The above shows conclusively how wrong it is to expect any long-continued exertion from the average recruit of eighteen or twenty years of age. Again, the constrained position produced by the equipment, and the erect attitude which goes to make up the military air and carriage of the soldier, differ materially from the conditions surrounding the recreative exercises of the civilian. This has been well put by Parkes, who describes the state of the soldier on the march as the position of "attention" put in motion.

It is well to consider the question of metabolism, or tissue change in the body, produced by prolonged exercise as in marching, where weight is to be carried. Maclaren, of Oxford, has given in his work on "Training," as the result of a long pedestrian tour (quite equal to a long march), exceeding nine hours daily, with knapsack of twelve pounds, the following: "The chest fell from 41 to 39½ inches; the upper arm from 14½ to 13⅛ inches; the lower arm remained unchanged at 12½ inches; the lower limbs, on the contrary, were vastly increased, the calf of the leg passing from 16 to 17½ inches, and the thigh from 23½ to 25 inches." This, however, is not near so irksome, and not to be compared to the soldier on the march, who carries in our service an equipment weighing over five times as much (including gun and ammunition), clothed in heavy uniform, girded with straps, and whose pace must be a regulated one, only being allowed to halt at command. The destruction and disintegration of tissue under these conditions are certainly very great, and this is usually attended by "partial embarrassment of the system." It is fair to presume that this embarrassment must increase with the weight to be carried, the labor to be performed; hence a glance at our equipment for the infantryman will be of some interest.

The equipment for field service is as follows:

1. The blanket bag, containing two blankets, one pair trousers, one poncho, one shirt, two pairs stockings, one piece shelter-tent, one pair drawers, one overcoat, one towel, one pair shoes, one piece soap, etc., the whole weighing 34 pounds.

2. The haversack, containing the meat ration can, tin cup, knife and fork, spoon, tin plate, and three days' rations of hard bread, pork, or bacon, and coffee and sugar, weighing 9½ pounds.

3. The canteen, which when filled weighs 5 pounds and 10 ounces.

4. Rifle and bayonet, weight 10 pounds and 2½ ounces.

5. Field belt and bayonet scabbard, weighing 1 pound and 12 ounces.

6. Seventy rounds of ammunition, weighing 7 pounds and 9½ ounces, being in all over 64 pounds, and not including such accessories as pocket knife, money, pipe, tobacco, etc. Of course in time of war this could be reduced, just as in the past. The reduction to forty pounds is possible, but this would necessitate the throwing away of everything except the armament, to which is added one hundred rounds of ammunition and rations for the field to last, say eight days. This equipment is four pounds greater than that carried by the Roman soldier, and twenty one to twenty-two pounds more than that of the "old army" of antebellum days.

(To be continued.)

NEPHRO-LITHIASIS.

By A. H. CORDIER, M.D.,

KANSAS CITY, MO.

CLINICAL LECTURER ON GYNECOLOGY, KANSAS CITY MEDICAL COLLEGE; MEMBER AMERICAN MEDICAL ASSOCIATION; CORRESPONDING MEMBER PHILADELPHIA OBSTETRICAL SOCIETY, ETC.

SINCE Morris, in 1880, placed the operation of nephrolithotomy in the category of modern surgical procedures, many operations of a like character have been successfully performed by surgeons in all countries. These successes have led to an extension of the surgery along the ureter, so that now this narrow tube is invaded from either the bladder or kidney extremity, its canal dilated for stricture, and impacted stones removed from any part of its course. The formation of calculi in the pelvis, calyces, and in the parenchyma of the kidney, certainly is not of rare occurrence, and demands the attention of the general practitioner and surgeon, that their presence may be early recognized and the proper procedure for their removal resorted to promptly. It is the prophylactic or anticipatory surgery that brings the best results, the lowest mortality, the most cures and restored functions. This class of surgery is called rash, mutilating, unjustifiable, etc., by a few of our would-be modern surgeons who are still poulticing tibial sequestra and draining pus-tubes and ovarian abscesses through the groin and vaginal vault.

The great destruction wrought to the kidney structure by an impacted calculus can best be understood by examining the kidney of one of these neglected cases.

Calculi may form in the pelvis or calyces at any age, but is more likely to occur in early childhood or after the fortieth year. Uriate of ammonium in infancy, uric acid in adults, and oxalate and phosphate of lime after forty being the composition of these stones at these ages. They may develop in one or both kidneys, in the pelvic calyx, parenchyma, or all combined, the secreting structure of the organ as a rule being injured in proportion to the size of the stone, duration, and location. A small stone may lead to the complete destruction of the kidney by occluding the ureter for a long period, or, if small enough to pass through this narrow canal, may give rise to no other symptom than severe pain during the passage, and cease to give further trouble, unless by its presence in the bladder it acts as an irritant or as a nucleus for the development of a vesical calculus. Again, a large stone may, by a gradual growth in a location that does not produce an obstruction to the flow of the urine, attain an enormous size without producing much suffering by its presence. The kidney may become one large cavity containing pus, blood, urine, or all combined, without the patient having experienced any of the so-called characteristic paroxysms of nephritic colic. A stone weighing several ounces has been removed, post mortem, from a cyst, the kidney structure having been destroyed. The woman had presented no history of such a state of affairs. This case is a rare one, and is mentioned to call attention to the fact that all these cases do not have a typical history. As a rule, a patient with a suppurating kidney due to the presence of a stone will have hectic fever, emaciation, and pus in the urine. A pyo-nephrosis may insidiously develop in the sac of a hydro nephrosis (due to presence of a stone) without the development of the usual concomitant symptoms of the presence of, or development of, pus. A case may begin as a retention cyst if the stone occludes the pelvis, the calyces, pelvis, and even the parenchyma, being dilated, forming a large tumor perceptible on inspection and palpation, attaining in some cases the size of an adult head. Suppuration, in such a cyst, may take place without any acute exacerbation of pain or fever. An imprisoned stone giving rise to much pain may by an ulcerative process be set free in the cellular tissues surrounding the kidney and develop a perinephritic abscess. Like abscesses in the region of the appendix these post nephritic suppurations are always secondary. The cause, in the majority of instances, will be found originating about the pelvis or the ureter. Many of these cases are incorrectly diagnosed as psoas

and iliac abscesses due to a carious vertebra, and a plaster jacket applied to prevent a scoliosis and produce a cure. These cases will continue to suppurate as long as the sequestrated calculus is permitted to remain in the abscess cavity.

It is remarkable how much urine one of these seemingly disorganized kidneys will secrete where the ureter is patulous, or even through a urinary fistula. A normal quantity, or even more, is often passed from a kidney the microscopical appearance of which would indicate the complete destruction of its secreting structure. Where true albuminuria is present it is due to the tissues of the secreting substance being involved, and not to lesions of the calyces and pelvis. Albumin due to the presence of pus is misleading until its exact source is discovered—not always an easy matter.

In the last three months I have operated for the removal of nephritic calculi on three patients, two being females, one male, the left kidney being affected in one of the women, the right in the other two cases. The male was twenty two years of age; the women thirty-three and forty-four. The largest stone removed weighed two and a half ounces, and was composed of phosphate of lime.

I append the history of two of the cases to illustrate the two types of the disease, the acute obstructive nephro-lithiasis, with perforation and perinephritic abscess, and the chronic partial obstructive, with retention and development of the stone in the calyces and pelvis, with chronic pyo nephrosis.

The third case was of the acute variety, with post-nephritic suppuration of nine weeks' duration at the time of the operation.

Case of Nephro-lithiasis—Operation—Recovery.—C. W——, aged twenty two years; single. This young man, while in perfect health, was taken with a pain of the most intense character in the region of the right kidney. This pain persisted with unabated severity for a number of hours. Large and oft-repeated hypodermics of morphine finally subdued the greater intensity of his suffering, but while not under the influence of the opium he suffered much. Three or four days after the beginning of his attack he developed a fever of a septic type, his pains at the same time greatly subsiding. It was at this period of his illness that the pain-producing, impact-calculus found an exit through the walls of the ureter or pelvis, at the same time relieving his pain by its escape, and producing evidences of sepsis and local suppuration.

In the beginning of his attack he passed blood-stained urine, the quantity being much diminished. After the imprisoned calculus was set free in the tissues surrounding the kidney, an enormous quantity of urine (polyuria) was passed, the specific gravity of which was only 1.002. This (polyuria) increased flow of pale urine with a low specific gravity has been a diagnostic symptom in several of my cases of acute nephro-lithiasis.

The young man continued having his irregular chills, sweats, and fever for four weeks, losing much (eighty pounds) weight, and all his strength. During this period he was passing large quantities of pale, light urine, and was having more or less pain in the region of the right kidney. At this time I saw him for the first time.

After analyzing his symptoms and history I decided that I had to deal with a perinephritic abscess of a nephritic calculous origin. An operation revealed the correctness of my diagnosis. The young man made an ideal recovery, and is, to day, a perfect picture of good health.

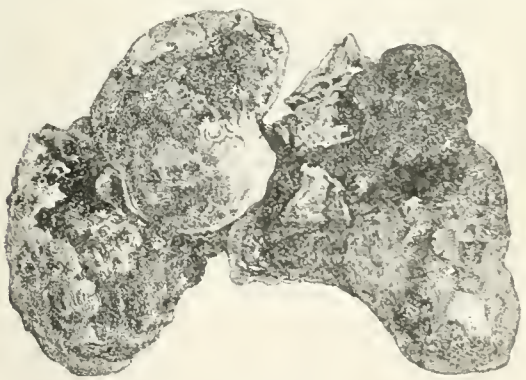
This case had been diagnosed appendicitis, typhoid fever, abscess of the liver, and malaria, by as many physicians as I have enumerated diseases. This mistake is easily made in similar cases if the physician is not systematic in his diagnostic methods.

Case of Nephro-lithiasis—Nephro-lithotomy—Stone Weighing Over Two Ounces Removed.—Mrs. P——, of Olathe, Kans., patient of Dr. C. G. McKinley. This lady, aged forty-four, mother of four children, youngest five years old, was sent to me by Dr. McKinley.

About five years ago she noticed a small enlargement in the region of the right kidney. At the same time more or less pain and uneasiness in that locality was felt. The uneasiness has continued up to this time. At no time has she had hard or unbearable pain like that due to the passage of a renal calculus. The tumor has continued to grow, but in the last year much faster than formerly. She is fairly well nourished, but some sallowness of the skin is noticed. Has at no time been confined to her bed from any symptoms pointing to this locality as a cause of her illness. Has had no fever at any time, or local tenderness, pointing to any acute suppurative process. Has been doing the ordinary duties of a housewife. Her urine during the last year has been clouded. On examination I found it contained much pus. Her bladder has been irrigated frequently with boracic acid, etc., with no diminution of the pus in the urine. Her bladder has not, at any time, been acutely inflamed or painful.

She has not at any time had any acute exacerbations of pain like that produced by the passage of a renal calculus. At times she has passed large quantities of urine, but it was always clouded, during the last year. On examining her I found a tumor the size of an infant's head in the right renal region, slightly movable, rather soft or semifluctuating, painless on handling, and smooth to the touch; dulness in front of the growth, but below the head of the colon resonance was elicited on percussion. The ascending colon was pushed to the inner side of the growth. Taking the history and well-marked physical signs I decided that I had to deal with a pyo nephrosis, the origin of which was, very probably, due to the presence of a calculus. The tubercular origin of the condition was eliminated by its duration, pain, absence of bacilli, disease of other kidney being eliminated, and absence of rapid and continuous emaciation, so often seen in the tuberculous kidney.

Operation performed November 18, 1893, Dr. J. D. Griffith assisting. An incision from the anterior or free end of the twelfth rib (which was short), was made, extending downward and forward, in a circular direction, to near the anterior superior spine of the ileum. This



was carried in to the anterior border of the quadratus lumborum. A few cutaneous branches from the lumbar and intercostal arteries were divided. The outer edge of the latissimus dorsi and posterior border of the external oblique were exposed and divided, then the internal oblique and transversalis. The edge of the erector spinæ was not disturbed; this brought me down to the outer border of the quadratus lumborum. Much of the dissecting was performed by the fingers and handle of the scalpel. The kidney was now pushed from in front into the incision as much as possible. An exploring trocar was introduced, to make sure that I was not entering the peritoneum, and to find pus or other suspected fluids, and to hunt for stones. The first thrust of the trocar struck both pus and calculi. This opening was enlarged with the forceps and fingers. I found a large collection of pus in the kidney, and stones, the aggregate weight of which was about three ounces. These were removed, the largest one weighing over two ounces and a half. (See cut.) Cavity was irrigated and packed with gauze, and

drainage put in. A large part of the incision was left open, as these cases suppurate freely and for a long time. The hemorrhage was at no time very alarming, being mostly venous from the parenchyma. A few hours after the operation she passed blood-stained urine, showing that the ureter was patulous, as was evinced by the passage of pus in the urine before the operation. Two days later her urine was quite normal in appearance and quantity. The dressings were more or less soiled with pus of a urinous odor.

"Ideal surgery" would have demanded the removal of the kidney at the same time I removed the stone, but the mortality of the primary operation of nephrectomy for a suppurating kidney is very nigh. If it is necessary the diseased organ can be removed at a later period, and that, too, with a better prospect of recovery from the operation.

ERGOT IN THE TREATMENT OF PERIODICAL NEURALGIAS.[1]

By W. H. THOMSON, M.D.,

PROFESSOR OF MATERIA MEDICA AND DISEASES OF THE NERVOUS SYSTEM, UNIVERSITY MEDICAL COLLEGE, NEW YORK.

Having for a number of years relied upon ergot in the treatment of migraine, I was led to try it also in cases of neuralgias which were marked by the feature of periodicity, with results of which the following reports are illustrations:

Case I.—My friend Dr. T——, a practising physician of this city, furnishes me with these notes of his own case. He writes: "During the winter of 1883–84 I was troubled with frequent headaches. The attacks grew more and more frequent until they assumed a periodical character, coming on daily about 6 P.M. This condition increased, until, in the early spring of 1884, they became intolerable and necessitated my staying in bed. Under the impression that the trouble was malarial I had taken quinine and arsenic, together with bromides, without relief. When I took to my bed I took thirty grains of quinine daily for three days, in doses of fifteen grains night and morning, combined with capsicum; also fifteen grains of bromide of potassium every two hours. During these three days I also took two twenty-grain doses of chloral. All this was attended with no relief, the pain beginning with an occipito-cervical aching and then increasing until the whole head was affected. On the evening of the third day you called and prescribed one drachm doses of fluid extract of ergot, to be repeated every two hours until relieved. Your prescription was:

℞. Extract. ergotæ fluid.,
Elixir cinchonæ.....āā ʒj.
M. Sig: Two teaspoonfuls in water every two hours, unless pain was relieved, when the intervals might be lengthened.

You stated at the time that it was a mistake to take large doses of quinine for periodical neuralgias, and directed me in the future to take but ten grains a day at 4 P.M. In an hour after taking the first dose of your prescription I went to sleep, which was the first sleep I had had in three days, and this ergot treatment made my recovery rapid. I must add that my headache was attended with no chill or rise of temperature. Several times since 1884 I have been threatened with similar attacks, but have always been immediately relieved by your ergot treatment."

Case II.—Mr. B—— I saw in consultation with Dr. A. E. Carpenter, of Boonton, N. J., who sends me the following account: "Mr. B——'s was a case of remarkably severe periodical neuralgia, following a mild attack of la grippe. It affected the intercostals and also the great sciatic of the left side. The attacks came on about 10 P.M. every night, and were almost entirely uncontrollable. I had prescribed large doses of quinine and of other antiperiodics, without any satisfactory results. I even anticipated the attacks upon two occasions with half a grain of morphia hypodermically, but the same dose was required again before midnight. After becoming thoroughly alarmed about him, as you know, I invited you to see the case with me. It was the day after the patient had had the worst night of all. You ordered full doses of ergot in connection with moderate doses of quinine. That night the patient did not suffer at all, and had the best night which he had passed for a week. I continued your treatment for five days, and the patient made a speedy and permanent recovery. I found no necessity to give him any more morphia after beginning the ergot. The case had been of ten days' duration prior to your visit, and each succeeding night its severity was progressive."

Case III.—Mr. W——, a German druggist, living in Greenport, L. I., came, September 4, 1893, with a story of persistent daily headaches, lasting all day, but subsiding at night, beginning at the occiput and extending anteriorly. They first came on in the summer of 1892 and lasted through the autumn, but left him in the winter. In June, 1893, they returned worse than ever, and continued to date. Ever since they began in 1892 he became much constipated, though he was never so before, and his constipation continued through the winter, when he was free from headaches. He had faithfully tried quinine and Warburg's tincture in very free doses without any relief. Pulse at his first visit, 110. Ordered to try four grains of exalgine at a dose, and if this did not relieve him, then to take a drachm of ext. ergot. fl. with elix. cinchonæ. On September 11th he reported that the exalgine gave him no relief, but the ergot, though it nauseated him, relieved him at once. He took the ergot from September 4th to September 8th, after which he has had no return of the headaches.

Case IV.—I saw in consultation with Dr. L. Feigenblatt, of this city, Mr. W——, a young gentleman much given to horseback riding. Began to suffer from headaches, beginning at the occiput and then extending to the temples, which came on about 11 A.M. daily and gradually grew worse till they reached their acme about 4 P.M., after which they subsided in the night, without, however, entirely disappearing. Dr. Feigenblatt failed to check their progressive severity till, on their becoming intolerable, he tried on one day thirty-grain doses of chloral with thirty of potassium bromide every two hours for two doses, with little more effect than causing a slight drowsiness. The next day, the patient becoming maniacal from pain, sixty-five grains of chloral, sixty of bromide, and thirty of antipyrin were given within two hours. This dosing caused a profuse sweating and moderate sleep. The third day a consultant who was called in recommended that quinine and Warburg's tincture, which had been tried at the beginning of his treatment by Dr. Feigenblatt, should be resumed in large doses. Accordingly sixty grains of quinine and two ounces of Warburg were administered in twenty-four hours, with even worse afternoon paroxysms of pain than before. The next day the bromide, antipyrin, and chloral doses were resumed, as the patient had got some sleep from them, but as no permanent relief from the recurrence of the attacks was expected, I was asked to see him, which I did at 1.30 P.M., October 21, 1893. I found him in bed with a pulse of 106, eyes suffused, and with some photophobia. Temperature, 99° F. Complained of considerable dull occipital headache and very apprehensive that it would soon come on in paroxysms. He had never complained of stiffness of the neck, or of aching in the spine or limbs; his only other complaint was that he had been troubled for a number of weeks with a morning cough, for which he had consulted the above-mentioned gentleman, who had seen him with his family physician for his headaches; but his cough persisted till his headaches came on, when it left him. Physical examination of his chest by me was with negative result. I advised his physician to begin at once with drachm doses of ext. ergot. fl. every hour, for three doses, with ten grains of quinine with the first two doses; and that if his stomach rejected either of the doses, that the ergot be given per rectum. I then requested the doctor to send me a report of the result.

[1] Read before the New York Neurological Society, January 2, 1894.

A week afterward the doctor wrote to me that with the first dose the patient experienced a good deal of relief; that he vomited the second dose, whereupon it was given by enema; and this was soon followed by complete subsidence of the headache, with profuse perspiration. This medication was repeated for three successive days, with final cure of the headaches, and what was also curious was that the second ten-grain dose of quinine, when given with the ergot, produced decided symptoms of cinchonism, whereas when it had been given singly in much larger doses before, it had failed to do so.

The severity of the pain in some cases of periodical neuralgias is remarkable. In one instance a gentleman, aged sixty-five, the type of a sturdy, self-reliant business man, became so overcome by a frontal neuralgia, with extreme photophobia and lachrymation, which came on about 10 A.M., that he could not help crying out from it like a child. In most instances, however, such neuralgias are of a dull, aching character, but frequently accompanied with great restlessness or marked depression. Thus a married lady once sent for me on account of what she described as an intolerable heavy aching coming on late every afternoon, in the lower part of the back, with aching in both hips and down the inner aspect of the thighs, and accompanied with a profuse leucorrhœa, which would diminish in about four hours, when the aching went off. I gave her free doses of quinine and ginger, and that not succeeding, tried Warburg's capsules without effect; whereupon six grains of solid extract ergot, with three of quinine, were ordered every hour for three doses, commencing at 2 P.M. Both the aching and the leucorrhœa were checked on the first day of this treatment.

In the treatment of migraine with ergot it has been my practice to administer the fluid extract of ergot combined with an equal quantity of cinchona elixir, to obviate its tendency to cause nausea. Two teaspoonfuls of this mixture is to be taken in water as soon as the premonitory symptoms of the headache are noticed, and the patient is advised to lie down and keep very quiet. If after an hour the headache continues, a second similar dose is taken, and then a third in another hour, if necessary. As nausea is such a general accompaniment of this affection, it is provided that if either of the doses be vomited it should then be taken as an enema in two ounces of water. I have rarely failed to arrest the attacks with this medication, even in long standing cases, and with a preventative course of intestinal antiseptics in the intervals the relief from the malady has often proved permanent.

RESECTION OF THE HYOID BONE FOR RADICAL CURE OF FISTULA COLLI CONGENITA.[1]

By CARL BECK, M.D.,

NEW YORK.

Congenital fistula colli is a condition not frequently met with. Although enjoying unusual opportunities for observing surgical diseases of the neck, during sixteen years of surgical practice, I have treated only six cases. As these fistulæ, as a rule, scarcely cause any trouble, many of them do not seem to come under surgical care.

Three of my cases (all lateral) were cured by repeated application of the galvano cautery; two (one median and one lateral) by division of the fistula and excision of its lining membrane.

The sixth case could be cured neither by galvanocautery nor by excision, therefore I undertook the resection of the hyoid bone. As I have been unable to find a similar case in literature I may give the details:

Mrs. T. M——, forty five years of age, mother of five healthy children, had always been well. Since birth she had suffered from a small opening on the anterior margin of the right sternocleidomastoid muscle, about two inches above the upper border of the sternum, nearly in the median line of the thyroid cartilage. Occasionally a gelatinous fluid was discharged from the fistula canal. Repeatedly it had closed spontaneously and remained closed for several weeks. This condition had never given any trouble until January, 1893, when she noticed a dry sensation in her pharynx extending over the sublingual region. At times during the past months she has been hoarse.

By treatment with the galvano cautery, at the special department for surgical diseases of the neck at the German Poliklinik, I obtained temporary occlusion. But, after having introduced the needle ten times without a permanent result, in March, 1893, after having divided the fistula I excised the inner walls of the fistula, which seemed to end in the periosteum of the hyoid bone; then with two tiers of sutures I united the edges of the wound and perfect union took place, until four weeks later the *status quo ante* became restored.

Once in a while the patient complained of severe pain in the hyoid region, which yielded temporarily to anodynes and wet applications. More or less hoarseness was noticeable repeatedly.

Inspection and palpation of the pharynx, as well as a laryngoscopical examination, revealed nothing but a hyperæmic condition. Injections of milk into the fistula did not show inside.

As the patient herself demanded a second operation, I therefore, after having divided the fistulous track again, more carefully than before examined the hyoid bone. After having scraped away a small portion of its periosteum, my probe happened to slip behind the bone, where a cavity seemed to be present. To ascertain this, I cut out a small piece of the hyoid bone; behind it I found a cavity the size of a small nut, the fibrous walls of which were defined by the posterior surface of the hyoid bone, and the mucous membrane of the root of the tongue.

I now became convinced that a successful result could only be obtained by exposing the cavity entirely, which I could only achieve by resecting the whole hyoid bone on the right side, that is, cornu majus, minus, and the middle portion. This was done with little difficulty by loosening it from its muscular attachments almost bluntly. Then the fibrous tissue was extirpated. The bleeding was insignificant. Three tiers of catgut sutures united the edges of the wound. Into the most dependent part a small strip of iodoform gauze was introduced, to prevent retention of secretion.

The whole neck was then immobilized by a large piece of absorbing moss-board, which, after being slightly dipped into an antiseptic solution, adapts itself to the contours of the body like a plaster of-Paris dressing. The bandages surrounded the thorax and head. Three days later the gauze was removed, as the secretion was very scanty. Seven days after, recovery was perfect and has remained so ever since.

The microscopical examination showed the walls to consist of fibrous tissue, partially covered by cylindrical epithelium. The excised walls of the fistula contained the same elements.

The incision was first made parallel with the trachea. But when I had made up my mind to resect the hyoid bone, I added a transverse incision above the same to the extent of about two inches. Interference with deglutition, speech, or respiration was not noticed Hoarseness and dry sensation have disappeared. I therefore feel justified in recommending resection of the hyoid bone in all cases of fistulæ where free exposition is required, and especially where a former excision has not proved satisfactory. If the periosteum has been saved, it may be restored later on.

Just as we resect a piece of rib to enter a focus behind it, produced perhaps by a carious or necrotic process, we may take away the hyoid bone.

As a matter of principle we should lay our foci free, so that we can thoroughly inspect and overlook them. In such fractures, where apposition can be made only with difficulty, resection would seem to be preferable also.

37 East Thirty-first Street.

[1] Case presented to the Academy of Medicine, Surgical Section, March 5, 1894.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street.

New York, March 17, 1894.

THE TREATMENT OF CHRONIC RHEUMATISM.

THE subject of the treatment of chronic rheumatism will always possess interest as long as so many uncured cases exist. Professor Dujardin-Beaumetz has recently delivered a lecture which is entitled "a Critical Examination of the Treatments of Chronic Rheumatism" (*Bulletin général de Thérapeutique*). It presents the results of a wide experience and may be read with profit.

Professor Beaumetz states that one reason of the lack of success in the treatment of chronic rheumatism, is the fact that several different diseases are grouped under this name, when, as a matter of fact, a sharp differentiation should be made.

The maladies described as chronic rheumatism may be grouped under three heads: First, the rheumatism described in 1800 by Beauvais and studied by Charcot and his school, characterized essentially by deformity of the articulations; this type is known as rheumatoid arthritis, or arthritis deformans. In the second group is included articular rheumatism of chronic course, which has succeeded usually an acute articular rheumatism. The third group consists of cases of the rheumatic diathesis. Here the rheumatic poison manifests itself rarely in the joints, but rather by muscular pains, neuralgias, congestions, etc.

The treatment of these three types of diseases is essentially different. Thus, rheumatoid arthritis is a disorder of nutrition, degenerative rather than inflammatory, and dependent on impairment of proper nervous influence. Its course is progressive; it is never cured, and the most one can expect is to stop the onward march for a time. For this purpose, arsenic and iodine are the only drugs which seem to have any effect, and even these do not always accomplish their purpose. Iodine is best given in the form of an iodide, and not over fifteen grains a day are needed. Grasset thinks that bromine is also of service, and he gives a mixture containing, of iodide of sodium, grains ij., bromide of sodium, grains iv., and chloride of sodium, grains viij. He alternates this with a solution of gold and sodium. For the pains and acute exacerbations of the disease, phenacetin is useful. The diet should be rich and nutritive, and should contain meats, green vegetables, wines, and milk. At the same time external medication, in the shape of baths, electricity, and hydrotherapy, is indicated.

In chronic rheumatism which follows the acute articular disorder, the course of the disease is different. Its progress is not steady, but by bounds, each fresh attack of acute rheumatism leaving further impress on the articulations. More can be done therapeutically for this affection. Medically, the use of the salicylates is to be recommended, both to help the chronic and to ward off acute attacks. Beaumetz speaks highly of asaprol, but we have found it unsatisfactory. There are some secret remedies, one of which, "the Pistoia powder," has much popularity in France. It consists of powdered bulbs of colchicum, grains iij., bryonia root, grain j., betoine, grains vij., gentian, grain j., chamomile, grain j. A powder containing these constituents is taken twice a day for a very long time; and herein lies the secret of success in the medication of rheumatism. The antirheumatics must be used persistently for many months. Another plant whose virtues are much vaunted is the *fleur de fève;* but of its precise value Beaumetz admits he knows little.

But the essential cure for chronic rheumatism lies, after all, in external measures. Of these the most important is massage, next electricity, while the water treatment can be effectively combined with the other measures. Naturally the French speak of the springs of their own country, and of these, Dax, Aix, and Bourbonne are the best. As to food and drink, Dr. Beaumetz does not altogether forbid wines, but recommends a mixed diet with vegetables preponderating, the bowels are to be kept open with laxatives, and the kidneys kept active by diuretic drinks, such as milk, white wine, etc.

In the third form of chronic rheumatism, the rheumatic diathesis, the treatment is essentially dietetic and hydriatic. By means of the thermal waters and a careful alimentary hygiene, excellent results can be obtained. Salicylate of soda, asaprol, and phenacetin are useful in relieving pain. But it is warm bathing which seems to be especially efficacious. The results are due, it is now admitted, not to any special quality in the water, but simply because it is warm and abundant. As to the diet, it is necessary to avoid all ptomaïne-producing foods as much as possible, and Beaumetz recommends approximately a vegetarian diet.

ANTI VIVISECTION AGAIN.

AN organization having the simple and unadorned title of "The American Association for the Spread of Knowledge upon the Extent and Existing Methods of Vivisection," is sending out circulars to the following effect:

"The American Association for the Spread of Knowledge upon the Extent and Existing Methods of Vivisection respectfully asks your assistance, in its efforts to prevent the infliction of unnecessary suffering on the animals used in the laboratories, in class demonstrations, and by medical students.

"Believing on good evidence, which we shall be happy to submit to you, that vivisection is often practised in a needlessly cruel manner; convinced that many abuses exist which could be reformed without any loss to science; knowing that the young student passes through a period of insensibility to the sight of suffering, a condition from which the mature physician is fortunately exempt; we solicit your co-operation in our efforts to save animals from useless torture."

The circular is anonymous, no names of secretary or officers being given.

The statement is made that "the medical student passes through a period of insensibility to the sight of suffering." The actual facts are, as any physician will testify, that during a period of three or four years, the medical student sees perhaps a dozen anæsthetized animals on which demonstrations of the circulation, reflex action, and digestion are made. The total period of time occupied by seeing these anæsthetized animals amounts perhaps to five or six hours. Is it possible that any degree of moral insensibility is induced by this experience? We believe not, and that on good evidence. We have no doubt, from the tone of the anonymous circular, that the writer, who, for all we know, is also the "Association," is perfectly sincere and well-meaning. But we can assure her that she is mistaken. With so many manifest evils and so much unquestionable suffering in this world, it is most unfortunate to find philanthropic endeavor so misdirected and uselessly wasted. Let her see what keen and constant suffering exists in consequence of alcoholism, disease, poverty, vice, bad education, and home life in city tenements.

A VOICE FROM YOUNGSTOWN.

A most curious article has appeared in the *Journal of the American Medical Association*, from Dr. John E. Woodbridge, of Youngstown, O. The writer tells the story of twelve long years of labor during which he has tried to prove to an unresponsive profession that he has a means of surely aborting and curing typhoid fever. The doctor has evidently worked hard for his cause. He has been to New York on invitation of the mayor, and spent a week trying to get an opportunity to test his remedy here; failing in this, he went to Philadelphia and tried for ten days to secure attention there. He next attacked Chicago, with equal lack of success. Finally he struck an epidemic at Ironside, Mich., and then he was allowed full opportunities. He cured all his cases in ten days, and returned with letters of indorsement in his pocket from the local physicians. He finally cites over forty cases, in all of which he checked the fever by the tenth day.

Dr. Woodbridge, however, refuses to divulge his remedy, and it is surprising that any reputable medical journal should give publicity to his claims. Surely he cannot treat all cases of typhoid fever himself, and if his remedy is genuine thousands of persons are dying because he will not reveal his specific.

As a matter of fact, it is no uncommon thing now for a physician to have forty or fifty successive cases of typhoid fever without a mortality; and we may allow this to Youngstown's modest claimant, laying aside all question of diagnosis, good taste, and casuistics.

Decrease of Typhoid Fever in Paris.—The number of deaths from typhoid fever in Paris in 1893 was only 633, as against 1,035 in 1886, and 2,120 in 1880. In 1869 the death-rate from this disease was 53.4 per 100,000, in 1882 it was 147, and in 1893 only 25.7. This diminution is attributed to the increased supply of pure water and to the diminished consumption of water from the Seine. At present the supply of water is at the rate of about thirty gallons per day to each inhabitant.

THE PHYSICIAN'S WIFE.

We are quite content to believe that anything written about the physician's wife will find much currency in professional circles. The novelty of the subject is of itself an invitation to attention and the circle of readers is destined to increase beyond the range of an ordinary treatise on medicine or medical things and interest both sides of every household containing a married doctor. All of us know who and what the wife of the doctor is, what, at least, she is to us; but it is refreshing and edifying to share her innermost consciousness of the fitness of things, and read what she can write about herself, her joys and sorrows, her trials and triumphs, and find her solving the problem of the unknown quantity in medical literature. Such a book has been written[1] by the wife of a physician who evidently knows her subject and can tell her interesting story. The taking title, the chastely modest style, the domestic complexion of the story, and the spirited and graphic description of life scenes make it a very entertaining little book, not only in the few spare recreative hours which fall to the lot of all good wives, but at those times when, nursing a lukewarm dinner, she is nervously watching and perhaps fretfully waiting for her absent and apparently heedless spouse.

We are informed that hitherto the physician's wife has been unnoticed in history, has been the un-recorded factotum of the doctor's make-up, and in fact has not received her due share of recognition. So far, however, has she been vindicated under existing circumstances that no doubt can be entertained as to her present status; indeed, in some parts of the book the author is almost inspired with a compensatorially retaliative spirit in picturing some of the weaknesses of the big man of the house when he is sick and unreasonable, when the wife is so indiscreet as to get sick herself, when the flower-bed needs watering, when the potatoes must be hoed, when the night-call must be answered, and last but not least, when the bills must be collected. Admitting everything, we are still on the side of the doctor, in all his troubles, foibles, and trials, and not necessarily ungallant to his faithful, painstaking, patient wife. We know it is hard work for both, the one to work and worry, the other to watch and wait. But our author has succeeded in so effectually harmonizing apparent differences that we are presented with a refreshingly delightful picture of the home life of the country doctor, which can well offset the trying experiences of his equally worked but more envied metropolitan brother. In fact, the background of dark hours, disappointed hopes, and delayed collections gives a bolder relief to the higher lights in the picture, wherein are shown the better purposes of a life work devoted to humanity and the alleviation of human suffering. And altogether the picture is a pleasant one to contemplate as reflected from the fireside of a practitioner who works for the work's sake.

We agree in believing that the doctor owes a great deal to his wife, more than he is generally willing to admit. She is his ready helper in all the times of his need. To her he owes his warm meal at the unseasonable hour, the answer to his ever-ringing office bell, the waking of the tired sleeper, the helpful preparations for the mid-

[1] The Physician's Wife and the Things that Pertain to Her Life. By Ellen M. Firebaugh. Philadelphia: The F. A. Davis Co. 12mo., pp. 186.

night call, and the cheerful welcome after the long wait. In the country she is oftentimes his druggist, bookkeeper, and cashier. To these privileges she sacrifices many a pet scheme for enjoyment and is forced to accommodate herself to the irregularity of professional business. The doctor, his wife, and his horse are partners in the eternal jog. But even this lot must be accepted in becoming thankfulness, perhaps, as it is one of the associated conditions of good business and professional success.

Then again the doctor's wife is the only one who takes kindly to the recital of the remarkable case. She will listen when all others have been excused. To her the man must be the hero, save when she is sick herself. His skill is nothing to her then. She of all others needs no medicine when ill. Too often she gains a husband and loses a doctor. But he dare not tell even her that he does not care to experiment too near home. There is also a little of that familiarity of method unavoidably known to her in placeboic ventures which shakes confidence in the exposed fetichism and invites a becoming contempt of the seemingly miraculous. It is the old story of tasting the forbidden fruit of knowledge. The patient in the end knows too much and the doctor too little.

But our wives, God bless them, understand us better than anyone else, and the time has come for us to know them equally well. Their love, sympathy, interest, and encouragement make us what we are. Mrs. Firebaugh appreciates all from her wifely standpoint and tells it with a sweet pathos and chaste humor which gives her effort its main charm. We visit the doctor's patients, we hear their stories, appreciate their oddities, sympathize with their distresses, and become a part of the landscape as we drive with him through fresh country lanes, past fragrant woods, and over breezy hills. Many a young bachelor in a metropolitan flat whose only conveyance is the crowded street-car would gladly shift situations and try his luck at being the partner of such a better-half.

A "LIVELY" VIEW OF APPENDICITIS.

Our jocular contemporary, *Life*, is not humorous when it dabbles in surgical aphorisms, as witness the following editorial lucubration:

"Is it not nearly time that some restriction was put upon the disposition of surgeons in this town to slice open their fellow-creatures in the interest of the complaint called appendicitis? That late absurd and lamentable operations have cost the lives of useful citizens will strengthen our opinion, which begins to be pretty generally current, that appendicitis is epidemic in the minds of the metropolitan surgeons, and that human life would be safer in New York if the operation was forbidden except by order of a court. The public knows altogether too much about appendicitis, and the doctors altogether too little. Two-fifths of the genuine cases result from scare in the patients, and one or two more fifths of all the cases exist only in the imaginations of the surgeons. The cure of such legitimate cases as are left is not worth what it costs. Appendicitis is played out. The invention of the operation for it has changed a very rare malady into a common and dangerous disease."

The editor of *Life* is at his best when he playfully points out the deleterious effects of a sustained dietary of empty tomato cans on the morals of the goat. Let him stick to that reliable joke, and cease ventilating his ignorance of legitimate surgery. He is undoubtedly "funny" when he talks medicine. But that is only because he means to be serious.

News of the Week.

Death of Dr. A. A. Ransom, of South Orange, N. J.—Dr. Anson Amesbury Ransom, of South Orange, died on Sunday evening. He was born in Chemung County, N. Y., seventy-one years ago. He was a graduate of the College of the City of New York. He was a charter member of Century Lodge No. 100, F. and A. M., of South Orange. A widow and two daughters survive him.

The Death of Dr. M. K. Hogan.—At a special meeting of the Medical Board of St. Vincent's Hospital, held on February 26, 1894, to take action on the death of Dr. M. K. Hogan, the following resolution was adopted: "The members of the Medical Board of St. Vincent's Hospital, having learned with profound sorrow of the death of their highly esteemed colleague, Dr. M. K. Hogan, on whose long and faithful service as attending physician, on whose rare ability, and on whose devotion to the sick poor, all the officers and the sisters of the hospital have placed the greatest value, have resolved to attend his funeral in a body, and through the medical journals to make known their appreciation of the high personal and professional character of their late associate. J. A. McCreery, M.D., *Secretary*."

Postponement of Congress for International Medicine.—Dr. Emil Pfeiffer, permanent secretary of this body, writes us that owing to the holding of the Eleventh International Medical Congress at Rome this month, the next session (thirteenth) of the Congress for International Medicine will be held in Munich in 1895.

Dr. J. Mount Bleyer, of New York, has been made a Fellow of the Royal Academy of Medicine of Naples.

The Advantages of a Cheerful Disposition.—In a specimen advance proof of a forthcoming autobiographical dictionary of "Physicians and Surgeons of America," one gentleman gives the following example of cheerfulness under difficulties: "My life has been a struggle from the beginning; but I have laughed at difficulties, and have whistled and sung when some others would have died. Twice in life I have lost all I had, and on the night following a knowledge that I was ruined financially, I went to bed and was asleep while my dear wife was preparing to retire. There is but one thing that can conquer me, and he is the conqueror of all—Death. 'Ay, there's the rub!'"

American Surgical Association.—The annual meeting will be held in the lecture-room of the medical department of the Columbia College, 1325 H Street, N. W., Washington, D. C., May 29, 30, 31, and June 1, 1894. The special subjects announced and discussions thereon are: "The Surgical Treatment of Empyema," by John Ashhurst, Jr., M.D.; discussion by Drs. N. P. Dan-

dridge, C. B. Nancrede, T. F. Prewitt, and De F. Willard. "Methods of Teaching Surgery," by J. S. Billings, M.D.; discussion by Drs. J. C. Warren, N. Senn, W. W. Keen, E. M. Moore, W. T. Briggs, and Hunter McGuire. It is desired that the discussion of this paper should be participated in by the Fellows generally. "The Surgery of the Kidney," by L. M. Tiffany, M.D.; discussion by Drs. M. H. Richardson, H. H. Mudd, C. H. Mastin, and Ford Thompson. "Methods of Controlling Hemorrhage in Amputation at the Shoulder," as illustrated by three cases of amputation at the shoulder-joint and of the entire upper extremity, by W. W. Keen, M.D.; discussion by Drs. Roswell Park, C. B. Porter, and J. William White. Paper by Hunter McGuire, M.D. Paper by Joseph Ransohoff, M.D. Fellows who desire to present volunteer papers are requested to send the titles of the papers to the address of the Business Committee, 1429 Walnut Street, Philadelphia, not later than April 18, 1894.

An Eccentric Physician —Professor Zakhärin, of Moscow, who attended the Czar during his recent serious illness, is almost as well known in Russia for his eccentricities as for his eminence as a physician. The *British Medical Journal* states that when he is called to attend to a patient special arrangements must be made in the house; all dogs must be kept out of the way, all clocks must be stopped, all doors must be thrown wide open. The professor on entering begins a process of gradual undressing, leaving his furs in the hall, his overcoat in the next room, his goloshes in the third, etc. He insists on perfect silence on the part of the afflicted relatives, except in reply to his questions, when their speech must be literally "Yea" and "Nay." He has a theory which he expresses in the maxim, "Take a rest before you are tired," and accordingly he sits down every eight or ten steps. His demeanor toward doctors with whom he happens to be unacquainted makes him greatly feared by them, and some eight years ago a kind of public agitation was got up in opposition to him in which many hundreds of doctors took part. Resolutions were passed and addresses were presented, and echoes of the gathering storm made themselves heard in the press. These manifestations of feeling were speedily repressed in a way characteristic of Russia. The then General-Governor of Moscow, Prince Dolgorukoff, sent for the editor of the medical journal in which the addresses were printed, and told him that if he published a word more about Zakhärin, he would have to leave Moscow in twenty-four hours' time. His eccentricities, however, cease at the bedside of his patient; there he is courteous and considerate, most painstaking and minute in his examination, and very thorough in his treatment. So successful has he been in his profession that he is believed to be worth some half-million sterling.

College Athletics, and the Drinking Habit.—Dr. John Leverett, of Binghamton, N.Y., writes: In the RECORD of March 3d, there is an article on the editorial page which I was very sorry to see in a scientific journal since it so wofully misrepresents certain facts. It is headed "College Athletics and the Drinking Habit." Whatever may be said in regard to the drinking habit in Yale and Harvard, and no one deplores that habit more deeply than myself, the following rules of training, which are familiar not only to the members of the various teams, but to almost every man who takes a lively interest in watching the games, will, I think, remove from athletics the onus put upon them by the article I have mentioned. In American colleges the athlete, when in training, is forbidden the use of any alcoholic drinks. This differs from the training in vogue at the English universities, I am informed, in that the English rules prescribe a certain amount of beer per day. Besides this our college athlete is forbidden to smoke or use tobacco in any form, is required to be in bed in good season every night, and is not permitted to indulge in excesses of any kind. These are not in any sense college rules, but rules to which the athlete submits himself voluntarily, and I believe them to be lived up to very strictly in almost every case. I write this to you, believing that the RECORD is always reliable and that you will be glad to correct the mistake.

The Cincinnati Academy of Medicine, at its regular annual election, chose the following officers for the ensuing year: *President*, Dr. E. G. Zinke; *1st Vice-President*, Dr. Joseph Eichberg; *2d Vice-President*, Dr. O. D. Norton; *Secretary*, Dr. David De Becla; *Treasurer*, Dr. George E. Jones. The Academy will hold its regular annual banquet on March 19th. The retiring president is Dr. C. G. Comegys. A chair of laryngology and rhinology has been added to the Cincinnati Hospital, and Drs. Max Thorner and W. M. Roads elected to the chair. Also a chair of Neurology, with Dr. J. T. Whittaker and Dr. Herman H. Hoppe to fill the chair alternately.

Mississippi State Medical Association.—The twenty-seventh annual meeting will be held Wednesday, Thursday, and Friday, April 4th, 5th, and 6th, in the Senate Chamber, at Jackson, commencing at eleven o'clock, A.M., Wednesday, and closing at two P.M., Friday.

The Municipality of Berlin has appointed Councillor Marggraff and Dr. Strassmann, Privat-Docent of Forensic Medicine, delegates for the city to the International Medical Congress.

American Medical Association.—The committee of arrangements has secured Odd Fellows' Hall Building, corner Market and Seventh Streets, San Francisco, for the meeting, June 5, 1894. Assembly Hall, for the general meeting, has a capacity of 1,500; the twelve smaller halls, for section work, range in capacity from 500 downward, with committee rooms adjacent. The engagement carries three of these rooms on Monday for accommodation of associate organizations, as that of the editors, colleges, etc. The banquet-room on the ground floor, 65 x 95 feet, will be devoted to exhibition purposes, for which it is admirably adapted, and has been secured for the entire week, that exhibitors may have Monday in which to place their goods, and Saturday in which to remove them. Headquarters for the Association have been located at the Palace Hotel, corner Market and Montgomery Streets, only four blocks from the place of meeting. The following hotels, centrally situated and convenient to the place of meeting, have quoted special rates for members and their families, which will apply during the entire stay of the guests, who should, upon registering, signify that they are in attendance upon the meeting of the Association. The rates quoted are for single persons,

the variation depending upon the size, situation, and appurtenances of the rooms, as single, *en suite*, with private bath, etc.; special arrangements will be made for families or parties on timely notice.

Some of the hotels entertain upon the American plan only, some upon the European plan only, and some upon either plan to suit guests. Palace Hotel (headquarters), American plan (rooms and board), $3.50 to $5.50 per day; European plan (rooms only), $1.50 to $3.00 per day; Baldwin Hotel, American plan, $3.50 to $5.00 per day; Baldwin Hotel, European plan, $1.00 to $3.00 per day; California Hotel, American plan, $3.50 and up per day; California Hotel, European plan, $1.50 and up per day; Lick House, American plan, $2.50 and up per day; Lick House, European plan, $1.00 and up per day; Russ House, American plan, $2.50 to $3.50 per day; Russ House, European plan, $0.50 to $2.00 per day; Occidental Hotel, American plan (only), $2.50 and up per day; Hotel Pleasanton, American plan (only), $2.50 to $5.00 per day. Grand Hotel, connected with the Palace by a glass-enclosed bridge across New Montgomery Street, European plan only, $1.00 to $2.00 per day. In addition there are many other hotels, boarding-houses, lodging-houses, and restaurants contiguous to the place of meeting, where one can be made happy and comfortable at less cost. Post Office Section K, is located in the Palace Hotel, on the office floor, adjacent to the registration-room, where members can receive all mail matter by having it so addressed.

General Addresses at the International Congress.—The following are the titles of the addresses to be delivered in general session at the Rome Congress: V. Babes, of Bucharest, on the "Position of the State in Relation to the Results of Modern Bacteriological Investigations;" G. Bizzozero, of Turin, on "Growth and Regeneration in the Organism;" Brouardel, of Paris, on the "Warfare against Epidemics;" Cajal, of Madrid, on the "Morphology of the Nerve-Cells;" Danilewsky, of St. Petersburg, on the "Biological Rôle of Phosphorus in its Organic Combinations;" Michael Foster, of Cambridge (England), on the "Organization of Science;" Th. Kocher, of Berne, subject not yet announced; A. Jacobi, of New York, "Non Nocere;" S. Laache, of Christiania, on "Idiopathic Hypertrophy of the Heart and Degeneration of the Cardiac Muscle;" H. Nothnagel, of Vienna, on the "Adjustment of the Organism to Pathological Changes;" B. J. Stokvis, of Amsterdam, on "Chemistry in its Relations to Phamacology and Materia Medica;" Rudolph Virchow, of Berlin, on "Morgagni and Anatomical Views."

The Healthiest Town in England is Croydon, which has a mortality of only 11.2 per 1,000 per annum. In Brighton, for the week ending February 21st, there was a death-rate of 15.8, and in London 18.6. In the latter town there were 22 deaths from influenza for the week, an increase of three over the preceding week.

A Hygienic Exposition.—The Ninth Exposition of Hygienic and Food Products will be held in Rome in May. This annual exposition is organized by the International Association for the Advancement of Hygiene, having its headquarters in Brussels. Professor Baccelli, President of the International Medical Congress, has accepted the chairmanship of the governing committee.

The Cholera is increasing in Tripoli, and Malta has imposed a quarantine of fifteen days on all vessels arriving from Tripoli, in view of this recrudescence of the disease. Advices from Constantinople also report a somewhat alarming increase of the cholera.

Inhalations of Mint in Pulmonary Phthisis.—Dr. Carasso, Director of the Military Hospital in Genoa, reports a number of successful cases in the treatment of pulmonary tuberculosis by inhalations of mint essence. The results were good, not only in the early stages, but even after large cavities had formed and when the sputa were loaded with bacilli. Fever, when present, disappeared in a few days; the cough and expectoration were notably diminished, the night-sweats ceased, and the bodily weight increased. The bacilli disappeared entirely from the sputum in periods varying in the different cases from two weeks to two months. The physical signs in the lungs also improved and became perfectly normal in several instances in which no destruction of tissue had taken place. Just how much of this amelioration should be attributed to the inhalations of mint is, however, uncertain, for the patients were subjected to a system of forced feeding and to the internal administration of creosote.

Bellevue Hospital Medical College.—Dr. William P. Northrup has been appointed Adjunct Professor of Diseases of Children, Bellevue Hospital Medical College.

The Death of Mrs. Charles L. Dana.—The many friends of Dr. Charles L. Dana, and of his wife, Lilian Farlee Dana, will be shocked to learn of Mrs. Dana's death in Bermuda last Saturday. Her death was due to injuries received in jumping from a carriage to save her little daughter Elsie, who had fallen from the vehicle. Elsie was driving at the time and managed the horses so well that the coachman forgot to hold on to the ends of the reins. Suddenly the horses started forward in affright at some object they were passing, and Elsie was dragged over the dashboard, apparently directly under the wheels, but really under the centre of the vehicle, where she lay uninjured, but stunned. The driver attempted to catch her as she fell, and he in turn fell into the road. The horses were now tearing down the road in a mad gallop. Mrs. Dana looked back, and, seeing her child lying motionless, sprang out of the carriage. As she jumped her dress caught, and she struck the coral road on her head. The coachman carried her to a neighboring house. Then he pursued the runaway horses, overtaking them about a mile and a half from the scene of the accident. The old nurse remained in the carriage, motionless from fright. The little girl was merely bruised. The news was at once sent to Dr. Dana, but he did not know that his wife was dangerously ill. He cabled to his friends in Bermuda to let him know every day of his wife's condition. The reports grew more favorable each day for a week, when they began to hint of a relapse. The doctor sailed on the 8th inst. for Bermuda, and arrived there on Saturday, the day on which his wife died. She was unconscious from the time of the accident. Mrs. Dana was born in this city thirty-five years ago. Her father, G. W. Farlee, is a retired banker, and her grandfather was Mayor George Opdyke.

The Recently Elected Vice-President of Brazil is a medical man.

Society Reports.

ROYAL MEDICAL AND SURGICAL SOCIETY (LONDON).

Nerve-stretching and Nerve-splitting in Localized Interstitial Neuritis.—Dr. K. McLeod read a paper on the above subject and said that his experience warranted him in presenting the following conclusions: 1. The operation of nerve-stretching had been followed by decided relief in a large proportion of cases of leprous neuritis which had been subject to this method of treatment. 2. The benefits conferred consisted in the relief of suffering, the restoration of sensibility, the return of muscular power, the healing of ulcers, and general improvement in the nutrition of the affected parts. 3. The relief obtained by the proceeding appeared to depend on the removal of pressure and tension on nerve-fibres caused by the products of inflammatory disease which had taken place in the ensheathing connective tissue of the trunk. 4. When these products had undergone organization and the enveloping material had become sclerosed, longitudinal incision of the sheath followed by manipulation and stretching gave reasonable promise of more complete relief than stretching alone. 5. This process of splitting sclerosed nerve-trunks had been attempted with success in a sufficient number of cases to render further trial justifiable and desirable. 6. In cases of non-leprous neuritis these procedures were more likely to be followed by radical and permanent improvement than in cases of anæsthetic leprosy. 7. In no instance had either the stretching or splitting of nerves been productive of any inconvenience or harm.

BERLIN MEDICAL SOCIETY.

The Internal Organs in a Case of Pernicious Anæmia.—Dr. Baginsky showed the internal organs of a child who had died from pernicious anæmia. The brain and cord were markedly anæmic. The heart showed enormous dilatation and fatty change in the musculature. The parenchyma of the kidneys and liver were in an advanced stage of fatty degeneration. The liver and spleen were soft and very much enlarged, and in the latter many follicles were seen.

The suprarenal capsules were apparently normal. The walls of the stomach were very anæmic, the marrow of the bones was very light-colored, and the Haversian spaces prominent. The child was three and a half years old, and had always been a weakling, but the symptoms seemed to develop rapidly after a blow on the face, which was followed by great hemorrhage. This was followed by symptoms of infection, such as fever, diarrhœa, cough, and rapidly developing anæmia. The proportion between red and white corpuscles fell to 100 to 1, the hæmoglobin diminished to seventeen per cent., and specific gravity fell to 1.037. An abscess then developed about the knee, and death soon followed a marked exacerbation of all the symptoms.

ACADEMY OF MEDICINE (PARIS).

Transperitoneal Nephrectomy.—Dr. Le Dentee reported a case of transperitoneal nephrectomy for cancer of the kidney in a patient forty one years of age, who had hæmaturia for nearly a year, and who latterly began to have a progressively increasing swelling in left flank, associated with left-sided varicocele. After median laparotomy the first difficulty presented itself from the adherence of the colon to the tumor, but when these adhesions were broken it was seen that the peritoneum glided easily on the neoplasm. The peritoneum having been incised, enucleation was easy. The rest of the operation was then very simple. Recovery was complete. The entire kidney was extirpated. Microscopical examination showed the new-growth to be carcinoma of embryonic type.

Mortality of Tuberculosis.—Dr. Lagneau said that his investigations into the relationship existing between occupations and the development of tuberculosis showed that the greatest number of deaths from phthisis occurred in workers exposed to irritating substances in the respired air. In Switzerland 10 out of 100 stone-cutters die from phthisis. In England, of 1,000 deaths occurring in these workers, 340 were from phthisis. Tuberculosis makes cruel onslaught likewise in those individuals who habitually occupy a bent posture at their occupations, and in those who live sedentary and intellectual lives. Of 1,000 deaths in Italy among students and seminarians, 459 died of phthisis—that is, nearly one-half. In England, of a similar number of deaths in printers, 430 died of phthisis.

On the other hand, statistics show that it is quite exceptional for this disease to be the cause of death of those who live in the open air. In Switzerland, of 1,000 deaths occurring in out-door laborers and farmers, not more than one or two die from phthisis. A similar number of deaths in Italy among shepherds and farmers show only from forty-four to fifty-five deaths. In France the sanitary statistics gathered from six hundred and sixty-two towns show that the more the population is conglomerated, so in proportion are the inhabitants gravely affected with tuberculosis.

Ovariotomy in the Puerperal State.—Dr. Pinard reported a case in behalf of Dr. LeRoy des Burres. The patient was a young woman, twenty-nine years of age, who after her accouchement, two months previously, had had a series of accidents in the shape of infection. First, a subacute peritonitis developed, then a pleurisy, and later phlegmasia alba dolens. Shortly afterward the abdomen showed the presence of a large swelling. A diagnosis of suppurative cyst of the ovary was made, and ovariotomy was performed. The operation demonstrated a purulent pouch containing nearly a quarter of a litre of pus. Immediately after the operation the sinister symptoms disappeared, and the patient left the hospital twenty days after the operation completely cured.

CONGRESS OF RUSSIAN PHYSICIANS.

Bromethyl and Chloroform Narcosis.—Professor Pawloff in discussing the narcosis resulting from bromethyl and chloroform reached the following conclusions: 1. The narcosis comes on in a relatively shorter time, about two minutes, and the patient does not pass through a stage of excitation. 2. It requires a very small amount of bromethyl, about 5 grammes, to bring about full anæsthesia. 3. The narcosis is not attended by any disagreeable manifestations. 4. A small amount of chloroform is needed to keep the narcosis up. 5. There follows no bad after-effects.

Dr. Pawloff says he begins the narcosis by bromethyl, about 5 grains are required, and then maintains the narcosis by chloroform, and about 16 grammes of the latter is required to keep up the narcosis for fifteen minutes.

VIENNA MEDICAL CLUB

Acute Anterior Poliomyelitis.—Dr. Redlich said he had recently had the opportunity to examine the spinal cord of a five months' old child who had died from acute anterior poliomyelitis, and that he was enabled to corroborate the opinion which is now commonly held, that the blood-vessels are the starting-point of the disease and not the ganglionic cells or supporting framework, as was formerly believed. The case detailed was remarkable for the fact that lesion was not confined to the cord, but showed small areas of inflammation in the medulla and great brain. The phrenic nerve likewise showed spots of softening. The pathologic changes would therefore point to an infectious process as causative of the disease; as the result of such an infection the lesion may be in several locations, even involving the nerves, producing a multiple neuritis, a condition sometimes found associated with anterior poliomyelitis.

PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, February 2, 1894.

WILLIAM H. DRAPER, M.D., CHAIRMAN PRO TEM.

Photographs of Colitis.—DR. FRANCIS DELAFIELD presented a series of photographs of colitis and made the following running remarks thereon: In the simplest form of colitis, the so called simple catarrhal form, we know that the membrane is congested, that there is more or less exudation of serum, that there is more or less swelling of the stroma between the tubules and the glandular coat, and that there is increased production of mucus; none of which things are much changed after death. We know that this condition is not at all fatal in adults, but that it destroys life in children, and that in children there is apt to be added swelling of the solitary glands in the walls of the colon.

The pictures which I first present you simply show those changes.

The Purulent Form.—Passing on from the simple catarrhal form of colitis, we come to the purulent form, in which there is considerable infiltration of pus cells between the tubules of the glandular coat and in the connective-tissue coat. This is a very much more serious lesion than the former; it is one which is apparently quite frequently fatal. It seemingly belongs to the class of streptococcus inflammations. In some cases there is added necrosis to the suppuration, resulting in the formation of ulcers. These photographs are illustrations of that form. The last one illustrates purulent colitis complicating typhoid fever, with necrosis, then forming an ulcer, while the others illustrate simple infiltration without the formation of ulcers. One of them shows a rather curious condition, a sort of drawing together of the muscular coat of the intestine, so that the colon was thrown up into ridges.

Croupous Colitis.—Then we come to the so-called croupous colitis, which is, of course, a combination of the exudative inflammation with necrosis, the disposition to necrosis being quite well marked. In the human subject we very seldom see such a croupous colitis until after it has lasted a number of days and the changes are fairly well marked; but it is possible to produce such a colitis artificially in animals by injections of corrosive sublimate, so that we can see it at an early period. Here is a picture showing the artificial form in a dog, produced by subcutaneous injection of corrosive sublimate, the animal having been killed three or four hours later, when the colon showed the beginning of the disease. It shows a layer of fibrin on the surface of the tubules and necrosis in the outer ends of the tubules. In the human subject the condition is usually much farther advanced, and we find the colon coated with fibrin, either continuously or in patches, and on making cross sections of the colon we see the infiltration with fibrin, either in the connective-tissue coat beneath the tubules, or involving the tubules as well. As soon as it involves the tubules these are practically lost and are seen no more. That is to be observed in these three figures.

Productive Colitis.—There is another form of colitis which seems to be quite common, and which is often classed with catarrhal colitis, but which appears to be a little different because, besides the congestion and increased production of mucus, there is from the first a growth of connective tissue between the tubules. The process is somewhat analogous to a true broncho pneumonic inflammation, from the first of productive character, and very often there is added to it a necrosis which is productive of ulcers of certain form. The gross appearance of such a colon is seen in this photograph. It also contains a very good example of the solitary ulcer, an ulcer with overhanging edges, not extending below the glandular coat. You see between the tubules considerable increase of tissue. Here are several other photographs of the same condition. A special feature of such a productive colitis is its tendency to be chronic from the first; to be a productive, not a simple, inflammation from the commencement.

A colitis of this character may at any time become the seat of purulent inflammation, and then we get such a mixed picture as we see here—the whole inner surface of the colon looking as if it were raised up into nodules, and cross-sections of the nodules showing thickening of the connective tissue coat and the more recent covering of this with pus.

We come to amœbic colitis, or colitis which is apparently due to the presence of amœbæ in the colon. I think we are yet very far from knowing all the things which an amœbic colitis can do, but there are certain striking features, namely, that the disease terminates in one, two, or three weeks, that the patients are very sick from the first, and the most marked change found at autopsies is necrosis of the colon; a necrosis involving not merely the glandular coat, but often extending way down to the peritoneal coat. It is the most necrotic of all the necrotic forms of colitis. Here is a photograph which shows the inner surface of such a colon at the twenty-first day. The colon is thrown up into ridges, and cross sections through these ridges show the necrosis extending down to the peritoneal coat. That is one case of the very acute form with extensive and deep necrosis. Then there are other cases in which the necrosis is not anything like as extensive, nor anything like as deep, but simply forms ulcers with overhanging edges. Here is an example of that. It is a colitis of twelve days' duration. Then there is a third form of amœbic colitis, which begins very gently. The patient at first has apparently an ordinary diarrhœa—four or five fecal passages a day—the diarrhœa gets no better, the man continues to run down, gets fever, and goes on thus a long while—weeks or months—and finally dies. Of course in all these three forms there may be abscess of the liver, and, indeed, there is very apt to be. In the long-continued cases there is time for a great many changes to take place in the colon. There are ulcers in various stages, some belonging properly to the amœbic condition; there is more or less catarrhal inflammation, and more or less productive inflammation, and also ulcers which seem to be rather streptococcus ulcers than amœbic ulcers. In the photograph shown we see the gross appearances of the colon where the disease lasted forty days.

I do not think we really know much about amœbic colitis; we are only just beginning to learn about it, and at present we can speak no further than of what we have seen. How many people have the disease and get well, we do not know at all. It is not always possible to find the amœbæ in the stools. Living amœbæ are easily found; dead ones are not. It is easiest to find them in abscess of the liver.

DR. PEABODY remarked that in a case at Bellevue Hospital, several weeks ago, they drew pus from an abscess of the liver, found no amœbæ, but after operation they were found in abundance. There had been symptoms of amœbic colitis which had quite disappeared.

In reply to a query by Dr. Biggs, DR. DELAFIELD said there was nothing characteristic about dead amœbæ in the stools, and that unless live ones were present nothing characteristic of amœbic colitis could be discovered; and DR. BIGGS added that such had also been his experience.

The Treatment of Uræmia.—DR. BEVERLEY ROBINSON read the paper (see page 321).

DR. DELAFIELD being called upon, said: Dr Robinson justly remarked at the beginning of his paper that when he said uræmia he did not mean uræmia. The first question, then, which arises is, What does one mean when he uses this term? For my own convenience I bear in mind two conditions, which may be called, also for convenience, acute and chronic uræmia, although I do not believe that acute uræmia is uræmia at all, and although I think that chronic uræmia is really uræmia. Under the name acute uræmia, which is entirely arbitrary, I include a set of cases with which we are all acquainted. Cases in people some of whom have chronic nephritis, some

chronic endarteritis, some pulmonary emphysema, some chronic endocarditis, who at some time develop a well-marked group of symptoms. They have headache, or involuntary contraction of a group of muscles, or general convulsions, or become comatose, or hemiplegic, or develop a peculiar spasmodic dyspnœa, or they have irritable and uncontrollable vomiting. At the same time that all this comes to pass, the pulse is of distinctly high tension, the arteries contracted; but as the condition goes on to become worse the arteries are no longer contracted, the pulse becomes rapid and feeble, the heart-action rapid and feeble. Now, in the early part of their condition, while the contraction of the arteries still exists, it seems to me one way to relieve them is to dilate the arteries, and it is a matter of choice whether you use venesection, purging, hypodermic injections of morphine, nitro-glycerine, or pilocarpin. If you dilate the arteries in one way or another the symptoms will let up; if you cannot dilate the arteries the symptoms will persist. The arteries will remain contracted, the heart-action will become more and more rapid, more and more feeble; nothing helping, the patients die.

Then there is chronic uræmia, if you may choose to call it such. These patients will have cerebral symptoms, but not very marked; they will have low muttering delirium which alternates with stupor, and it becomes evident that they are getting sicker and sicker; but the pulse is always feeble, is never contracted, there is never any contraction of the arteries. These people certainly do look as if they were being poisoned in some way or other. I do not think the first class do. It seems to me nothing ever does the second set any good except the wet pack, and that, I think, produces only temporary benefit. The patients all die, but instead of dying in a few days, they may not die for a few months with the help of the wet pack.

Blood-letting and Hypodermoclasis.—Dr. J. West Roosevelt wished to say a word about that part of the paper which dealt with blood-letting and hypodermoclasis. It seemed to him that there were certain cases in which these measures were eminently indicated. A striking example was that of a man who was transferred to Bellevue three weeks ago from the Presbyterian hospital, where he had been for some time. He had been a chronic alcoholic. When admitted to Bellevue he was semi-comatose, had intense headache, was delirious, had some muscular twitching, the pulse-tension was very high; there was no general œdema, but moderate œdema of the lungs, slight cyanosis. He bled the man, withdrawing thirty five ounces, and introduced under the skin thirty ounces of artificial blood serum, so called. The urine had previously been drawn and contained fifty per cent. albumin, blood-casts, and hyaline and granular casts; the specific gravity was moderately high; the quantity obtained was two or three ounces. In the course of about an hour after this treatment the patient had ceased to be delirious and went to sleep. The pulse-tension had fallen immediately. Toward morning he began to pass urine, which contained less albumin. By the middle of the next day he was in normal condition, the urine contained no more blood, no more casts, only a trace of albumin.

Dr. Roosevelt did not know why such cases should not be regarded as cases of acute auto-poisoning by something, it did not matter much what. To go to work upon the skin and bowels to get rid of the poison in the blood, whatever it might be, seemed to him a clumsy method compared with the simple one of blood-letting. It did not seem possible that blood-letting could have held the position which it did for so long a time if it had not given temporary benefit. But hypodermoclasis acted in a similar manner, and was very easy to perform. In uræmia, however, one had to deal with many different things, and it was not to be expected that these methods would meet the indications equally well in all cases. In the case related it was evident that the condition of the kidneys was such as could pass off in a short time, and dealing with such a patient was very different from dealing with one who had advanced Bright's disease or extensive disease of the arteries.

Where there was marked œdema, hypodermoclasis could not be used, but if it were absent the method was worth trying. The injection should be made under strict antisepsis. Six to eight ounces could be introduced into the thigh of a man easily, and it was curious to observe the speed with which it was absorbed where the heart action was sufficient. In the case related the thirty ounces were introduced by four injections, and the first quantity had disappeared before the last had been introduced.

Dr. F. P. Kinnicutt, referring to Dr. Delafield's statement that he did not know quite what to call uræmia, said that thought came perhaps to all so far as the name itself was concerned; yet we certainly did see a group of symptoms which were chiefly of a nervous character, and which led us to believe that they were due to retention in the blood of certain poisons which should be eliminated by the kidneys. He thought Dr. Delafield should add to his division another, in which the cases were neither acute nor chronic; cases which presented neither the very low blood-pressure which he had spoken of, and in which serous effusions and other measures were of benefit, but which would certainly end fatally after a time; nor the very acute symptoms, such as convulsions and coma, of the other class. It was an intermediate class suffering from retention in the system of some poison. The digestion was bad, there was known to be nephritis, there were occasional acute attacks of headache, indigestion, vomiting, the pulse was of high tension or increased tension. Such patients got along fairly if their diet and general hygiene were carefully regulated. The speaker assumed that they were suffering from a form of uræmia, but not a very acute form; and they were the cases in which one could do most good by treatment. It seemed to him, therefore, that the division simply into two classes of cases, one in which the patients were going to die, and die pretty speedily, and the other in which very acute symptoms were present, did not represent all we saw of so-called uræmia.

With regard to the treatment of such cases, he thought the mistake was sometimes made of forgetting that a certain amount of blood-pressure was unavoidable. It was necessary in Bright's disease, and could be looked upon almost as a conservative process, and it seemed to him that we should strive in the treatment of the cases to arrive at the happy medium of avoiding very high blood-pressure, which increased the strain upon the heart and endangered the vessels, and that condition of low pressure which, it seemed to him, was even more dangerous than high pressure. We heard a great deal about high blood-pressure, perhaps more than was necessary. According to his observation many medical men felt that the moment the blood pressure was increased it should be reduced at any cost. Looking upon it, as he did, as an unavoidable condition, if not a conservative process, Dr. Kinnicutt thought we sometimes erred in using potent means for reducing it.

The Treatment of Uræmia is the Treatment of Symptoms.—Dr. Peabody thought the treatment of uræmia, diverse as it was, was, after all, largely a matter of treatment of symptoms, and there was one symptom which seemed most distressing of all, namely, convulsions. Convulsions were certainly very distressing to the bystanders, yet they were very amenable to a certain drug, one which he had used a great deal—urethan. Its use in uræmic convulsions was suggested to him by the fact of its success in controlling convulsions in animals caused by strychnine. With this agent he had controlled uræmic convulsions occurring several times an hour, in a patient who was so noisy that he had to be removed from the general ward into a room by himself. He became conscious promptly after subcutaneous injection of urethan, went along all right for a few weeks, then had another attack of the convulsions, which were again controlled in the same way. Fortunately urethan was a perfectly harmless remedy, was freely absorbable, quite unirritating

and painless. Incidentally, he stated that he had controlled the convulsions of chorea of a very severe type by urethan, in a patient who was unable before its use to either swallow or sleep. In a case seen with Dr Bull, of enormous sarcoma of the back pressing upon the cord, causing convulsive seizures and extreme pain in the lower extremities, urethan gave relief which large doses of morphine had failed to do. It was only in cases of uræmia that he had failed to control vomiting by washing out the stomach. Here, it seemed, large doses of caffein alone would succeed.

Dr. Kinnicutt corroborated Dr. Peabody's statement with regard to urethan. He had used it largely, beginning, he believed, about the same time as Dr. Peabody. It could be given in very large doses, amounting to three or four hundred grains in twenty-four hours. He recalled one case of convulsions, not due, however, to uræmia, but to some other cause, and the effect had been remarkable, even after everything else had failed. The patient had had forty convulsions, a dozen or more an hour, yet urethan controlled them absolutely. Three or four hundred grains were given during the twenty-four hours. He had also given it in the convulsions of uræmia, in children and adults, and had obtained striking results. It had also been of decided use in chorea.

Dr. Robinson said, in closing the discussion, that he did not think it made a great deal of difference, from a broad stand-point, whether there was a little more or a little less arterial tension. Indeed, he doubted whether in many cases we could tell by tactile sense, or even by sphygmographic tracings, whether there was arterial tension. Nor did he believe that one could tell as a rule how much longer the kidneys were going to last, nor to what degree the disease in them had advanced; and in practice it was idle to speculate upon this question and let people die when their lives might be saved. Their lives could be saved temporarily, and sometimes permanently, by letting out some blood and introducing some saline solution. He was aware that the treatment produced very little result sometimes, but he did not think it always possible to say beforehand that in a given case it must fail. He thought the trouble with doctors was that, as they grew older, they disliked to interfere surgically with anybody, and sometimes allowed people to suffer on that account when they could be relieved. It was that feeling which led them to object to opening a vein or making transfusion. Scarcely anything was simpler, however, than to take a little blood from the arm and throw a solution into the rectum, which might be done instead of transfusion. It did not matter what one wanted out of the blood; the best chemists failed sometimes to tell what the poisons were, but we knew they were present, and the best way to get rid of them was to abstract a certain amount of blood and replace it by a saline solution, so that the vessels could still have something to contract upon. He wished to impress this point, as he thought it was one of practical importance.

Red Light for Small-pox.—Finsen (*Hosp. Tid.*, No. 27, 1893) has made some observations on the effect of light on the skin. He referred to the good results obtained by Black and others by the exclusion of daylight in the treatment of small pox, but argued that as Widmark has shown that it is the ultra-violet rays which have the strong chemical action, it is not necessary to exclude the daylight, but by using red curtains tightly drawn, or red window-panes, the injurious effects of the light can be prevented. The correctness of this hypothesis was proved by Svendsen, of Bergen, who last summer treated four cases of small-pox in unvaccinated patients by covering the windows with thick red woollen curtains. The patients escaped the suppurative stage: there was no rise of temperature, no œdema. The patients passed from the vesicular stage, which was slightly prolonged, into convalescence, and escaped scarring.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, March 1, 1894.

D. B. St. John Roosa, M.D., President, afterward A. M. Jacobus, M.D., in the Chair.

Enlarging the Library.—Dr. A. M. Jacobus read a report from the trustees, recommending the erection of a new stack room in the library, and on motion the Academy gave its approval.

Dr. C. L. Dana, by request of the Council, had consented to deliver the anniversary address next November.

Pott's Disease of the Spine.—Dr. A. M. Phelps read a paper, the full title of which was: "Pott's Disease of the Spine; its Early Symptoms and Diagnosis; Spinal Supports, their History and Growth; Treatment, Surgical and Medical." Cases of so-called Pott's disease were now properly classed under several subdivisions. Orthopœdists now recognized a tubercular form which was slow in development; a form due to acute osteo myelitis in which the onset was sudden; a condition closely resembling Pott's disease, occurring in the course of some fevers, especially typhoid, also that due to actinomycosis.

Pott's disease was a local disease, not constitutional. It started in trauma, light or severe, which set up local inflammation, and the future character of the disease depended upon the kind of germs which found lodgement in the changed tissue. Reparative inflammation was necessary in all cases where there had been injury; such inflammatory tissue constituted excellent pabulum for the nourishment of germs, so that when streptococci, or tubercular bacilli, or the germs of typhoid fever reached the locality, they set up a disease process which differed according to the nature of the germ. The inflammatory material being necessary to the healing process excited on the outskirts of the disease, was liable to be attacked in turn by the germs, and thus the tubercular or other process extended. Tubercular disease did not produce abscess, but if it should become inoculated with septic germs an abscess would form. He hoped never again to hear the term strumous joint. Struma or scrofula indicated a constitutional condition, not a local affection. As already stated, Pott's disease of the spine was always preceded by some form of injury, say by trauma or embolus, which set up an inflammatory process, and if upon this germs were grafted, one had a tubercular spine, etc.

In speaking of diagnosis, the author laid some stress upon rigidity of muscles, which was present both early and late. Early recognition of the affection was important, as treatment instituted at the beginning prevented deformity and gave much more satisfactory results. While the diagnosis was not difficult to make for one who had seen a few cases, yet unfortunately physicians often treated the little patients for months with the impression that they had disease of the heart or lungs, or, particularly, some gastric or intestinal trouble.

As to prognosis, if the case were tubercular it could be cured, but owing to the fact that the child was strumous, and perhaps had tubercular deposits elsewhere, there was danger of recurrence, or death from pulmonary or meningeal tuberculosis. This accounted for so few cases of tubercular spine living to middle age. Typhoid cases usually recovered. If osteo-myelitis were limited to one or two vertebræ, recovery was likely to take place. Cases of actinomycosis were fatal.

Treatment was Operative, Mechanical, and Medicinal.—Mechanical treatment, in his opinion, should involve extension to relieve pressure, and absolute fixation by apparatus which the friends could not adjust or remove.

The most serious indications for surgical interference were large abscesses and paralysis. Paralysis was usually curable without operation. But when operative interference had become necessary the mortality had been nearly fifty per cent. Dr. Phelps had operated in but two cases. The first patient had had total paraplegia as to motion

and sensation for two years. He removed the fifth and sixth dorsal vertebræ, scraped out a hard caseous mass; pus then freely escaped from about the canal, sensation and motion rapidly returned, and the prospects of ultimate recovery were very favorable, when, about a month after the operation, the patient died of pneumonia. The second case was that of an Italian completely paralyzed below the injury, the canal was full of tubercular material a distance of three or four inches; the arches of three vertebræ were removed; drainage was employed. No benefit followed; incontinence of fæces and urine and the paraplegia continued; the man died on the tenth day, and was better off for it, the author thought. It was well to treat the cases mechanically for a time, say two months, even where the paralysis was marked, and operate then only in case the symptoms due to paralysis were increasing.

Regarding abscesses, Dr. Phelps thought that the sooner they were opened, washed out, and drained, the better.

Spinal Supports.—The next subject which the author discussed was spinal supports, first throwing on the screen drawings of apparatus used between the middle of the fifteenth century and the modern period, the latter being illustrated by apparatus bearing the name of various orthopœdists. All the devices at present used were shown to have been employed in some form before the middle of the nineteenth century. They included the suspension apparatus, jury-mast, spinal braces, spinal jacket, elastic tension, extension in the horizontal position, frame for pressure upon the pelvis, etc. Later, however, Dr. Phelps replied to an inquiry by Dr. Sayre, that plaster of-Paris jacket had not been employed at this early date, or before Dr. Sayre had used it.

Dr. Phelps applied the corset, first of plaster-of Paris, later (during convalescence) of light wood or aluminium, the latter perforated and made to fit perfectly by being moulded over the plaster jacket. In all cases where the disease was above the third or fourth dorsal vertebra he applied the jury mast. He did not attempt, however, to lift the head, but only to keep it pushed back, so that the axis would fall back of the kyphos and prevent pressure upon the anterior portion of the diseased vertebræ by the superincumbent weight. In that way he believed further increase of deformity in the upper dorsal region could be prevented, unless the articular and transverse processes should break down. The plaster jacket was applicable only after the third year. Before that period he placed the little patients at his clinic on an improvised plaster slab.

Nothing New under the Sun.—Dr. L. A. Sayre had been much gratified on listening to the reading of the paper. It again verified the correctness of the adage that there is nothing new under the sun. It seemed that all that modern orthopœdists could claim was the rediscovery and improvement of old methods and principles in treatment. He had supposed, for instance, that the jury-mast was new when he first employed it, but had been shown this evening that he was mistaken. It seemed the plaster-of-Paris jacket had first been used by himself, and Dr. Phelps admitted that it did not appear among his ancient relics.

Dr. Sayre thought it was not creditable to the profession that many cases of spondylitis (which term he preferred to that of Pott's disease) were treated during months for supposed disease of the anterior part of the body—worms, indigestion, etc.—whereas if their true nature were early recognized deformity could be prevented, as had often been demonstrated in his practice. When the child got old enough he put on a plaster-of-Paris jacket, which he preferred to other methods. It was changed only often enough to accommodate it to the child's growth. It should not be varnished, as had been done sometimes to add to its appearance. He exhibited two thick cylinder casts of plaster-of-Paris, with a central opening into which he blew smoke from a pipe. The smoke freely escaped through the pores of the unvarnished cast, while his full lung-power failed to drive it through the cylinder with an outside coating of shellac. For the same reason the leather jacket caused excoriations, and was especially objectionable.

He approved of the brace which Dr. Whitman had attached to his plaster jacket, keeping the shoulders back and encouraging deep breathing. His son, Dr. Reginald H. Sayre, had devised the best apparatus with which he was acquainted for application to infants too young to wear a plaster jacket.

Of recent years Dr. Sayre had begun to doubt whether it was necessary to open all abscesses as soon as they appeared. Formerly he did open them, but he had lately seen a number of cases do as well without it.

Has Sueeess with Adult Cases.—Dr. Virgil P. Gibney thought that if the author would give as much attention to Pott's Disease in adults as in young subjects, and get the patients themselves to take similar care, he would cease to regard the diagnosis as specially bad in these subjects. For many years he, Dr. Gibney, had had an idea that adult cases all went to the bad, but when he came to look upon the condition as one of broken back which should be treated with the plaster splint, and considered how long it required to cure a fractured bone, he soon began to get very satisfactory results. Nothing gave him more pleasure at present than to treat such cases, whether complicated or uncomplicated by abscess. He put on the solid plaster jacket for a year, perhaps changing it once or twice during that time. After a year or eighteen months they could wear a corset of almost any material. Adults got well sooner, according to his experience, than did children, in twelve to eighteen months, and did not relapse.

He was glad Dr. Sayre had learned, even at this late date, that it was not necessary to cut every abscess which he saw.

Dr. A. B. Judson agreed with Dr. Phelps in holding the head back instead of trying to raise it, but he much preferred the Taylor chin-piece to the jury-mast. The brace is a lever making pressure on the projection and counter pressure below at the pelvis, and above at the shoulder or chin. Antero-posterior pressure thus made can be applied continuously day and night, while suspension is intermittent. Suspension is simply a form of traction. In straightening a crooked nail we do not apply traction but lateral force or leverage, just as we support a crooked back. He had no word of criticism for the use of plaster-of-Paris in Pott's disease. There are thousands of patients, all over the world, who would have no support if they did not have, thanks to Dr. Sayre, the plaster-of Paris jacket which, properly applied, is vastly better than no mechanical treatment. But in regard to the steel brace he had this to say: It is light and clean; it leaves the muscles of the trunk generally at liberty; by the use of soft steel and the adjustment of straps and buckles, the pressure may be regulated to a nicety, and the brace may be readily and conveniently adjusted to the growth and changing shape. The skin covering the projection should be watched, and pressure gradually increased till the tolerance of the integument is reached. Beyond this it is impossible to push mechanical support. The lobster and crab have the skeleton on the outside, but in our efforts to supplement the defective human skeleton by an external one of steel, we are baffled by the vulnerable skin. The steel brace enables us safely and comfortably to carry mechanical treatment to its utmost limit. Its disadvantage is that it can be used with satisfaction only by residence in, or frequent resort to, places where skilled workmen and special practitioners are found.

Dr. W. R. Townsend, having incorrectly understood Dr. Phelps to say he would operate in cases of paralysis if there was not recovery inside of two months, stated that this was too soon, for the majority of cases of paralysis recovered without operation, but not so soon as two months. He also queried whether Dr. Phelps did not leave so-called cold abscesses unopened, not including

them among abscesses which contained septic germs and which should, therefore, always be opened.

Dr. R. H. Sayre thought the author had lain too much stress upon rigidity of the spine in diagnosis. It was not sufficiently marked early in the history of some cases to be noticed by one who had not before seen similar cases. He would take middle ground between Dr. Phelps and Dr. Gibney regarding adult cases, and would say they required treatment as long as children. The reason why they had not given as good results was because they had not the time to devote to the treatment. Regarding the jury-mast, while he thought it should exert pressure backward, he also thought it of benefit to make traction upward. As proof that it did lift the head, he said that some of his patients complained when the upward traction was removed, although the head were still thrown back. He then described his apparatus, mentioned by his father, for application to children too young to have the plaster jacket.

Dr. Phelps closed. The jury-mast did not lift by the strap under the jaw so long as the jaw could be dropped or the head raised from it, and most patients would object if it did not permit of one of these acts. The backward pressure was sufficient, provided the jacket acted as an antero-posterior brace as well as jacket. He criticised Dr. Judson's brace. The jacket did not cause atrophy of muscles. In paralysis he said he would operate within two months if there were incontinence of urine and fæces, not that he would operate so soon in all cases of paralysis of motion. As to cold abscesses, filled with dirty tubercular material, the sooner this was let out the better; adult cases did not do as well as children, but he did not mean all died.

Clinical Department.

A CASE OF ACUTE GASTRO-ENTERITIS DUE TO MUSTARD.

By CHARLES E. SIMON, M.D.,

BALTIMORE, MD.

It is stated by Kobert (Lehrbuch der Intoxicationen, 1893), that poisoning from mustard and oil of mustard which are obtained from black mustard, Brassica nigra Koch, from Sarepta mustard, Brassica juncea Hook et Thoms, and from white mustard, Sinapis alba L. ("cruciferæ"), is by no means rare, and has been observed in man and some of the domesticated animals.

While this may be the case in certain European countries, mustard-poisoning in the United States, to judge from the literature that I was able to command, and in which I have been unable to find a single instance recorded, must certainly be regarded as a very exceptional occurrence. It may hence not be out of place to put on record a case of acute gastro-enteritis due to mustard taken with criminal intent.

The patient, a German girl, aged twenty-seven, being engaged to a young Polander, and looking forward to marriage in a few weeks, submitted to intercourse, but shortly after found herself betrayed by her lover. The menses not appearing at the time of the next period she considered herself as pregnant, and with the view of ridding herself of what, of course, she looked upon as a great inconvenience, she took a cupful of mustard-flour stirred into a thin paste with vinegar. The greater part of this was vomited immediately. When I first saw the patient, a few hours later, vomiting had been almost incessant, and continued throughout the greater part of the day (January 16th), and the morning of the 17th. On examination of the vomited material, this was at first found to consist of some remnants of food, much mucus, and containing some bile, but no blood; the reaction was acid, but free hydrochloric acid could not be demonstrated with either Günzburg's or Boas's reagent. The material which was subsequently brought up after much distressing retching, was colored a bright green, due to the presence of biliverdin, and was also devoid of blood and hydrochloric acid, its reaction being neutral.

Shortly after the first attack of vomiting, diarrhœa set in, the stools at first being fecal in character, but a few hours later consisting of pure blood, numbering between twenty and thirty the first twelve hours. Tenesmus did not exist.

At the time when I first saw the patient she complained of agonizing pain, confined to the upper abdominal zone, extending into the back, and most severe in the epigastric and upper umbilical regions. The most careful and delicate attempts at palpation in these areas caused excruciating pains, the patient screaming out aloud. Pressure in the lower zone, however, was well borne and caused no distress. The tongue presented a normal appearance.

An examination of heart and lungs was negative; the mind clear; no twitchings or tremor; the pupils of normal size; the pulse small, numbering 92 beats per minute; the respirations shallow, varying between 50 and 60 per minute; the temperature, 97 8° F.; the face was pinched, and the forehead covered with beads of perspiration; dorsal decubitus with legs extended. From time to time patient would rise in bed to relieve the excessive pain of which she complained in her back. There existed great thirst, and, of course, complete anorexia.

The patient, although closely questioned, denied having taken any drug, and affirmed having not felt well for several days, having suffered with "diarrhœa and indigestion;" later in the day, however, the history given above was obtained.

Turpentine stupes, linseed tea, and small amounts of iced Apollinaris were ordered; morphia was given hypodermically in full doses; white of egg, even in teaspoonful doses, was immediately vomited, and no nourishment was hence given during the first twenty-four hours.

On the evening of January 17th the following note was made: Patient passed a restless night, suffering greatly with pain in the abdomen. During the day, between twenty and thirty stools, consisting of pure, red, liquid blood, were passed; the vomiting ceased after midday, blood having at no time been observed in the ejected material, which was watery, containing a small amount of mucus, bile-stained, and free from hydrochloric acid. Fourteen whites of egg were given in the course of the day and were retained. The entire abdomen is excessively tender to the touch, and spontaneous pain continuous, unless relieved by turpentine stupes and morphia, the former being especially grateful. Starch and laudanum (gtt. xx.–xxx.) enemata were given every four hours, and could be retained from ten to fifteen minutes.

The patient's general condition is worse than on the previous day; the temperature at 11 A.M., 96.8° F., at 5 P.M., 97.2° F. The pulse is small, varying between 90 and 110; respirations are hurried; the face is pallid, the pupils contracted (undoubtedly due to the large amount of opium given); the lips are dry and fissured; the tongue also is dry and covered with a heavy fur.

January 18th, P.M.—Patient had a very fair night, much relief being experienced from the stupes. The pain is less, there is no vomiting; the stools, still numerous in the morning, occurred less frequently in the afternoon, and were microscopically free from blood. Anorexia is still complete, and much thirst complained of. Twenty-four whites of egg were given in the course of the day and retained. Treatment same as above.

January 19th.—The patient is much better; the pain less, although the abdomen to palpation is still very sensitive, especially so in the upper umbilical region. Tongue and lips are again moist and the former covered with a heavy white fur. Pulse, 80 to 90; respiration quiet; temperature normal; twenty-four eggs during the day.

January 20th.—Patient to-day had only two stools, both without blood; there is no spontaneous pain, but still marked tenderness in the upper umbilical region; twenty-four whites of egg during the day and a whiskey-glass full of milk every four hours. Patient has a little appetite, general condition is good.

January 21st.—Patient is sitting up in bed, taking milk and whites of egg alternately every two hours; no stool; no pain; very little tenderness on palpation. General condition much improved. From this date on recovery proceeded uninterruptedly, so that patient was able ten days after the beginning of her illness to resume her duties as a cook. An abortion had not taken place.

A vaginal examination made on the 21st revealed a slightly relaxed outlet; carunculæ myrtiformis very prominent; no tenderness; two fingers could be introduced into the vagina without difficulty; the cervix is large and hard, presenting a small left-sided tear; the external os is not dilated; the uterus is freely movable in axis, body sagging in pelvis, somewhat enlarged; right ovary palpable and freely movable, near uterus, of normal size; left ovary cannot be felt.

The examinations of the patient's urine I here append, the most prominent features being a very pronounced oliguria, a slight degree of albuminuria, and an enormous increase in the amount of uric acid and indican.

Examinations of Urine. January 17th.—Amount of last twenty-four hours, 150 c.c.; dark yellowish brown in color, cloudy, with a heavy sediment of urates; very acid; sp. gr. 1.036; trace of albumin with trichloracetic acid; no reduction of Fehling's solution; indican and uric acid enormously increased; large amount of uroerythrin; no diazo reaction.

January 17th, P.M.—Amount of last twelve hours, 180 c.c., of a normal yellow color; cloudy (due to urates); very acid; sp. gr. 1.030; trace of albumin; no reduction of Fehling's solution; indican not increased; uric acid still very much increased, but less than in previous specimen; uroerythrin much increased; no diazo reaction; no diaceturia.

January 18th, A.M.—Urine dark yellow; light flocculent sediment; clear; very acid; sp. gr. 1.036; no albumin; enormous increase of indican, no reduction of Fehling's solution; uric acid decidedly increased; much indigo-red; no diaceturia.

January 18th, P.M.—Urine light yellow in color, clear, acid; sp. gr. 1.019; no albumin; slight increase in indican; uric acid moderately increased; no reduction of Fehling's solution; no diaceturia.

A few hyaline casts and a slight increase in the number of leucocytes were observed during the first two days.

From the 18th on a slight increase in the uric acid and indican persisted for almost a week, when the urine resumed its normal character. In order to fully appreciate the clinical picture described, it may be well to add a few words regarding some of the chemical properties of mustard.

The three plants above named, each contains a glucoside and an enzyme or ferment, both of which, when individually injected into the subcutaneous tissue in moderate amounts, produce no ill effects and reappear in the urine unaltered. Each ferment, however, will decompose each glucoside in the presence of water, with the formation of an oil of mustard. Myrosin is the term which has been generally applied to each of these three ferments, although their identity has as yet by no means been established. Given in large doses, myrosin, like many other ferments, among which may be mentioned invertin, diastase, emulsin, pepsin, chymosin, papain, and trypsin, display poisonous properties.

The glucoside found in black mustard is identical with that of the Sarepta mustard, and has been termed sinigrin, being potassium myronate, while the glucoside of white mustard is known as sinalbin.

The decomposition of sinigrin and sinalbin by myrosin, above referred to, in the presence of water, is said to take place according to the following formulæ:

$$\underset{\text{Sinigrin.}}{C_{10}H_{19}KNS_2O_{10}} = \underset{\text{Glucose.}}{C_6H_{12}O_6} + \underset{\text{Acid. Pot. Sulphate.}}{KHSO_4} + \underset{\text{Allyl mustard oil.}}{C_3H_5NCS}.$$

and

$$\underset{\text{Sinalbin.}}{C_{30}H_{44}N_2S_2O_{16}} = \underset{\text{Glucose}}{C_6H_{12}O_6} + \underset{\text{Acid Sinap. Sulphate.}}{C_{16}H_{24}NO_5HSO_4} + \underset{\substack{\text{Paraoxy.}\\ \text{Benzyl mustard oil.}}}{C_7H_7ONCS}.$$

The same decompositions may occur even in the absence of myrosin, but more slowly, in the intestinal tract of animals in which a high degree of intestinal putrefaction is taking place, such as the herbivora. Of the two mustard oils thus produced, the physiological action of the allyl oil is the more intense.

Following the ingestion of mustard in the human being in large amounts, a most severe action affecting the gastro intestinal mucous membrane takes place, due to the presence of the two mustard oils set free, the common mustard flour of the household consisting of both Brassica nigra and Sinapis alba, manifesting itself in vomiting, salivation, severe enteralgia, colic, diarrhœa, contractions of the uterus, leading at times to abortion, albuminuria, and even hæmaturia, dyspnœa, œdema of the lungs, convulsions, a pronounced depression of the temperature, central paralysis, and even death. Post-mortem inflammatory anatomical alterations are found at the places of contact, as also multiple hemorrhages. The urine is said to emit the odor of oil of mustard, a point which I have not been able to observe in my own case, however; a similar odor is said to be observed in the cadaver. A reducing substance is also mentioned as occurring in the urine, which I have also not been able to demonstrate.

P. S.—On February 24th I was again called to see the patient and found her suffering with intense headache, anorexia, and a temperature of 103.6° F. A careful examination of the entire body proved negative, a vaginal examination being not made at the time however. Antipyrin was given in gr. xv. doses to relieve the headache.

During the night the patient aborted. As an explanation, the patient stated that "she had fallen down the cellar-stairs a few days before;" there is some foundation for the belief, however, that the girl had been in the hands of some abortionist. Recovery. According to the calculations of Professor Mall, of the Johns Hopkins University, who very kindly undertook the examination of the embryo, the abortion took place on the forty-seventh day.

LITERATURE.

Mitscherlich: Preuss. Med. Ztg., 1843, S. 203.
R. Henze: Das ætherische Senföl. Inaug. Diss., Halle, 1878.
T. Eros: Oroosi Hetilap, 1879, Nos. 11–16 and Nos. 49–50; ref. to in Hofmann-Schwalbe's Jhrb., 1879, Bd. II., S. 150.
H. Salkowsky: Chem. Ber. Jhrg. 22, 1889, S. 2137.
N. Feldherhn: Die Wirkung reizender Diät auf Albuminurie. Diss. Petersburg, 1890 (Russian).
Kobert: Lehrbuch der Intoxikationen, 1893, S. 22, 30; 358-359 and 391.

REMOVAL OF A PESSARY FROM THE DILATED CERVICAL CANAL OF A SEVENTY-YEAR-OLD WOMAN.

By HENRY HEIMAN, M.D.,
NEW YORK.
PHYSICIAN TO MT. SINAI HOSPITAL DISPENSARY, DEPARTMENT DISEASES OF CHILDREN.

Mrs. Z——, a German woman, seventy years of age, came to my office on January 15, 1894, complaining of what seemed an attack of uterine colic. Fifteen years before a physician had ordered a "rubber ring" to be worn for prolapsus uteri. A few years later this was discarded for a Zwank's hysterophore, which afforded her great comfort until about three years ago, when it broke. A Hodge's pessary was then advised by another physician, who, however, contented himself with verbal instructions to the patient, never once introducing the instrument himself. About four weeks ago, my patient, in lifting another person, suddenly felt a severe pain in the hypogastric region. She at once examined herself, and failed to find the pessary. Alarmed at this circumstance she allowed another woman to examine her, but the search was futile. Her pain increased, and she finally came to me. Digital examination revealed a greatly elongated and hypertrophied cervix, presenting at the vulva. When the woman strained the cervix even

protruded. Exploration of the vagina gave negative information, I then introduced my index-finger into the cervical canal, and at once detected the missing pessary. Extraction with the bent finger failed. Having dilated the os, so as to admit two finger tips, I passed a stout muslin bandage through the pessary, the small end of which was presenting. Two fingers of my left hand made counter-extension against the os, so that in the extraction a further prolapse should be avoided. Strong traction on the bandage caused the pessary further to dilate the canal, and the removal of the instrument was easy. Very slight bleeding accompanied this operation. Recovery was rapid and uneventful.

220 East 116th Street.

Therapeutic Hints.

Test of flour for diabetics. A weighed quantity of the flour is taken and the carbo-hydrates converted into glucose by treating it with sulphuric acid in an inverted condenser for a few hours, and then estimating the amount of glucose by the alkaline copper test. This process with care gives absolutely reliable evidence.—*Lancet.*

Dangerous "diabetic flours" containing as high as sixty-six per cent. of starch, and yielding the same amount of glucose as wheaten flours, are to be found in the market.

Tonsillitis.—

℞. Ol. eucalyptus glob. ..... ℥ xv.
Spt. camphor..... ʒ jss.
Tinct. guaiac..... ʒ iijss.
Glycerin. ..... q. s. ad ʒ j.

Ten drops on sugar to dissolve in the mouth, every hour or two.
—Miles.

Oil of Cinnamon to abort gonorrhœa. The first day inject one minim to the ounce; the second, two; and thereafter three, made up with a liquid petroleum preparation. Cleanse the canal beforehand with peroxide of hydrogen.—Da Costa.

Neurasthenia —

℞. Tr. kola,
Tr. coca .....āā ʒ jss.
Citric acid..... gr. xv.
Arseniate of sodium ..... gr. ¼

M. Sig.—Teaspoonful three times daily.
—*El Siglo Medico.*

Milk boiling increases the quantity of the soluble phosphates, this appearing to show that the boiled milk contains a larger amount of phosphoric acid already for assimilation.—Crolas.

Calomel is a sure and safe antipyretic, reducing the temperature from two to three degrees in a few hours when given in large dose.—Nunn and Simmons.

Vomiting of Pregnancy. — Horizontal position in darkened room, rectal alimentation. Ice by mouth.
—Horwitz.

When the vomiting is uncontrollable and seriously endangers the patient's life, the induction of abortion or premature labor is indicated, and will, if done in time, to a certainty save the woman.—Blume.

Hemorrhoids.—

℞. Calomel ..... ʒ ss.
Morphine muriate ..... gr. ijss.
Bismuth subnitrate..... ʒ vj.
Vaseline..... ʒ vi.
Glycerine ..... ʒ ij.

Apply.
—Allingham.

Creolin is an agent which in infective pustular eczema effectually controls the process. In scaly eczema it affords marked relief to the irritability and itching.—Patteson.

Tape-worm.—No mid-day nor evening meal. At bed-time thirty grams of castor-oil. The following morning a second dose of fifteen grams of castor-oil. An hour later one gram of salicylic acid, repeated every hour for four doses. If no worm is expelled a third dose of castor-oil.—Ozegovski.

Piperazine is said not to be free from danger in those whose kidneys are unsound.

Vomiting of Gastralgia.

℞. Cocaine ..... .10
Antipyrin..... 1.00
Aq. destil..... .... 90.00

Sig.—A teaspoonful every half-hour to an hour.
—*Canada Lancet.*

In Acute Dysentery, involving the colon high up, I have found large enemata, containing two to three drachms of subnitrate of bismuth, much more efficient than the exhibition of bismuth by the mouth.—Wood.

Cancer of Stomach.—Chlorate of soda, ʒ ij. to ʒ iv., daily.—Brissaud.

Heart Pain.—Belladonna plaster over the organ.

Chronic Bronchitis.—

℞. Tinct. nucis vom..... ʒ j.
Tinct. sanguinariæ..... ʒ j.
Ext. pinus canadensis (dark)..... ʒ iv.
Syr. simp..... ʒ iv.

M. Sig.—A drachm every four hours.

Variola.—Serum, from a man six weeks after variola, was injected (ʒ j. to ʒ ij. into buttocks), and checked progress in a second case.—Auché.

Kava, fluid extract, ʒ ss. to ʒ j., every four hours, controls and cures gonorrhœa in from fifteen to thirty days. —Bacon.

Pichi, fluid extract, ʒ j., every four hours, is especially useful in gonorrhœa and cystitis.—Friedlander.

Methyl-blue, five per cent. solution, to moisten tampons, is said to act directly upon the bacteria in vaginitis, causing discharge and pain to cease.

Toilet Lanoline Emulsion: borax, 1; lanoline, 10; water, 100.

Dentition Fever.—Drop doses of aconite will prevent convulsions. If not, then small doses of bromides.—Hallopeter.

Pilocarpine.—In psoriasis I have met with no good results from the use of pilocarpine, and, in subacute eczema, with bad ones.—Simon.

Hydrochlorate of Quinine, fifteen grains to half an ounce of saturated camphor water for hypodermic use.—Pepper.

Creolin Soap can be employed with advantage in scabies, impetigo contagiosa, intertrigo, as well as in bromidrosis. The lather should be firmly rubbed into the affected parts several times a day.—Carblom.

Acne.—

℞. Camphorated naphthol,
Resorcin,
Salicylic acid.....āā gm. 5
Starch,
Vaseline,
Precipitated sulphur ....āā gm. 25

M. et fiat pasta.
—Besnier.

Chronic Catarrh of Stomach.—Large doses of bismuth.—Pick.

Cervical Aneurism.—Macewen's "Needling" should supplement pressure when the case is progressing rapidly; possibly it is advisable in all cases suitable for compression, and is certainly to be employed where this method fails in cases with highly atheromatous vessels.—Nancrede.

New Instruments.

A SIMPLE METHOD OF LOCATING METALLIC BODIES IN THE UPPER AIR-PASSAGES.

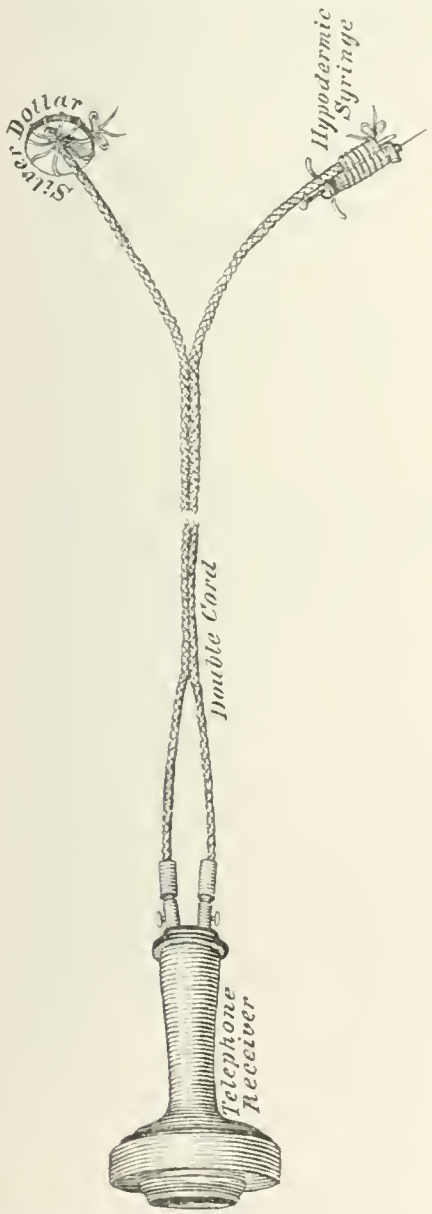
By E. N. HEARD, M.D.,

SANDUSKY, O.

ASSISTANT SURGEON, OHIO STATE SOLDIERS' HOME.

In the MEDICAL RECORD, December 16, 1893, page 798, Dr. J. Mount Bleyer described a method of obtaining a lost intubation-tube lodged below the vocal cords. He did this successfully by means of a battery, electric bell, and surgical probe en-circuit, the latter consisting essentially of two needles in a handle, across which closure of the circuit was made by the contact of both needles with the lost body, at the same time. He considers the instrument simple, and indeed it is both simple and ingenious. But the one I wish to offer is much simpler.

Should there be a telephone in the house, take down the receiver or ear-trumpet, together with the attached flexible



cord. To one of the free ends of the bifurcation attach the metallic part of your hypodermic instrument, binding it securely by means of cord. To the other fore end attach a piece of steel of convenient size to be placed in the mouth (the large blade of a pocket-knife might be made to serve). Place the latter in the mouth and see that it is well in contact with the tongue. Then introduce the hypodermic needle through the tracheal wall, the telephone receiver being held to the ear meanwhile. Should the body be touched, even in the slightest degree, there will be a scratching sound in the telephone. The working of this instrument depends upon the well known fact that two metals of different kinds, when in contact with the fluids of the body form a sort of battery which will give current sufficient to influence a telephone receiver. A blunt probe may also be used through the air-passages, a piece of metal of the same kind being connected with the surface of the body, and the telephone. Annexed I give a diagram of the two.

Just here it may be well to say that whatever of plating may be on the syringe, although it does probably make some current with the mouthpiece, yet it makes such a small amount that, being constant in quantity, it makes no practical difference.

Better contact with the skin (in the second instrument) can be made by making the electrode of a silver dollar and moistening it with salt-water, or very dilute sulphuric acid.

The advantages of these instruments over that of Dr. Bleyer are three: 1. Little time is needed to arrange the apparatus. 2. The slightest contact will bring response. 3. There is not the least danger of injury.

In the instrument described by Dr. Bleyer, some ingenuity is needed to arrange the two needles, and both of them must be pressed firmly against the metallic object at the same time.

THE UTEROMETER.

By S. HEMINGWAY, M.D.,

CONSULTING PHYSICIAN TO WORKHOUSE, ALMSHOUSE, AND INCURABLE HOSPITALS, NEW YORK.

THE uterometer is an instrument used to accurately determine the depth and position of the uterus, and to locate and estimate the dimensions of growths therein contained.

Thomas,[1] in his excellent book, speaking of a case wherein he improvised a probe from a corset whalebone with a sealing-wax tip, says, on referring to his whalebone probe: "The sound (*i.e.*, *the probe*) is used in this way—the index-finger of the left hand is placed on the most accessible part of the tumor: then the sound, held in the right hand, is slipped up on one side between the tumor and uterine wall until arrested, when the index of the left hand is placed upon its shaft at the os externum uteri. The sound being then withdrawn, and the finger kept upon it, it is laid upon a sheet of paper or against a blackboard, and being curved, a line is drawn from its tip to the indicating finger. Then the sound is passed on the other side, and a similar transfer of its course is made to the sheet or board."

To Emmet[2] we owe the introduction of the silver probe in gynecology; and with his exceptional skill so many other advances in this line of practice. He condemns the Simpson sound, and his teachings have demonstrated that safety in the uterine examination is in the probe with proper precautions as to cellulitis.

Mundé:[3] "When the probe has reached the fundus, the right index is passed into the vagina, or the dressing forceps grasps the probe at the external os, and thus marks the length of the uterine canal, which must be measured by tape-measure, since the probes are not graduated.

"To measure the depth of the uterine cavity, the index-finger in the vagina is placed along the sound to the external os; the other fingers surround the instrument, which is then withdrawn in the reverse direction from

[1] Thomas: On the Diseases of Women, p. 540. H. C. Lea's Son & Co. 1880.

[2] The Principles and Practice of Gynecology. H. C. Lea. 1879. Minor Surgical Gynecology.

[3] Encyclopædia of Obstetrics and Gynecology. R. Chrobak. Vol. V. Grand, Editors.

which it was inserted, *taking care lest the index finger slip.*" (Italics mine.)

Fritsch, in "Diseases of Women," says: "To this end the tip of the index finger is placed on the sound at the internal (*sic*) os. The finger and sound are removed together, and the measurement is taken."

Other references could be given, but these are sufficient to show the need of an accurate instrument for measuring the depth of the uterine cavity and the attachment of growths contained within it. I fail to find, in any authority on diagnosis and treatment of uterine disease, any instrument fulfilling the properties of the uterometer; and after four years' use of the instrument, it is offered as an additional means of diagnosis.



When one has had a slipping finger or a slipping dressing forceps, and, coupled with either, the difficulty of afterward measuring with the tape-measure, the advantages of the instrument are evident. The whalebone probe has its own, not the uterine curve characteristic of each case.

The extent of attachment of an intrauterine growth is easily found, by first passing the uterometer to the nearest point of touch, and recording the measurement by screwing down the indicator; record this; and with necessary curve pass the instrument or probe into the cavity deeper, and with sufficient curve go to the deeper portion of the attachment, screw down, and the difference between the two measurements will show at once the attachment of the growth in inches or centimetres.

It has been suggested that the instrument is useful in surgical or pathological work to get the depths of sinuses or cavities. The instrument is an aseptic one, can be readily cleansed, is light in weight, and can be easily used, by removing the scale-measuring indicator *B*, as an Emmet probe, *A*.

C. Handle [1] measured in inches and centimetres. Scale indicator *B* will conform to the curve of the probe, and is divided into fractions of inches or centimetres on the handle, can immediately be safely fixed by turning screw-head *D*, to be referred to later if desired, and also with the uterine curve of the case at hand.

I am indebted to Messrs. John Reynders & Co., 303 Fourth Avenue, New York, for their courtesy in preparing the uterometer, and in the interest they have shown in it.

205 East Seventeenth Street, N. Y.

The Effects of Medical Life on the Physician Himself.—In the great majority of cases the special influence of the medical life of the present day is to broaden the views of the man who lives it, to make him independent in judgment; rather sceptical as to the occurrence of the millennium in the near future; quite incredulous as to the truth of the maxim that "all men are born free and equal;" more inclined to consider and perform the immediate evident duty of the day and hour which lies just before him, than to reflections upon the errors of other men; free from morbid fear of death, and of that which comes after death; and none the less a believer in the existence of a Supreme Being and in the fundamental principles of religion, although he may not consider them capable of scientific demonstration.—John S. Billings, in the *International Journal of Ethics*.

A Strong Man on exhibition in London lifts two horses with their riders at the same time, the total weight being about four thousand pounds.

Ibsen was a medical student once.

[1] The handle can be lengthened so that the indicator will reach to tip of probe.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 10, 1894.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	12	5
Scarlet fever	138	14
Cerebro-spinal meningitis	1	6
Measles	438	29
Diphtheria	174	45
Small-pox	28	2
Cholera	0	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0
		1

A Russian Professor's Directions How to Study Medicine.—The following curious letter has been sent to the *New York Times* by a New York correspondent, who has translated it from the Russian. The address is the inaugural of the new Russian director of the Clinic of the University of Dorpat, heretofore an institution of the foremost rank, in which all the chairs were filled by German professors of great learning, and frequented by German-speaking students, mostly inhabitants of the Baltic provinces. By a recent ukase, teaching in the German language has been interdicted; the German professors not willing or able to lend themselves to the destruction of the traditions and usefulness of the university, have been forced to resign, and were replaced by Russian "professors." The inaugural address is literally as follows: "Good Day! Before we take up our activity in clinics, I wish to give you some practical counsel, which, at present, you can only utilize partially, but which will be of great importance to you later when you enter life. Before all, you must be prepared for one thing, that is, as soon as you locate yourselves anywhere as physicians, be it in city or country, you will be chicaned by all the older physicians. But that does not matter, for the moment the public finds this out you get the practice and the older physicians have nothing to do. It happens even that students of the later courses, who practise during vacation, are chicaned by the physicians, because the students prescribe newer medicines of which the physicians have no knowledge. Regarding the relations of your patients toward yourselves, it is self-evident that you must secure for yourselves their esteem. But this you can only obtain if your charges to your patients are high. Ask of every one of your patients ten rubles, not one or a couple of rubles, for otherwise you will be decried as money-squeezers, such as people consider most physicians to be. If you stand on such ground in money matters, the patients will look with respect upon your medical knowledge. If, however, one or the other cannot pay this price, you will rather treat him free of charge, for which he will be attached to you in gratitude. Further, you must impose respect on the public by your conduct. As physicians, you must never get drunk nor loaf in the saloons, and in general must always behave decently, even as students. When I was a student, there studied at the same university seven students who always behaved so properly that everybody said, 'Those must surely be older students,' but they were quite young ones. You must never take more than twelve patients, or you lack conscience, for it is impossible to examine thoroughly more than twelve patients in one day. There are physicians who take over forty patients in one day. They get their hundred rubles, and are satisfied. But if you take twelve patients in accordance with the principles which I have stated to you, you get 120 rubles. When I came here to Dorpat, I found the clinic in bad condition. Thanks to my energetic efforts, it is now in good order, and has been properly cleaned.

And for what did I have all this done? So that you should accustom yourselves from the start to have the clinics clean. Neither is it quite healthy for the patients if they lie about in the dirt. Soon there will be a ukase published commanding the students of the higher courses during vacation into the interior of the empire. There they can learn to speak Russian well, can extend their knowledge, and earn a good piece of money. I shall have to decide who is to get these places. Naturally, I shall appoint those who speak Russian, who visit the clinics, and who are filled with gratitude toward the directors of the clinic."

Surgeons' Hands.—One can tell, nowadays, something of the amount of work which a surgeon does and the thoroughness with which he does it, by looking at his hands. The strong bichloride and permanganate solutions with which the hands are sterilized (after the epithelium has been faithfully scrubbed off with a brush), make the hands rough and horny. The hands of some of the operators and nurses are practically incapacitated for work by this constant *régime*.

A Preliminary Programme of the Congress of American Physicians and Surgeons, to be held in Washington, D. C., has been issued. The meetings will be held on May 29, 30, 31, and June 1, 1894. Dr. A. L. Loomis, President, in the Chair. The programme for the set discussions to be held in the general sessions is as follows:

By the *Association of American Anatomists.*—"Morphology as a Factor in the Study of Disease." Opened with a paper by Dr. Harrison Allen, Professor of Comparative Anatomy in the University of Pennsylvania, and discussed by Dr. Thomas Dwight, Professor of Anatomy in the Harvard Medical School; Dr. Frederic H. Gerrish, Professor of Anatomy in Bowdoin College; Dr. Frank Baker, Professor of Anatomy in the University of Georgetown; and Dr. Burt C. Wilder, Professor of Physiology, Comparative Anatomy, and Zoölogy in Cornell University.

By the *American Climatological Association.*—"Sewer Gas." "The Bacteriology," by Dr. Alexander C. Abbott, First Assistant in the Laboratory of Hygiene, University of Pennsylvania. "As a Cause of Disease," by Dr. Abraham Jacobi, Professor of Diseases of Children in the College of Physicians and Surgeons in New York City.

By the *American Dermatological Association.*—"The Distribution and Control of Leprosy in the United States." "The Distribution." Opened with a paper by Dr. J. Nevins Hyde, Professor of Skin and Venereal Diseases in Rush Medical College, Chicago, and discussed by Dr. William A. Hardaway, Professor of Skin Diseases in the Missouri Medical College, St. Louis, and Dr. James E. Graham, Lecturer on Diseases of the Integumentary System in the Toronto School of Medicine. "The Prophylaxis and Treatment," with a paper by Dr. James C. White, Professor of Dermatology in Harvard Medical School, and discussed by Dr. George H. Fox, Professor on Diseases of the Skin in the College of Physicians and Surgeons of New York City; Surgeon-General W. C. Wyman, U. S. M. H. Service; and Dr. Joseph D. Bryant, Professor of Anatomy and Clinical Surgery, Bellevue Hospital Medical College, New York City.

By the *American Association of Genito-urinary Surgeons.*—"Nephritis in its Surgical Aspects." Opened with a paper by Dr. Edward L. Keyes, of New York City, followed by a paper from Dr. George M. Sternberg, Surgeon General, United States Army; on "The Bacteriology of Nephritis," and discussed by Dr. George Chismore, of San Francisco, Cal.; Dr. L. Bolton Bangs, Surgeon to St. Luke's Hospital, New York City; Dr. Francis S. Watson, Instructor in Genito-urinary Diseases in Harvard Medical School, Boston, Mass.; and Dr. W. N. Wishard, of Indianapolis, Ind.

By the *American Gynecological Society.*—"The Conservative Surgery of the Female Pelvic Organs." Papers will be read by Dr. William M. Polk, Professor of Obstetrics and the Diseases of Women and Children in the University of the City of New York, and Dr. William Goodell, Honorary Professor of Gynecology in the University of Pennsylvania.

By the *American Laryngological Association.*—"The Surgery of the Accessory Sinuses of the Nose." To be discussed by Dr. J. Solis-Cohen, Professor of Laryngology, Jefferson Medical College, Philadelphia; Dr. F. J. Knight, Professor of Laryngology in Harvard Medical School; Dr. George M. Lefferts, Professor of Laryngology and Diseases of the Throat in the College of Physicians and Surgeons in New York City; Dr. F. H. Bosworth, Professor of Diseases of the Throat in Bellevue Hospital Medical College; Dr. William C. Glasgow, of St. Louis, Mo.; and Dr. E. Fletcher Ingalls, of Chicago, Ill.

By the *American Neurological Association.*—"The Influence of Infectious Processes on the Nervous System." "Pathology and Etiology," by Dr. James J. Putnam, Lecturer on Nervous Diseases in the Harvard Medical School. "The Relation to General Nervous Diseases," by Dr. E. C. Seguin, of New York. "The Relation to Mental Disease," by Dr. Charles K. Mills, Professor of Mental Diseases and of Medical Jurisprudence in the University of Pennsylvania; and "The Therapeutics," by Dr. F. X. Dercum, of Philadelphia.

Note on the Employment of Calcium Chloride as a Hæmostatic.—Saundby, in the *Birmingham Medical Review*, contributes a short note upon this subject, basing his experience upon the experimental report of Professor Wright. The three following cases are therefore of interest: The first of these was a middle-aged woman, with chronic jaundice of six months' duration, believed to be due to an impacted gall-stone. She suffered from pretty free hemorrhage from the rectum, apparently proceeding from some internal piles, but the bleeding was decidedly more than we should have expected from the state of the bowel. Our first efforts were directed to remove the hard fæces which could be felt in the rectum by the use of olive-oil injections, and to keep up a daily action of the bowels by the administration of saline aperients; but as after fifteen days these means failed to check the bleeding, calcium chloride in small doses was administered every four hours, with the satisfactory result that after five days the hemorrhage ceased and did not return. The next case was even more striking, as it was that of an elderly woman, admitted with purpura hemorrhagica—that is to say, she had a purpuric rash over the body and limbs, free bleeding from the gums, and slight hæmaturia. The free use of ergot, gallic acid, and acid infusion of roses not having been followed by any benefit, on the third day after admission she was placed upon small doses of calcium chloride every two hours, after which the bleeding diminished, and five days later had ceased altogether, the patient making a good recovery. In the third case, which was one of phthisical hæmoptysis, calcium chloride was used in combination with other measures, but, in spite of all treatment, a profuse hemorrhage set in which carried off the patient. At the autopsy we found an aneurism of the pulmonary artery projecting into a cavity, a condition which sufficiently explained the futility of our remedies. With respect to dose, it is noteworthy that Professor Wright found, after giving 1 gramme thrice daily for four days, that the coagulability became enormously diminished—*i.e.*, to over one hour—and on certain experiments upon himself he believes this was due to the administration of calcium chloride having been carried too far, for he found that when too large a dose of the salt was added to decalcified blood *in vitro*, coagulability decreased, and on taking 2 grammes of calcium chloride three times a day the coagulability of his blood rose during the first twenty four hours, returned to normal during the second, and in the third fell below normal, so that the best results may be looked for from comparatively small doses. In the author's cases the drug was administered in the form of the liquor calcii chloridi of the new British Pharmacopœia,

which is of the strength of 1 to 5, and the dose employed never exceeded 30 minims, or 6 grains, though in the case of purpura this quantity was given every two hours during the day for some days.

Mastitis Diphtheritica by Infection from Stomatitis Diphtheritica.—Dr. Louis Fischer records in the January number of the *Archives of Pediatrics*, the case of a female nursling, aged seven months, who had two large patches, one on the tip of the tongue and the other on the soft palate. They were irregular in outline with a yellowish-green appearance; temperature in rectum 100⅕° F. at 11 A.M.; pulse, 142; respiration, 39; cervical glands considerably enlarged on both sides. No history of existing infectious disease in the same locality. The diagnosis of the stomatitis ulcerosa was made and a question mark (?) entered after same. The mother was cautioned in regard to the other children and the case carefully watched. He again saw the case two days later and found the child in a much worse condition; temperature in rectum, 4 P.M., was 102⅘° F.; pulse, small, feeble, 160, but quite regular. The examination of the mouth showed an extension of the inflammatory condition of the patches, now involving the uvula and left tonsil. The pharynx showed an abnormal redness, but no membrane was visible. While mentioning isolation the infant's mother asked him to examine her left breast, saying her nipple was "cracked" and painful. She explained this by saying that, owing to the baby's irritability, it moved almost constantly and so "bit" her nipple. The examination showed a large semicircular fissure, whitish in places; the breast painful to touch; glands distended from milk; axillary glands enlarged and tender on palpation. The mother complained of aching in her limbs, a "tired feeling" as she called it; had had chills alternating with fever; her temperature was 99⅘° F. in mouth. While examining the infant's mouth and what appeared to be membrane at the nipple, he inoculated two agar-agar tubes and placed them in the thermostat. After thirty-six hours a distinct growth showed small colonies of both streptococci and bacilli which, on staining with Lœffler's alkaline methylen blue, showed distinct semblance to the Klebs Lœffler bacilli. A culture was made, for his own satisfaction, of the patch from the mouth and from the uvula, and also from the pharynx. By a mishap the last test tube was broken; however, the tube inoculated with the uvula patch and the one from the tongue was distinctly diphtheritic, inasmuch as both contained, in almost pure culture, the characteristic Klebs-Lœffler bacilli.

German Literature a French Necessity.—Just at present there is much agitation in France for reform of instruction and examination in medicine. The Ministry of Instruction propounded quite recently certain questions in this direction to be decided upon by the Medical Faculty of Paris. A commission of five professors and the Rector of the Faculty have considered these questions, the principal of which was whether the study of the classical languages should be abandoned? The commission in its answer said: The physician is obliged to use a terminology which is derived from the Greek and the Latin. Although he may, without having been instructed in the classics, in the course of time acquire a superficial knowledge of the expressions, still there will remain in such a case a sentiment of inferiority, because he does not know their origin. In the interest of the dignity of the profession this sentiment should be spared to the future physician. The commission further said, it would be absolutely necessary that in addition to the knowledge of the classical idioms the knowledge of one of the modern languages should be required, namely, the German. In the present condition of the medical science, which derives its elements from all parts of the world, every physician ought to be somewhat of a polyglot.

The above paragraph appears in the *Deutsche Medicinische Wochenschrift*, 1894, No. 5. It is most gratifying to the Germans to learn that the Medical Faculty of Paris thinks the German medical literature of such importance. It will interest also the many American physicians who have learned German for the mere purpose of reading German medical publications.

A Healthy Locality—Dr. Edwin Barnes, of Pleasant Valley, New York, sends us a letter which describes the healthfulness of that part of the State in which he resides. His practice covers the towns of Clinton, Hyde Park, Rhinebeck, Pleasant Valley, Milan, Stamford, and Washington. This region is an almost exclusively farming community; people of limited means, and hard workers. The country is mostly hilly and rugged, with a full proportion of rock, slate, blue trap, and limestone. The valleys are narrow and gravelly, with a rapid fall for the water-courses. The supply of water is almost wholly from shallow wells or springs. In the dry season of August and September water is sometimes very scarce, both for families and stock, but he has never been able to trace any sickness to such scarcity. The whole number of patients treated would be very difficult to ascertain, but there were enough to keep one busy every day and more than half the night. Out of 27 deaths occurring during the above-mentioned time, there was not a single one from a contagious disease in the ordinary sense of the term. There was also a singular freedom from zymotic disease, unless grippe should be thus classed. By taking the age of each patient at nearest birthday, adding all together and dividing by 27 the whole number of deaths, there was shown the surprising average of 60$\frac{19}{27}$ years. One case came from the tenement-house region of New York City five years ago, and was at the time of her marriage suffering from incipient phthisis. Her whole life was one of sickness and privation. Both her children were feeble at birth and died in infancy from marasmus. With these three cases eliminated the average would be 67$\frac{1}{6}$, but it is sufficiently noteworthy to leave it as it is.

BOOKS RECEIVED.

Essentiate of Homœopathic Materia Medica. By W. A. Dewey, M.D. 12mo, 269 pages. Boericke & Tafel, Philadelphia, Pa. Price, cloth, $1.50; leather, $1.75.

Manual of Physical Diagnosis. By James Tyson, M.D. Second edition. 12mo, 241 pages. P. Blakiston, Son & Co., Philadelphia, Pa. Price, $1.50.

Myxœdema, and the Effect of Climate on the Disease. By A. Marius Wilson, M.D. 16mo, 36 pages. The Scientific Press, Limited, London. Price, 2s.

The Treatment of Malignant Epitheliomata (Cancers). By A. R. Robinson. 12mo, 63 pages, illustrated.

A Treatise on the Medical Jurisprudence of Insanity. By Edward C. Mann, M.D. 8vo, 420 pages. Matthew Bender, Albany, N. Y.

Pyogenic Infective Diseases of the Brain and Spinal Cord. By W. M. McEwen, M.D. 8vo, 354 pages, illustrated. Macmillan & Co., New York. Price, $6.00.

A Manual of Practical Hygiene. By W. M. L. Coplin, M.D., and D. Bevan, M.D. 8vo, 456 pages, illustrated. P. Blakiston, Son & Co., Philadelphia, Pa. Price, $6.00.

Outline of Physical Diagnosis of the Thorax. By Arthur M. Corwin, M.D. 12mo, 111 pages. The W. T. Keener Co., Chicago, Ill. Price, $1.00.

The Technique of Post mortem Examination. By Ludwig Hectoen, M.D. 8vo, 172 pages, illustrated. The W. T. Keener Co., Chicago, Ill. Price, $1.75.

A Clinical Text-book of Medical Diagnosis. By Oswald Vierords, M.D. Translated by Francis H. Steward, M.D. Third edition. 8vo, 700 pages, illustrated. W. B. Saunders, Philadelphia, Pa. Price, cloth, $4.00; sheep, $5.00; half Russia, $5.50.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 45, No. 12.
Whole No. 1220.

NEW YORK, MARCH 24, 1894.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

THE DIETETIC TREATMENT OF PHTHISIS.[1]

BY HENRY P. LOOMIS, M.D.,

NEW YORK.

GIVEN a case of pulmonary tuberculosis—what weapons at the present time has the medical man at hand with which to combat this disease? Climate, food, and medication. Of these, all things being equal, judicious feeding is the most potent. Climate avails little, when the patient is daily losing ground because of unassimilated food, or food failing to supply the highest possible degree of nutrition. The best health-resort may poorly compensate for the unhealthful cooking of its hotel or boarding-house. Medication may be worse than useless because of an enfeebled digestion constantly disturbed by unsuitable food. Especially in the case of cough mixtures, positive harm may be done by destroying appetite.

In all cases for the successful treatment of phthisis, attention to diet is of paramount importance; climate and medicine being secondary. It is particularly necessary to emphasize this, as it is a point often overlooked altogether, or is noticed with direction so desultory and imperfectly understood by the patient, as to nullify the best results.

It is a well-recognized fact in phthisis that, as the patient's weight increases the symptoms ameliorate, and the physical signs in the lungs improve. We have not only to provide the patients with food for current needs and to repair daily excess of combustion, but to make up, as far as possible, for previous unrepaired waste. It is known that, by care and strict observance of certain necessary regulations with regard to its quantity, its quality, and its methods of cooking and taking, consumptives can be made to assimilate a quantity of nutritive food far in excess of the needs of the organism. We say, then, increase in weight in phthisical patients, with the attendant good results, is brought about chiefly by forced feeding, in many cases without the aid of medication.

1st. In the encounter we meet with feeble digestive and assimilative powers, always with the metabolism of the carbo-hydrates imperfect; so the first thing to be borne in mind is that, to carry out this forced feeding, only certain and distinct kinds of food can be taken—these only at regular intervals and in given quantities.

2d. What may this food be? Milk and meat are the two articles of food which in themselves furnish the greatest amount of heat- and force producing elements with the least expenditure of digestive energy. That milk and meat may be taken in sufficient quantity and during a long-enough period to produce good results, they must be modified and varied to suit the individual case. Here is where the intelligence and care of the physician are put to the test.

A few general rules on the wise administration of these two important articles of diet, in the treatment of phthisis, may be of service.

Milk should never be taken in quantities exceeding eight ounces at a time, and then should be swallowed slowly during ten or fifteen minutes. When several quarts are drunk in twenty-four hours, lime-water must be added in the proportion of a tablespoonful to eight ounces. One of the most palatable ways in which milk can be administered is scalded with seltzer-water added. This mixture is especially refreshing in the early morning.

Some patients cannot take milk, either from a personal idiosyncrasy or enfeebled digestive powers. To such persons kumyss or matzoon can be given with great benefit.

Where the digestive powers are especially weak, peptonized milk can often be assimilated in large quantities, but the objection to its prolonged use is, that after a time its taste palls upon appetite. Two to four quarts of milk should be taken in twenty four hours. The manner of serving it is not unimportant. To some it is more palatable cold, to others hot. In the majority of cases it should be taken slightly warmed (100° F.).

When the different methods I have indicated all fail, then attention must be given to the gastro intestinal mucous membrane. Potations of hot water (aerated in some cases), from half a pint to a pint one hour before meals, must be tried. If this also fails, disinfection of the alimentary canal is indicated, and for this creosote is one of the best agents we have.

Meat can be given cooked rare, or better still, when large quantities are to be taken, in the form of squeezed beef-juice. To obtain from the meat the maximum amount of juice, a meat-squeezer is absolutely essential. There are a number of good ones in the market, which range in price from one to three dollars. The best kind of meat from which to squeeze the juice is a thick round steak free from fat. This should be seasoned with pepper and salt, broiled over a brisk fire, then cut in pieces two inches square, and then put into the meat squeezer. About eight ounces of juice can be obtained from each pound of meat. No heat can be applied to the juice, as the albumin would be at once coagulated and the juice rendered worse than useless. If the juice becomes cold and it is advisable to heat it, this can be best accomplished by placing cup in hot water. It is necessary to go fully into the preparation of the beef juice, because of its importance as one of the most essential items in the diet of phthisis. Freshly squeezed beef juice is the best of the artificial preparations of meat known, and the trouble of preparing it is well repaid by the marked improvement in the patient. Beef tea should never be given in phthisis as an article of diet. The popular idea that it is nourishing is erroneous. Another nutritive and palatable method of preparing meat is in the form of scraped meat balls. The pulp is scraped from a round steak, either by a fork or by a meat-scraper. This leaves the fibrous material behind. The scraped meat is rolled into small balls and broiled over a quick fire, and served hot with pepper and salt, or Worcestershire sauce.

Scraped meat may also be given raw, spread between thin layers of bread. To some this is a very appetizing method. Many of the meat powders on the market, prepared specially for forced feeding, furnish us valuable aid—a preparation from which I have seen marked benefit is the beef peptonoids. Also an excellent meat powder can be prepared in the kitchen, by cutting boiled beef into fine pieces, drying by means of a water bath, and grinding in a coffee mill with the teeth set closely. The methods of administering these meat powders can be varied almost indefinitely. The powders can be added to soups, broths, milk-punch, milk, and may be taken in cold or warm water. The object in preparing the meat

[1] Read before the Association of the Bellevue Hospital Alumni.

in the various ways suggested, is to give the largest amount of albuminoids in the smallest compass, in the most palatable form, and in a way that will not disturb the stomach. I have known cases of phthisis to live for months on nothing but milk and meat prepared as above, and gain steadily in flesh and strength.

Next in order to meat and milk as foods, come stimulants and cod-liver oil.

It can scarcely be questioned that in consumption alcohol is beneficial. Some attribute to it distinct curative power, and would recommend it in all stages. In my opinion it is one of those remedies which is capable of doing good, if judiciously used, while at the same time it is quite as liable to do positive harm. It should never be used in the first stage; in the second stage only in small quantities with food, and preferably in the form of milk punch in the forenoon and on retiring. In the third stage is where it appears to do the most good, when taken in small quantities and repeated at regular intervals. In many cases, in all three stages, a glass of ale or porter twice a day with the meals improves the appetite, aids the assimilation of food, and causes marked increase in weight. For prudential reasons, often it is advisable to disguise the alcohol when given for any length of time. The combination of alcohol with milk, malt, cod-liver oil, or glycerine, is theoretically, as practically, more advantageous than its separate ingestion.

It is well known that muscle-fibre is a loose combination of albumin and fat, and that fat is a component factor in all muscular histogenesis. So in phthisis fat is necessary to the building up of health and tissue, and the dietary should be as rich in fat as the assimilative powers of the patient will allow. The greatest evidence of the value of fat in the food of phthisical patients is furnished by the universal confidence placed in cod-liver oil as a curative agent. It is only the best form of fat because it is the most easily assimilated of all, and can frequently be absorbed when no other fat can be. Nature supplies an oil emulsion in milk, and this largely explains its excellent effects. Cream may be used when it is desirable to introduce fat into the system. It has, however, to be given with care, as in many persons it produces dyspeptic symptoms, which may often be obviated by taking it with a little liquor, as maraschino, or chartreuse, or mixed with aerated water in the proportion of a teaspoonful to a glass.

I am firmly convinced that diet is one of the most important elements we have in the prophylaxis of phthisis. Persons with phthisical tendencies should be properly fed from infancy, and when growing up should be made to comprehend how, humanly speaking, they carry their lives in their hands, and that most often their food inclinations are not in harmony with their tissue needs.

All consumptives pass through three distinct stages in regard to their digestive powers: 1. The period during which digestion and appetite are unaffected. 2. The period from the time when gastric disturbance first begins until the stomach refuses solid food. During this time septic infection is more or less constant, the fever intermittent, and loss of flesh generally progressive. 3. The period from the time when solid food can no longer be taken without digestive disturbances until the death of the patient.

These digestive stages do not necessarily correspond to the recognized physical stages of the disease, but as the diet of these stages varies it is practical to divide the disease in this way.

First Stage.—As soon as the disease is diagnosed systematic dieting is commenced. This is often overlooked, although of such paramount importance. The digestive powers are normal, why limit the diet? some might ask. The object in the early stage of phthisis is, as quickly as possible, to carry the amount of nutriment, and with it the resisting powers of the patient, up to the highest point. This cannot be done by means of the ordinary three meals a day, forced feeding is absolutely essential. Well-defined rules as to diet should be laid down and rigidly adhered to.

Albuminoids and carbo hydrates should form the basis of the three principal meals. Meat should be eaten rare and with all meals. If the patient is over thirty years old, a large amount of meat is essential and can be more easily taken. Two pounds of beef, at least, should be eaten in the twenty four hours, or its equivalent in beef-juice. If poultry is served, the dark meat is preferable to the white. Sweetbreads are often tempting, and may assist digestion. Soft-boiled eggs for breakfast are advisable. A raw egg sucked from the shell will often relieve an irritable condition of the pharynx. Butter should be freely used. Cream on cereals, or diluted with seltzer-water, is of benefit in certain cases.

Milk should constitute the principal drink, and should be ordered between each meal, also a glass or more with the meals. In this way from two to three quarts can be taken in the twenty four hours. To avoid monotony the articles of diet, such as vegetables, etc., ordinarily taken with meals, should not be restricted: except that all indigestible articles, as rich pastries and sweets, should be avoided. The starchy and farinaceous foods should be taken sparingly. While the diet is largely nitrogenous, a sufficient proportion of carbo-hydrates must enter into it. Fats and oils, especially from the animal kingdom, will furnish this. Butter should be freely used.

Cod-liver oil, which is really not a medicine, but a food, should be taken in ℥ss. doses after each meal. Whether directly after the meal, or after a half-hour interval, must be decided according to the personal idiosyncrasies of the patient. When it is impossible to give the pure oil on account of its taste, or because it causes indigestion or eructation, it is wise to give an emulsion of cod-liver oil, pepsin, and quinine, which can be readily taken by almost anyone. Often the pure oil can be taken when floated on whiskey. During its first stage the phosphates are valuable, and it is advisable to give food which, owing to the presence of phosphates, is desirable. However, it must be remembered that to supply the phosphates in sufficient quantities, special preparations must be made use of. The hypophosphites should be given after meals diluted in water. In certain cases they are even more valuable than cod liver oil.

Second Stage.—This is the period which will most try the physician's patience, and is the one in which systematic diet is absolutely essential. The relief from coughing, fever, and digestive disturbances experienced by this class of patients in following the dietetic regimen prescribed, is of great help to the physician, as a guarantee that his directions will be implicitly followed.

In this stage the diet varies rather in the methods of preparing the food than in the food itself. The patient is still fed six times a day, but the meals are restricted. All foods should be offered in the most palatable form and generally given finely subdivided. This is the stage when beef-juice and scraped beef are specially indicated. A small glass of the former in the middle of the forenoon and afternoon, with a cracker and a scraped meat-ball or raw meat sandwich for lunch or dinner, will materially aid nutrition. In many cases, a glass of porter or ale with lunch or dinner, will be of a great benefit in increasing appetite and adding flesh.

Milk plain with lime-water, or boiled, should be given early in the morning, at bed-time, and between meals; but I have learned by experience that this should never be taken at the same time with beef-juice. When milk disagrees with patients kumyss should be substituted, to the amount of three or four bottles a day. With the exception of the malt liquors with meals, stimulants during this stage are apt to do more harm than good. Cough mixtures should never be taken, if they can possibly be avoided. The syrups and narcotics which they contain are almost certain to produce digestive disturbances, in spite of the most rigid dieting. Cod-liver oil will be required, but the greatest care must be used in its administration. The emulsion spoken of in the first stage will

often be assimilated without any trouble. Especially in patients in middle life, the pure oil with whiskey will give the best results. Other cases can take cod-liver oil in capsules. Still others, can only take the oil in the mixture known as hydroleine. I feel so sure of the great benefit derived from cod-liver oil in this stage, that all known methods of administering it should be tried before it is abandoned. The duty of the physician who regulates the diet of phthisis does not end there. He must watch the condition of the stomach and intestines, that they may welcome and absorb the nutritive food furnished so often. Especially in this stage, he must make use of digestive ferments to aid assimilation, such as pepsin before and hydrochloric acid or pancreatine after meals. In this way the patient may be enabled to digest an amount of food liable, under ordinary circumstances, to cause dyspepsia. In cases of a catarrhal condition of the intestines the systematic drinking of a half to a pint of hot water before meals will prove beneficial. It is especially important that the condition of the bowels be watched, and if possible a daily evacuation obtained.

Third Stage.—As persons who have reached this stage are generally hopeless cases, all that we can expect by diet is to prolong life under the most comfortable circumstances; much of the distressing coughing and vomiting from which these patients suffer can be controlled by attention to the quantity and kind of food. It is well to give up the idea of three hearty meals a day, and for a time, at least, feed the patient every two hours in small quantities. This is the time when the artificially digested preparations, such as the beef peptonoids, do so much good. Milk with lime-water can be alternated with them with advantage; often it is necessary to peptonize the milk, and sometimes it has to be given up entirely. Stimulants often repeated, say once in four hours, and in small quantities, generally help this class of cases a great deal. Stimulation and feeding should be kept up regularly during the night, when the patient is awake. Equal parts of porter and lime-water are generally well taken and are often of great benefit. It is a well-known clinical experience, that patients in the last stages of phthisis have times of perfect freedom from any digestive disturbances; they can apparently digest almost anything without trouble. When these times come it is advisable not to restrict their diet, but to allow them anything they crave, remembering that on the least indication of dyspeptic trouble the restricted diet must be resumed. Fresh fruit in this class of cases ordinarily does no harm and is very refreshing. In those cases where the taking of food into the stomach is almost sure to excite paroxysms of coughing which induce retching and vomiting, it is advisable to stop all food and commence artificial feeding through the soft stomach tube. I cannot agree with some, that feeding through a stomach-tube is applicable to most cases. The natural repugnance which persons have to its use must limit its application to exceptional cases, to those whose physical or psychical disability prevents superalimentation by less distressing methods. Where it can be used the person can be made to digest and assimilate more food than he would be willing to, or could swallow; the patient is, as it were, stuffed to his utmost capacity. Credit should be given to Debove, who introduced this method and demonstrated what is meant by sufficiency of alimentation, namely, the extreme limit of assimilability.

Some of the most important rules which should govern the dietetic treatment of phthisis may be formulated as follows: 1. Never take cough mixtures if they can possibly be avoided. 2. Food should be taken at least six times in the twenty-four hours; light luncheons between the meals and on retiring. 3. Never eat when suffering from bodily or mental fatigue or nervous excitement. 4. Take a nap, or at least, lie down for twenty minutes, before the mid-day and evening meals. 5. Take only a small amount of fluid with the meals. 6. The starches and sugars should be avoided, as also all indigestible articles of diet. 7. As far as possible, each meal should consist of articles requiring about the same time to digest. 8. Only eat as much as can be easily and fully digested in the time allowed. 9. As long as possible, systematic exercise should be taken to favor assimilation and excretion; when this is impossible, massage or passive exercise should be undergone. 10. The food must be nicely prepared and daintily served; made inviting in every way. The following may serve as a sample of a diet sheet in the early stages of phthisis:

On Awakening.—Eight ounces of equal parts of hot milk and seltzer, taken slowly through half an hour.

Breakfast.—Oatmeal or cracked wheat, with a little sugar and an abundance of cream, rare steak, or loin chops with fat; soft-boiled or poached egg, cream toast, half pint of milk, small cup of coffee.

Lunch, 10 A.M.—Half-pint of milk or small tea-cup of squeezed beef-juice with stale bread. 12, noon: Rest or sleep.

Mid-day Meal, 12.30.—Fish, broiled or stewed chicken, scraped meat-ball, stale bread, and plenty of butter, baked apples and cream, two glasses of milk.

Lunch, 4 P.M.—Bottle kumyss, raw scraped-beef sandwich, or goblet of milk. 5.30 P.M.: Rest or sleep.

Dinner, 6 P.M.—Substantial meat or fish soup, rare roast beef or mutton, game, slice stale bread, spinach, cauliflower, fresh vegetables in season (sparingly)

THE SELECTION AND PHYSICAL EXAMINATION OF THE RECRUIT.

By CHARLES B. EWING, M.D.,

CAPTAIN AND ASSISTANT SURGEON, UNITED STATES ARMY.

(Continued from page 332.)

THE efficiency of the soldier is dependent as much on the art of marching as it was in earlier times, and Marshal Saxe and General Fay assert that the secret of war lies in the strength of "the legs of the soldier." The rapidity of combinations and the celerity of movements are the best index of the physical efficiency of troops, and we have no better illustration of this than in the armies led by Napoleon the First and well-known leaders of the Federal and Confederate armies during our late unpleasantness.

Inasmuch as the growth of the skeleton preserves a distinct and definite order, it will not be out of place to sketch it hastily during the so-called "military age," from sixteen to thirty years, as shown by our best anatomists—Allen, Thomson, Turner, Ellis, and others:

"The epiphyses of the transverse and spinous processes of the vertebræ hardly commence to ossify before sixteen years of age, and it is not till after twenty years that the two thin circular plates form on the bodies of the vertebræ. The whole process is not completed till near the thirtieth year. The sacrum only commences to consolidate at the eighteenth, and is completed from the twenty-fifth to the thirtieth year. The fourth and third bones of the sternum are only united between the twentieth and twenty-fifth years, and the second is not united to the third bone before the thirty-fifth year. The epiphyses of the ribs commence to grow between the sixteenth and twentieth, and are completed by the twenty-fifth year. The epiphyses of the scapula join between the ages of twenty-two and twenty-five. The epiphysis of the clavicle begins to form between the ages of eighteen and twenty years. The internal condyle of the humerus unites at eighteen, but the upper epiphysis does not join till the twentieth year. The epiphyses of the radius and ulna, the femur, the tibia, and fibula, are all unjoined at eighteen years, and not completely joined till the twenty-fifth year. The epiphyses of the pelvic bones (crest of ilium, spine, and tuberosity of ischium) begin to form at puberty and are completed by the twenty-fifth year." Hence, from the standpoint of developmental anatomy we must conclude that the soldier should not be enlisted before twenty. If, however, at an earlier age, his immaturity must be

recognized and his training be proportionate to his growth. This is especially true when the effect of pressure upon the growing chest and contained organs is considered in connection with the weight of equipment. In moulding bones one of the chief elements in determining shape is *pressure*. It is admitted by all that the chest does not reach mature growth till thirty. This being true, any continued pressure from before or behind must materially influence its form while growing; especially is this the case at the present time, as the mode of carrying the greater part of the equipment is very unsatisfactory. Many devices have been invented in foreign armies by which the pack is to be carried. These packs are not unlike, in size and shape, the knapsacks carried during the late war. The weight to be carried in our service, minus the armament, is the aggregate of the contents of the blanket bag, haversack, and full canteen, amounting to about fifty pounds. The blanket bag is carried by shoulder-straps, and the haversack and canteen hang pendent from the shoulders.

The growth of the chest, we have seen, is not completed till thirty years, that of the heart is still going on at twenty-five, and the lungs have not reached their maximum weight till thirty years of age. It is very evident then, from this, that the question of carrying the equipment is only next in importance to selecting the soldier. All nations except England err in having the pack suspended on the upper part of the back by means of straps which pass under the arms and over the shoulder. The result is very easy to guess, as two of the "vital tripod," the lungs and heart, become embarrassed by pressure of the straps upon the front, and the pack upon the rear, of the chest. That the principle underlying this is wrong is quite clear, as the weight of the pack should be really thrown upon the loins, or that portion of the back just above the buttocks. With this method the least pressure possible is exerted by the straps of the back upon the front chest. How to do this and at the same time have a simple apparatus, which can be easily put on or off, is a difficult problem. Colonel Merriam, of our service, devised a most excellent pack, the weight being thrown principally upon the loins, but this equipment is so intricate that it almost destroys its usefulness. The English have the pack suspended on a level with the loins by two shoulder straps, which are fastened to the waist-belt in front. Two additional straps pass under the arms from the knapsack to the straps in front of the body. On the waist-belt in this situation are two full cartridge-boxes, which to a certain extent offset the load behind. Much fame awaits the man who shall give to us a simple, easy, comfortable pack.

Maximum Age.—This varies in our service and is governed by the Adjutant-General. At the present time it is thirty for all arms, although a short time since this only obtained for the cavalry, thirty-five being that for the other arms. My suggestions relative to this are mentioned later.

Height.—The minimum limit of stature has varied so materially with us since the formation of our army, that it is deserving of special notice. The object aimed at in prescribing this lowest limit has been to exclude such as lack the physical strength necessary to endure the hardships of a soldier's life. These changes have sometimes been brought about by regulations, and at other times by law. The act of April 30, 1790, fixed the minimum stature at 5 feet 6 inches, and this standard was also recognized by act of March 3, 1795. The act of July 16, 1796, however, left this to be determined by the President, which remained unchanged by the acts of 1798 and 1799, during the war with France. The old standard of 5 feet 6 inches was again returned to by the act of March 16, 1802, but during the war of 1812 no limit was fixed, as all "effective men" were taken. No further modification was made till 1825, when by Army Regulations the height of 5 feet 6 inches and 5 feet 8 inches were fixed for the infantry and artillery, respectively; these obtained till 1838, when 5 feet was made the minimum for all arms of the service. Army Regulations of 1841 increased this 5 inches. This held till the Mexican war, when it fell to 5 feet 4 inches, and finally to 5 feet 3 inches, by Circular A. G., November 18, 1846. Eleven years elapsed without variation, when, in 1857, an addition of 1½ inch made it 5 feet 4½ inches. The breaking out of our civil war caused a return to what it had been in 1846, 5 feet 3 inches, and this was further reduced by the exigencies of the rebellion to 5 feet, in 1864. This diminutive stature held good till February of 1867, when it became 5 feet 5 inches by Circular A G.O.; but this was reduced 3 inches in May, and remained so till December 2d, when a return was made to what it had been in the early part of that year. The War Department Circulars of August 24 and October 18, 1871, specify that the minimum of 5 feet 5 inches shall apply to cavalry and infantry alike. The following year, 1872, a reduction of one inch was made for all branches of the service; this did not last long, for in December it was determined that the cavalry should be governed by what it had been in 1871 for that arm, 5 feet 5 inches. In January of the following year this was changed to 5 feet 6 inches for cavalry, and the succeeding month it likewise applied to infantry and artillery. In December of 1874 a reduction of two inches for infantry and artillery and one for cavalry was made. Only one change has occurred up to the present time, so that the minimum of 5 feet 4 inches for all arms is the fixed standard, exceptions being made in favor of band musicians, school-teachers, and tailors, who may not fall more than one-fourth of an inch below this.

Maximum Height.—No maximum of stature was prescribed in our service till December 23, 1872, when the limit of 5 feet 10 inches was announced for cavalry recruits; that for infantry and artillery being governed by the maximum of weight, to which should be applied the rule for proportion in height according to the various epitomes of Tripler. In considering these physical equivalents of age, an understanding must be arrived at as to the difference between a "mean" and an "average."

Height.—The mean height of the male adult at full growth, compared with mean height at nineteen years of age, in various countries.[1]

Mean Height at 19 Years of Age.	(25 Years.) Mean Height of Adult.	Difference.
Belgian (Quetelet) 5′5″.16=1 655 metre.	5′6″.22=1.682 metre.	1″.06=027 metre.
American, white (J. B. Baxter) 5′7″.07=1.7036 m.	5′8″.22=1.7328 metre	1″.15=0708 m.
Criminal classes (Danson) 5′4″.94	5′6″.30	1″.36
Englishmen (Roberts)—		
Laboring class 5′6″.5	5′6″.5	
Non-laboring 5′8″.75	5′9″	0″.25
English (Beddoe & Amer) 5′6″.577=1.6911 metre.	5′6″.6=1.6934 metre.	0″.32
Scotchmen (Beddoe)	5′7″.5	
Viennese (Liparzik) 5′4″.96	5′8″.90	3″.94
Genoese (Dunant) 1.674 metre.	1.688 metre.	0.014 metre.

(1) From Charles Roberts's "Manual of Anthropometry."

According to Sir John Herschel, "An average may exist of the most different objects, as of the heights of houses in a town, or the sizes of books in a library. It may be convenient to convey a general notion of the things arranged, but an average involves no conception of a natural and recognizable central magnitude, all differences from which ought to be regarded as deviations from a standard. The notion of a mean, upon the other hand, does imply such a conception, standing distinguished from an average by this very feature, namely, the regular march of the groups increasing to a maximum and then diminishing." The study of those individuals whose physical equivalents are above and below the average is the most important to the examining surgeon, because, here agencies are very significant in modifying the development of the body. The mean height is the typical height possessed by men in groups; the average is the aggregate of all the individuals in the groups divided by the entire number forming them. Height is governed by age, sex, race, and

those secondary influences of disease, occupation, habits, and surroundings, nutrition, food, labor, exercise, and rest. A marked difference in height is shown between the laboring or artisan, and the non-laboring or favored classes. Roberts says, that between seventeen and twenty-five years among the former, a difference of two inches is seen, whereas only an inch exists among the latter. The mean annual growth among the laboring class is two inches at seventeen years, and of half an inch between twenty five and thirty. Another important point is that puberty has a very marked influence on growth, for as puberty approaches there is "an increased rate of growth toward height and an entire cessation of it at nineteen or twenty years in the non-laboring; while in the laboring class growth toward height is less influenced by puberty and is more uniform, extending to about the twenty third year. Hence, in the selection of the soldier, it is important to bear in mind that there are certain periods of life at which growth toward height is more or less arrested, and there are also times of growth more or less rapid than others." (Quetelet.) I do not think that the differences of growth in height between the non-laboring and the industrial classes obtain here to the extent they do in England and continental countries, yet they are great enough to warrant close study. M. Boudin demonstrated long ago that "no actual relation between mere stature and aptitude for military service" existed. The late Surgeon-General Baxter, in his medical statistics of the Provost Marshal-General's Bureau, found that the ratio of rejections increases with increase of height. Aitken insists that the "taller the recruit the more important it becomes that he should be tested by the spirometer," inasmuch as the majority of the cases of tuberculosis is found in the tall men. It is extremely difficult to fix a uniform standard of height, as the mean stature is found to vary so much under the influence of race. The minimum, where fixed, should be made to vary with the race. This is well illustrated by the table from Roberts's "Anthropometry," which shows the mean height of the male adult at full growth, compared with the mean height at nineteen years of age, in various countries.

Weight.—Quetelet was the first to determine by the study of a large number (10,000) of individuals of the same nationality, of like age and subjected to the same conditions of environment, that the same uniformity as to weight prevailed that had been found to exist as to stature. The weights were found to range themselves into a curve, the well known binomial curve of Newton. The statistics of weight during the late war were so meagre that they were not worked out, and those collected since, though more accurate, have not been used.

Table of Physical Proportions of Height, Weight, and Chest Measurement. Modified to Correspond to the New Increment of Weight, 1.85 pound.[1]

Height.	Weight.	Chest Measurement.	
Inches.	Pounds.	At Expiration. Inches.	Mobility. Inches.
64	118.40	32½	2
65	120.25	33	2
66	122.10	33½	2
67	123.95	34	2
68	130.80	34	2½
69	137.50	34½	2½
70	144.50	35	2½
71	151.55	35½	2½
72	158.20	35⅞	2½
73	165.05	36¼	3½

[1] By Captain and Assistant Surgeon Chas. B. Ewing, U. S. A.

Our regulations fixed no limit to weight until a few years ago, which, however, remained unchanged till very recently. In 1890 the minimum weight of all recruits was fixed at 128 pounds, except for cavalry, in which no limit was fixed, "provided the chest measurement and chest mobility are satisfactory." The maximum for infantry and artillery is 190 pounds, for cavalry and light artillery 165 pounds.

Table of Physical Proportions of Height, Weight, and Chest Measurements.[1]

Height.		Weight.	Chest Measurement.	
Feet.	Inches.	Pounds.	At Expiration. Inches.	Mobility. Inches.
5.4-12	64	128	32½	2
5.5-12	65	130	33	2
5.6-12	66	132	33½	2
5.7-12	67	134	34	2
5.8-12	68	141	34	2½
5.9-12	69	148	34½	2½
5.10-12	70	155	35	2½
5.11-12	71	162	35½	2½
6.	72	169	35⅞	2½
6.1-12	73	176	36¼	2½

[1] Greenleaf's Epitome of Tripler's Manual, Ed. 1893.

This has been modified so that we find the entire "physical equivalents" that should relate to age changed by a few lines in our present regulation, which says that, "The following rule for proportionate height, weight, and chest measurement is substituted for that on pages 26 to 28 of the Epitome." The rule is: "For each inch of height from 5 feet to 5 feet 7 inches, calculate 1.85 pound of weight; above 5 feet 7 inches, add to this standard 5 pounds for each inch of height; minimum chest measurement at expiration from 5 feet to 5 feet 7 inches, half the height plus half an inch; from 5 feet 7 inches to 5 feet 10 inches, half the height; from 5 feet 10 inches upward, slightly less than half the height; minimum chest mobility, 2 inches."

Upon analysis I cannot quite see wherein the rule mentioned can be a substitute for "proportionate height, weight, and chest measurement," found on pages 26 to 28 of the "Epitome." The decrease in weight averages about 10 pounds to the inch in height from 5 feet 4 inches to 6 feet 1 inch, but the same rule specifically repeats the manner of determining chest-girth previously in force, so that now we have diminished weight proportionate to height, with a very much increased and disproportionate chest girth. The views formerly held by Aitken, Parkes, and others, erroneously however, that the weight in pounds should be about twice the height in inches, has seemed to govern our regulations. This decrease of .15 in the increment of weight, seemingly a trifle, is really an average decrease of ten pounds to each inch from the present standard, as shown in the accompanying table.

Study of this table in comparison with the former, of physical proportions in force up to this time, leads to the conclusion that the standard chest-girth is much too high for the fixed height and weight. That, as it has been found essential to reduce the weight ten pounds to the inch of height, it must of necessity follow, if the relation of chest-girth to the new standard is to be maintained, that it must likewise be reduced. In other words, the physical equivalents, as they relate to age, are not at present true. It is rather difficult to say just how our standard of "physical proportions" was determined. The most important factor, age, has not been taken into consideration, and I have hunted far and wide for light upon this subject. A glance at this table, compiled from data from Baxter's "Work of the Provost Marshal-General's Bureau," shows that the height and chest-girth of all the nationalities differ in their relation to age. The data consist of over half a million accepted recruits, "under the age of twenty" and up to "forty and over." Here we find without exception all showing less chest-girth in relation to height than our present standard. Another very important deduction is that our fixed weight of former regulations, now very materially and sensibly changed, was far in excess of that shown upon actual demonstration by this table, but to be consistent the chest-girth should be diminished proportionately.

Height and Girth of Chest at Expiration in its Relation to Nativity and Age.[1]

Americans (White).	Number Examined.	Mean Height.	Mean Girth of Chest.
All ages	190,621	67 69	33 59
Under 20 years	46,855	66.57	32.24
20 and under 25	52.393	67.82	33.55
25 and under 30	31.757	68.10	34.06
30 and under 35	23,174	68.22	34.28
35 and under 40	20,692	68.30	34.48
40 and over	15,750	68.23	34 67
Americans (Colored).			
All ages	19,379	66.66	33.88
Under 20 years	5,072	65.61	32.59
20 and under 25	5,960	66.80	33.93
25 and under 30	3.147	67.17	34.52
30 and under 35	1.784	67 22	34.61
35 and under 40	1,731	67.20	34.67
40 and over	1.685	67 18	34.76
British Americans.			
All ages	14,365	67.14	33.59
Under 20 years	2,950	66.10	32.28
20 and under 25	6,231	67.26	33.58
25 and under 30	2,504	67.53	34.18
30 and under 35	1,152	67.65	34.32
35 and under 40	961	67.65	34.50
40 and over	567	67 49	34 76
Englishmen.			
All ages	9,649	66.59	33.48
Under 20 years	1,073	65.09	31.96
20 and under 25	3,456	66.54	33.18
25 and under 30	1,899	66.87	33.83
30 and under 35	1,218	66.92	33 93
35 and under 40	1,156	66.74	34.17
40 and over	847	66.70	34.21
Irishmen.			
All ages	28,995	66.75	33 85
Under 20 years	3.322	65.94	32.26
20 and under 25	11.620	66.80	33.54
25 and under 30	5,694	66.93	34 30
30 and under 35	3,152	66.97	34.54
35 and under 40	3.031	66.91	34.58
40 and over	2.176	66.78	34.74
Germans.			
All ages	29.600	66.53	34.01
Under 20 years	2.343	65 69	32.17
20 and under 25	6.032	66.54	33.59
25 and under 30	5,384	66.75	34 19
30 and under 35	3,126	66.67	34 29
35 and under 40	6.115	66.59	34.36
40 and over	4.600	66.45	34 40

[1] From Medical Statistics of the Provost Marshal-General's Bureau, Vol. I.

One of the ablest authorities, Charles Roberts, says, "that for each inch in height the weight is increased 4 pounds from ten to fifteen years; 6 pounds from fifteen to sixteen; 8 pounds from sixteen to nineteen, and from nineteen to thirty years of age there are 6 pounds added to the weight, while the height remains stationary." While this may be true for the inhabitants of England, these figures would hardly govern here with our population of mixed nationalities.

Weight.—Weight is the least reliable, however, of all the physical equivalents of age, being influenced more by accidental causes than chest-girth or height. A healthy environment, abundance of food, and good digestion favor an increase of weight. This is particularly noticed in comparing the mean weight of the English laboring and non-laboring classes, where in the former at seventeen years of age you have a mean of 116, as compared with 140 pounds in the latter, and 128 as compared with 148 pounds at nineteen years of age.

Variation of Weight with Age of same Stature.[1]

Stature.	Weight at eighteen.	Weight at nineteen.
Inches.	Pounds.	Pounds.
67	126	136
66	120	130
65	116	121
64	115	120
63	117	117
62	111	113
61	102	119

[1] From Aitken.

The Relation of Weight to Age.—Aitken says, after nine years of age an increase of weight begins, so at sixteen we have an increase of 16 pounds for that year. From seventeen to twenty-three or twenty-four, the rate of increase diminishes till thirty is reached; after thirty adipose is taken on rapidly and weight increases. The late Surgeon-General Baxter, in his work, fixed the increment of weight between 61 and 71 inches of stature at 5.96 pounds. Hutchinson's results show 5.14, and Gould 4.25 pounds, making an average of 5.07 pounds. I have mentioned the erroneous idea that two pounds for every inch of stature constituted a sound body, also that our increment has been changed to 1.85 pound to the inch, with the additional 5 pounds above 5 feet 7 inches. That weight varies with age in youths and men is graphically shown by this table from Aitken.

Chest-girth.—Some difference of opinion exists as to the best manner of obtaining the chest-girth. Tripler contends that the tape should be placed below the nipple in front, which behind would carry it beneath the point where the latissimus dorsi springs from the trunk. He holds that in this way a more exact measurement is made, because you do not include the mammæ, nor the pectorals and latissimus dorsi muscles in your measurement. This has not been thought worthy of adoption, however, so that in our service the tape is passed around the chest over the inferior angles of the scapulæ and directly above the nipples, the tape being pressed evenly. Measurements are to be taken both at expiration and inspiration. Chest mobility is one of the best criterions of endurance and fitness for continued exertion. American statistics of the white natives, by Surgeon-General Baxter, and those of Balfour of the English army, show a regular relation of chest girth to height, though other authorities do not think that this has been definitely determined. The agencies, environment, and occupation have produced marked differences, as observed in the favored or non-laboring and laboring classes of England, by Charles Roberts. The tables are appended and well worth study.

Hutchinson says that three inches is the mean mobility of a healthy chest, and further asserts that "the vital capacity is the same in all men of the same stature." Vital capacity he terms "the most complete voluntary expiration immediately following the most complete inspiration."

Both of these propositions are untrue. As regards the first, I have seen many very healthy men with a less mean than three inches, and as to the second, it would be absurd to say that Sandow, "the Strong Man," with a chest-movement of nine inches, possesses no more vital capacity than other men of his height (5 feet 8 inches) who have only a chest-movement of 2½ or 3 inches. Hutchinson further says that "vital (chest) capacity" increases 8 cubic inches to each inch of stature from five to six feet and, therefore, chest mobility increases and decreases with the height, according to an arithmetical progression. The latter proposition is now held to be true within reasonable limits of error, hence I hope that our chest girth will be reduced to conform to the recent standard of weight given us.

Average Heights, Weights, and Chest-girths, with minimum of latter and annual rate of increase from seventeen to thirty years of age, from public schools, naval and military cadets, medical and university students, i.e., well favored non-laboring classes.[1]

	Height in Inches, without Shoes.		Weight Including Clothes 7 to 10 Pounds.		Empty Chest-girth, in Inches.		
Age last Birthday.	Average.	Average Annual Growth in Inches.	Average.	Average Annual Growth in Lbs.	Average.	Minimum.	Average Annual Growth in inches.
17	67.84	1.46	141.03	12.69	33.98	27.5	0.50
18	68.29	0.43	146 0	4.97	34.44	29.5	0.46
19	68.72	0.43	148.20	2.20	44.77	29.5	0.33
20	69.13	0.41	152.07	3.87	35.25	29.5	48
21	69.16	0.03	152.34	0.27	35.42	30.5	17
22	68.93	....	154.78	2.44	35.30	30.5	....
23	68.53	....	151.70	....	35.50	30 5	0.28
24	68.95	....	149 20	..	36 10	31.5	0.60
25 to 30	69 06	....	155.20	0.42	35.90	30.5	....

[1] Modified from Aitken on Growth of the Recruit.

Average Heights, Weights, and Chest-girths, with minimum of latter and annual rate of increase from seventeen to thirty years of age, among the artisan or laboring classes of the English population.[1]

	Height in Inches, without Shoes.		Weight Including Clothes 7 to 10 Pounds.		Empty Chest-girth, In Inches.		
Age last Birthday	Average Weight.	Average Annual Growth in Inches.	Average.	Average Annual Growth in Lbs.	Average.	Minimum.	Average Annual Growth in inches.
17	64 45	1.52	116.4	7.66	29.38	24.5	9.0
18	65 47	1.02	123.3	6.97	30.07	25 5	0 5
19	66 02	0.55	128.4	5.08	30 56	26 5	0.5
20	66.31	0.29	130.6	2.20	30.86	26.5	0.5
21 to 22	66.60	0.29	135 4	4.81	31.61	29.5	0.5
23 to 30	66 68	0.08	139.0	3.58	32 38	29.5	0.5
23 to 50	66.65	....	141.2	5.74	32.62	29.5	0 5
Dawson	66.39	....	143 7	....	.....	....	...
Beddoe	66.72	....	137.7	....	.....	....	..

[1] Modified from Aitken on Growth of the Recruit.

Average and Mean Empty Chest-girth, and annual rate of increase of lads and men between and inclusive of age from seventeen to thirty years of age, of English favored, i.e., non-laboring classes.[1]

Age at last birthday..	17	18	19	20	21	22	23	24	25 to 3
Number examined...	1,513	1,433	811	408	347	207	87	46	67
Average chest-girth .	33.08	34.44	34.77	35 25	35.42	35.30	36.10	35.96	.....
Average increase	0.90	0.46	0.33	0.48	0.17	.....	0.60	.....	.....
Mean chest-girth.....	34	34.5	34.75	35	35.25	35.5	35.75	36	36
Mean increase.....	1.0	0 5	0.25	0.25	0.25	0.25	0.25	0.25	.....

[1] From Charles Roberts, F.R.C.S.

Average and Mean Empty Chest-girth and annual rate of increase of 918 men and lads, from seventeen to fifty years, among the artisan or laboring, i.e., least-favored class of English population.[1]

Age at last birthday... .	17	18	19	20	21 to 22	23 to 30	23 to 50
Number examined.....	376	168	90	46	45	88	105
Average chest-girth	29.38	30.07	30.56	30.86	31.61	32.38	32.62
Average increase.....	0.41	0.69	0.49	0.30	0.75	0.77	0.24
Mean chest-girth.....	29.5	30.0	30.5	31.0	31.5	32.0	32 5
Mean increase.	1.0	0.5	0.5	0.5	0.5	0.5	0 5

[1] From Charles Roberts, F.R.C.S.

All of these physical equivalents are so important in their relation to age that I suggest that our tables be entirely revised, and that data be obtained from statistics collected by recruiting officers since the war, in which much care has been taken in determining weight, together with the other physical equivalents.

Hemorrhoids.—Our regulations say they "may be recent or old. If recent they will appear about the size of a buck-shot, of a bluish color, hard and tense to the feel, and their covering will look thin. If old they will probably be as large as a marble, of a brawny feel, reddish-brown color, and have a thick covering. If recent, as above described, they are not cause for rejection, neither are they if old and single, and the applicant asserts they have never been painful or troublesome: but if there should be more than one old pile and they are larger than described, or if a single old pile is ulcerated or inflamed, or if there is a small pile associated with varicose veins of the legs, the applicant should be rejected." Thus you see we draw a very fine point on the age and size of piles. Comment here is hardly necessary. If this regulation simply governed the recruiting officer it might be well and good, but it applies equally to the examining surgeon; hence, I believe these gross pathological distinctions should be stricken out, so far at least as they concern the surgeon, permitting him to exercise his judgment and knowledge of morbid conditions. I know of many good men rejected by reasons of this peculiarly worded paragraph.

Varicocele.—This is so much the bane of the depot surgeon's existence that I cannot pass it by without a few words. The regulation says "the rule formulated by Tripler, which if strictly followed will exclude from the service men thus physically unfitted." The rule is as follows: "If the testicle upon that side is atrophied (shrunken), whatever may be the volume of the cirsocele (varicocele), or if the volume of the latter exceeds that of the former, the recruit should be rejected; that is, the varicocele should not be greater in bulk than the sound testicle." Such a large number of recruits are rejected annually for varicocele that this is deserving of special consideration. This antique dictum has resulted in so much injury to the service that I cannot forbear comment. No other service in the world has such a regulation as this, where the examining surgeon turns himself into a pair of scales, balancing a testicle in one hand and a collection of varicose veins in the other, hoping to determine their respective size and weight, which to say the least is a method unscientific and unbecoming. Much stress has been laid upon atrophy of the testicles, as if varicocele was the only cause of that condition. This is rather absurd, as it is well known that excessive venereal indulgence or masturbation will cause atrophy. In fact, any cause which causes pressure on the spermatic cord, thus influencing the nerve supply to these organs, will produce atrophy. I have seen the continuous use of a suspensory bandage do this, and it is well known that it arises from paraplegia, injuries of the spine and cranium, and orchitis from injury or mumps. Professor Halstead, of Johns Hopkins, agrees with me in believing it not infrequently due to chronic gonorrhœa, where the inflammation has extended to the testes, destroying the function of those cells necessary to growth of the organ. Again, what if the testicle is atrophied? A soldier is not enlisted because of his procreative power, and I have failed to find a single instance where a diminution in size of the testicle has caused loss of strength or stamina in him.

Surgeons Henderson and Marshal, both of large experience at home and abroad, have never seen a man report sick from this cause. Assistant Surgeon Coolidge says, "some degree of cirsocele is very common, and if men are to be rejected for this affection indiscriminately, our rendezvous might almost as well be closed." Humphrey says that this condition occurs once in every ten males. Of 166,317 recruits inspected in Great Britain and Ireland during ten years, 55,474 were rejected, and 3,911, or 70.5 per 1,000, for varicocele. Of 2,165,470 recruits examined in France, for a period of ten years, 20,553, or 10.05 per 1,000, were exempted for varicocele. Durind the late war there were recorded 7,276 cases of varicocele, but then we must consider the very large number of men in the field of various sizes, ages, and conditions. It is generally admitted that very few cases of varicocele require operative interference, and when performed it is not so often to relieve the pathological conditions as it is to minister to a diseased imagination. In my twelve and one half years' experience in the service I have only seen a single case of varicocele upon sick report. I think this condition more common than we have been led to suppose, and we would enlist very few, if held to the strict meaning of the term.

Enlistments and Rejections.—For the past five years

enlistments have been made, at rendezvouses of the general and mounted services, as follows:

Fiscal year ended June 30, 1889	6,637
Fiscal year ended June 30, 1890	4,941
Fiscal year ended June 30, 1891	4,591
Fiscal year ended June 30, 1892	5,018
Fiscal year ended June 30, 1893	5,109

The total number of rejections during each of the past five years was as follows:

Fiscal year 1889	18,694
Fiscal year 1890	16,877
Fiscal year 1891	17,377
Fiscal year 1892	17,244
Fiscal year 1893	14,944

Conclusions.—1. That the rules and regulations governing the Examining Surgeon, in the physical examination of the recruit, be separate and distinct from those that govern the Recruiting Officer, who is not a medical man.

2. That the room in which examinations are to be made should not be less than twenty feet square, well lighted and ventilated.

3. That the unit of measure be as small as possible, and that the metric system be used.

4. That the recruit be measured in the horizontal instead of the upright position, as at present, so that the large number of men now rejected as being below the standard, be saved to the service.

5. That this method of measurement be used so that the exact value of height be obtained in its relation to the other physical equivalents of age, as they are governed by nativity.

6. That weight be determined by a uniform system, the metric, and that the apparatus consist of scales of the simple bar and weight pattern rather than the old style.

7. That special pains be taken to fix this physical equivalent, so that its proper relation to height and age could be determined for each separate nationality.

8. That the chest-girth be changed to conform to the present standard of weight and height.

9. That special attention be given this, so that proper ideas may be obtained in the relations of this "physical equivalent" to weight, height, and age, as it affects each particular race in this country.

10. That data be collected from our present statistics in relation to age, height, weight, chest-girth, chest expansion and capacity of each separate nationality, so that a better and more exact basis of selecting the recruit could be made.

11. That the spirometer, or some modification of it, be used as an aid in determining vital chest-capacity, also that calipers be authorized so as to measure depth of chest.

12. That the present method of determining hearing be modified as I have indicated.

13. That the test for vision be changed as before mentioned, and that the prisoptometer be placed in general use for the determination of simple refractive defects.

14. That it be no longer obligatory to determine with such exactness the age and size of piles, but that this condition be left to the discretion of the surgeon.

15. That the paragraph relating to varicocele be expunged, as our present instruments of precision cannot measure the fine pathological distinctions insisted upon.

16. That the *physical* as well as the *actual age* of the recruit be entered by the Examining Surgeon upon our examination forms, thus arriving at a closer determination of those equivalents which fix the limits of the "military period" of service.

Swiss Medical Students.—The number of students in the five universities of Switzerland during the year 1890–91 was nine hundred and forty-one, and during the summer semester just passed nine hundred and sixty-five.

BORDERLANDS AND CRANKDOM.

By JAMES WEIR Jr., M.D.,

OWENSBORO, KY.

When that bilious critic and merciless crucifier of human foibles, Carlyle, wrote that nine-tenths of the world were fools, he was much nearer truth than most men think. When we take an introspective view of our sane personality, we shudder to see now near it is to the borderlands of insanity and the bizarre and eccentric world of crankdom. There hardly lives a man who does not possess some eccentricity, or who does not cherish, hidden, perhaps, deep within himself, some small delusion, which he is ashamed to acknowledge to the outside world. Social relations and the iron rules of custom, hold in place the balance-wheel of many a disordered mind. The mental equipoise is kept at the normal standard only by the powerful aid of the will, supported and assisted by extraneous adjuvants, such as fear of punishment, fear of personal harm, and, above all, by the fear of ridicule. Many a man hugs his delusions closely to his heart, indulges them only in the secret recesses of his soul, and, their sole owner and acquaintance, carries them with him to his grave. Any man who has a retentive memory, and one capable of minute analysis, can look back in his life and recall moments when his insane personality got the better of his will, and ran riot in forbidden pathways. He may not have committed an insane act. Yet the thought, the impulse, the delusion was there and only outside influences kept it from breaking forth. Who fails to remember certain times in his life when he has had an almost overpowering desire to cry out in church, or to laugh on some sad or solemn occasion; or, having a razor in his hand, has had an impulse, sudden and intense, to draw it across his throat; or, being on some high place, has been seized with the desire to hurl himself downward? This shows how near indeed the healthy mind ever hovers on the borderlands of insanity. Man stands so close to the portals of insanity that he can look through the gateway, when he takes an introspective view of his psychical being, and can see the phantoms and mental ghosts of his insane personality. We have every reason to believe that, among civilized races, there is a vast amount of latent insanity. Taking the tables of our insane asylums, we find a thousand and one causes given as the exciting factors in the mental overthrow. Love, religion, anger, disappointment, etc., down through the long list of psychic and æsthetic emotions, until it seems as though even a breath of wind would be sufficient to destroy the mental equipoise. Among savage and uncivilized races, insanity is of infrequent occurrence. Only when a race begins to elevate itself and take on a higher view of morality, when new rules and new laws, new customs and innovations, tending to place individuals in a state of comparison, arise, does insanity make its appearance. The untutored savage, living in a state of communism, is untroubled by the jealousies and heart-burnings of his civilized congener. He lives in the to-day and allows the to morrow to care for itself. Devoid of ambition, a mere animal, sensual and indolent, he cares only for the gratification of his physical desires. The mental attributes of a civilized being are, in him, wanting.

Psychos is the result of evolutionary development, and the chief reason why insanity is not as prevalent in the savage as in the civilized man, is because the brain of the savage lacks development. I do not wish to convey the idea that insanity is purely psychical in its nature. Insanity is the result of a material change in the structure of the brain produced by morbific action. The manifestations of insanity are merely the symptoms of a disease that involves the brain. The savage has less development of psychical function, consequently he is less liable to mental lesion. I mean by psychical function that portion of the brain in which psychos has its origin. Alienists consider the habits of men as being the factor in the production of insanity. Habits and

heredity are undoubted factors in the production of diseased minds, and, in fact, are the chief agents. You cannot, however, expect to find a disordered function where that function is absent. Savages have paresis, apoplexy, and imbecility, seldom or never insanity. The reason is patent—they lack the psychic function, that peculiar element, whatever it may be, which raises civilized man so high above them. That this element can be developed in savages I do not for one instant deny. The ploughshare of evolutionary civilization will bring it to the surface sooner or later, and when it does insanity follows. I have only to point to the American negro to prove the truth of my proposition; even he is partially exempt, simply because his civilization is of such recent date that his brain has not yet acquired its full quota of the psychic element. I will venture to assert, so true is the fact that insanity is the product of civilization, that, if it were not for the combating influences of social laws, assisted not a little by scientific medical aid, all North America could not contain the vast and enormous army that would constitute the civilized world's array of lunatics. There seems to be in the minds of men an instinctive awe of anything that appertains to the insane. In olden times a disordered mind was considered of divine or diabolic origin as it evinced good or evil tendencies. This belief lasted even until the present century. Many old women who were the victims of senile dementia and kindred ills, were accused of witchcraft and intercourse with the devil, here in the United States, not a century ago. Witches were executed in England and men burned at the stake in Spain, not two hundred years ago, for the crime of demoniacal possession. Even in this enlightened age men are accustomed to consider insanity rather from its psychical standpoint than from its physical aspect. They do not take into consideration the fact that insanity is due to a physical lesion, and that its vagaries are but the symptoms of brain disease or brain deformity. The inhabitants of the borderlands are invested with a certain shadowy mystery which separates them from the rest of mankind, and which makes them appear to us as denizens of another psychical world than ours. In the Middle Ages, cranks, whose eccentricities took a religious turn, were considered holy. St. Simon Stylites was a very pronounced crank, and a very holy man also, because he chose to live the greater portion of his life perched on a pillar seventy feet high. St. Anthony was another holy crank who never, in all his life, washed his feet. Poor Joan of Arc was burned at the stake because she was "possessed of a false and lieing devil." She has been recently canonized by the same church that burned her, and thus, in a measure, had justice done her. I do not think, however, that this is any recompense for the terrible agony inflicted on this unfortunate victim of hystero epilepsy.

Says Maudsley in "Responsibility in Mental Disease": "Some of the prophets of the Old Testament presented symptoms which can hardly be interpreted as other than the effects of madness; certainly if they were not mad, they imitated very closely some of its most striking features." Jeremiah takes a long journey to the river Euphrates and hides a linen girdle in a hole of a rock. He then returns home and in a few days makes the same journey, and finds the girdle rotten and good for nothing. Ezekiel digs a hole in the wall of his house, and through it removes his household goods, instead of through the door. Hosea marries a prostitute because he said he had been commanded by God so to do. Isaiah stripped himself naked and paraded up and down in the sight of all the people. Some of the greatest changes in the world's history have been effected by dwellers in the borderlands. Mahomet was an epileptic and his first vision was the result of an epileptic convulsion or seizure. The character of his visions was exactly like that of those visions which an epileptic sees and describes at the present time. Mahomet believed in his visions and, what is more, got more than half the world to believe in them also. Gautama was a dweller in the borderlands, yet his followers now number five hundred millions. The novel mode in which an insane man regards things may be an inspiration which reflection could never attain, and it sometimes happens that opinions which seem to the world to be the ravings of a madman, have turned out to be true. The insane man has the world against him, and though he may pose for a short time as a reformer, sooner or later lands in the asylum. It sometimes happens that the crank will succeed in getting converts. A notable instance is Schweinfurth, or "the Christ," as he calls himself. I am firmly convinced that this man believes in his delusions. One thing is certain, and that is, his disciples believe in him implicitly. This man is dangerous to society, inasmuch as he has caused the separation of several wives from their husbands; the wives abandoning their husbands to follow him to "Heaven," as he calls his farm house. The crank is, generally, a harmless individual, and is not anti social unless his delusions take the form of homicidal impulse, pyromania, kleptomania, etc. Homicidal impulse is the most dangerous to society of the many mental vagaries and derangements, which afflict the dwellers in the borderlands. Its invasion is sudden and its impulse is, generally, overpowering. A man may be walking the streets presumably in perfect health, and yet have, all the while, a voice whispering in his ear "kill, kill." His insane desire at length reaches its acme, and he throws aside every mental restraint and kills the first individual he may chance to meet. Again, he may desire to kill some particular individual, and will carefully and systematically arrange his plans for the successful enactment of the homicide. The murderers of Garfield and Harrison, probably belong to this latter class, though in the case of Prendergast, the slayer of Mayor Harrison, this opinion may be erroneous. There is something about his photograph that leads me to believe that he is a moral imbecile, rather than an intellectual dyscrasiac. A clerk in a solicitor's office, at Alton, Hampshire, England, one afternoon took a walk outside the town, when he met some children. He persuaded one of these, a girl of nine, to go with him into a neighboring garden. A short while after, he was seen walking quietly home; he was seen to wash himself in the river and then go back to his office. The little girl did not return home, and, search having been instituted, her dismembered body was found strewn about the garden. The clerk was arrested, and in his diary was found this entry recently made: "Killed a little girl; it was fine and hot." This man was either a sadistic sexual pervert, or a victim of homicidal impulse. Maudsley gives this instance as an example of the latter, while Kraft Ebing gives it as an example of the former.[1] There is a great difference between these two mental derangements. The victim of homicidal impulse kills without any ulterior object, while the sadist kills in order to gratify his unnatural and perverted sexual appetite. The victim of homicidal impulse is, to all outward appearances, perfectly sane otherwise. His impulse frequently leaves him for years and then returns with overpowering force. Epileptics who have just passed through violent convulsions, will frequently attack bystanders with great fury. Some alienists declare that homicidal mania is frequently only a masked epilepsy. All epileptics should be carefully watched; they may become dangerous to society at any moment. Numerous instances are recorded of murder committed by sufferers from petit mal, a mild form of epilepsy. I once saw a negro walk up to a white man, who was a stranger and unknown by him, and fell him to the earth by striking him with a club. The negro was arrested, and the next day swore that he was entirely unconscious of having struck anyone. It was proven on his trial that he was subject to mild epileptic attacks.

I believe that all suicides are due to mental aberration. It may be the result of a momentary and sudden loss of

[1] Maudsley: Responsibility in Mental Disease, p. 162, and Kraft Ebing: Psychopathia Sexualis, p. 63.

mental equipoise, or the final and fatal ending of a premeditated desire carried through days, weeks, months, and even years. We see a man blessed with everything that makes life enjoyable. Genial, gay, with the ready smile and kindly word for everyone, suddenly, in a moment, pass forever out into the unknown, self-killed, a victim of his own creation. We stand amazed! Why did he do it? We can find nothing in his past or present condition to warrant such an action. He was the victim of momentary aberration, or, perhaps, deep in his mind, buried and hidden even from himself, the desire for self-slaughter, when a "physical pain, an unexpected impression, a moral affection, an indiscreet proposition"[1] unearthed this desire, and he at once committed the deed. There are epidemics of suicide. Let the papers chronicle some peculiar method of suicide selected by some unfortunate, and others will immediately follow his example. Unconscious cerebration has also hurled many souls into eternity. I was called to see a gentleman who had attempted suicide by slashing the radial artery at the wrist. I found him holding a compress on the severed vessel and greatly alarmed. "He swore to me that he was totally unconscious how he had come to do the deed, and did not know that he had cut himself till he felt the pain of the wound."[2] I think that effemination and viraginity are due rather to abnormalities and deformities existing in the brains of their unfortunate victims, than to mental disease. Mild forms of these types of degeneration are very abundant. The effeminate cigarette-smoking, soda-drinking young man, and the loud, horsy, masculine young woman are seen everywhere. Effemination and viraginity are the results of the weakening effects of luxury and consequent debauchery. Nations have felt the dire force of effemination and have sunk beneath it. The Grecian, the Roman, and the Egyptian races are examples. The satirists of the golden age of the Latin people dipped their pens in gall and bitter wormwood and berated the effeminate nobility time and again. One advised the Roman ladies to look for men among the gladiators and the peasants.[3] Anacreon's poems are full of allusions to effemination and the delights of psychic hermaphroditism. In the time of Louis XVI. of France, the royal palaces were filled to overflowing with effeminants, who vied with the ladies in the splendor of their robes and the eccentricities of their conduct. The case of Alice Mitchell, who killed Miss Johnson in Memphis not long ago, was one of pronounced viraginity. Fortunately for the good of the community there are few viragints. The careful mother punishes the tom-boy girl for her hoydenish habits, and thus, early in life restrains her unnatural masculine tendencies and turns her thoughts toward feminine pursuits and desires. The unfortunate effeminant, however, is encouraged in his feminine tastes and habits by his unwise mother, who likes her boy to sit beside her to sew or knit, as the case may be. She discusses matters of the toilet with him, and, in fact, treats him as she would a daughter. In the end his psychic hermaphroditism becomes complete, and one more unfortunate goes out into the world to swell the ranks of crankdom. Kleptomaniacs are greatly to be pitied, for they are generally women in whom the moral sense is very much developed. The kleptomaniacs will steal any and everything. They are like magpies in this respect. An acquaintance of mine, a most estimable lady, a devout Christian, and a most exemplary wife and mother, is the most incorrigible thief I ever saw. She has often picked my pockets while I was engaged about her sick-bed. The merchants of the town where she lives know her infirmity, watch her while she is in their shops, and respectfully and kindly relieve her of her pilferings when she starts to leave. She expresses great sorrow for her unfortunate insane impulse, and has often begged her husband to have her placed in an asylum. This he refuses to do, as she is perfectly sane otherwise. The husband was called away for several weeks, and on his return took me to his house and showed me her room. In the room were the objects stolen during his absence. It was the most miscellaneous collection of valuables and trash I ever saw. She had gathered together everything from a darning needle to a tombstone, a small specimen of the latter forming a part of this heterogeneous collection. This form of partial insanity is much more frequent than people suppose, and the antecedents of shop-lifters and the like should be carefully examined before a judgment on their criminality is passed. "Eccentricity is certainly not always insanity, but there can be no question that it is often the outcome of insane temperament, and may approach very near to or actually pass into insanity."[1] Alienists rely on the eccentric and peculiar changes which take place in the characters of their patients, who either present themselves or are brought to them for treatment, to establish their diagnosis. If a modest and truthful man suddenly becomes a braggart and a liar; or, if a humane man becomes cruel, or a neat man slovenly, there is reason to suspect brain trouble. The intellect may appear intact, so also the reasoning powers, but these eccentricities indicate a deviation which may lead to mental destruction. The last faculty in the mind of man to develop, is the moral faculty. This faculty is the one first lost by diseased brains. If a man suddenly becomes dissolute and licentious, who, heretofore, has led a virtuous, moral life, if he be examined, in nine cases in ten, his brain will be found to be diseased. The little cloud, which at first is no larger than a man's hand, grows ever larger and larger, and in the end overspreads the entire mental sky.

[1] Wynter: Borderlands of Insanity.
[2] The Writer: Suicide, American Practitioner and News, p. 293, 1890.
[3] The writer: Effemination and Viraginity, New York MEDICAL RECORD, p. 359. September, 1893.

[1] Maudsley: Responsibility in Mental Disease, p. 55.

A SIMPLE MEANS OF INCREASING THE APERTURE AND IMPROVING THE PERFORMANCE OF SOME IMMERSION LENSES.

By HENRY G. PIFFARD, A.M., M.D.,
PROFESSOR OF DERMATOLOGY, UNIVERSITY OF THE CITY OF NEW YORK.

During the past few years opticians and observers have sought to obtain increased visibility of minute objects by various improvements in their optical apparatus, and in the accessories used in connection therewith.

The highest point thus far reached has been obtained by the Zeiss establishment, in the production of their 2.5 mm. immersion lens with a numerical aperture of 1.60. With this objective used in connection with proper accessories and under conditions prescribed by the maker, finer and probably more truthful images can be obtained than is possible by any other means now known to science. To obtain these brilliant results, however, it is necessary to have at command a more effective sub-stage illuminator than those commonly in use; to employ special slides and covers, and special mounting and immersion media. To speak more definitely, the illuminator is of the Abbe type, built with a numerical aperture of 1.60, when used with immersion contact. The slide should be of flint glass having a refractive index of 1.72; the object must be mounted in a medium having an index of 1.60 or higher, and the cover glass must also be flint, with index same as that of the slide. The immersion fluid is mono-bromide of naphthalin with an index of 1.65. To avoid the necessity of an adjusting collar, Zeiss corrects the lens for a definite cover thickness, namely .17 mm. The lens is apochromatic, fluor spar being used in its construction. The price of this outfit, duty paid, is as follows: condenser, $14; slides, 80 cents each; cover-glasses, 40 cents each; objective, $320. As the lens is apochromatic it is liable to early deterioration, which, however, will be made good, we believe, under the general guarantee of the maker as regards apochromatic lenses.

In the special study of diatoms this lens stands unrivalled, but in many other branches of investigation it is

practically useless. I have worked with this lens, and can fully corroborate the statements that have been made concerning its excellence in the special lines of investigation to which it is adapted. One of its accessories, however, the condenser, should be reckoned as a disgrace to even a third-rate optician.

If we desire to appreciate the advantages possessed by the high numerical aperture of 1.60, it would be well to analyze the factors that contribute to the result, and to compare them with the same elements involved in the operation of the immersion objectives in common use. For purpose of comparison I select an oil-immersion lens of N. A. 1.30, accompanied with its usual accessories.

	Zeiss, N. A. 1.60.	Oil-immersion, N. A. 1.30.
Condenser	N. A. 1.60	N. A. 1.40
Slide	Index 1.72	Index 1.52
Mounting medium	Index 1.60 or higher	Index (balsam) 1.54
Cover-glass	Index 1.72	Index 1.52
Immersion fluid	Index 1.65	Index (cedar oil) 1.515

At every point, then, it will be seen that the Zeiss outfit possesses factors of superiority (as regards performance within certain limits) over the lenses more frequently met with. Any means by which these differences can be minimized would seem, therefore, to be worthy of consideration.

If we examine the present status of the optical art as regards the sub stage condenser, we can readily place these instruments in three classes, namely: low, medium, and high grade. The chromatic condenser N. A. 1.40, commonly known as the Abbe, may be placed as regards general utility in the first category (low grade). It is a cheap, but unsatisfactory, substitute for an achromatic condenser of the same or even lower aperture. The condenser can be obtained from the majority of opticians for about twelve or fifteen dollars. In the medium grade should be placed the achromatic condensers of N. A. 1. These are more expensive than the Abbe, but so far as my experience goes, are superior to it in every respect, except for the single purpose of demonstrating bacilli in tissues and sputum. They cost about twenty dollars. The only existing strictly high-grade condensers that I know of are the achromatic and apochromatic condensers of N. A. 1.40 made by Powell & Lealand, of London. These will cost, laid down in New York, duty paid, about one hundred and twenty dollars each. This price will prove prohibitory to many, and it is to be regretted that American opticians have not as yet found a way to produce a condenser of equal merit at a price that would bring it into more general use.

Flint-glass slides and covers are much too expensive for ordinary purposes, and except in connection with the Zeiss 1.60, are less desirable than crown. If used in connection with the ordinary objectives, they introduce an amount of negative spherical aberration that disastrously affects the definition.

The increased visibility given to certain structures by the use of mounting media of high index, is a subject that merits more attention than it has hitherto received, as it constitutes one of the factors that contribute to the best final result.

The homogeneous immersion lenses of N. A. 1.30, owing to their comparative cheapness, are the ones most commonly in use in bacteriological and biological work, but are far from being the highest expression of the optical skill of the present day. Zeiss, it is true, lists a lens with N. A. 1.40, but cautions against its use on account of the insecure fastening of the front lens.

For thirty years or more American and English opticians have led the world in the production of strictly high-grade objectives; and to-day better lenses can be obtained in either of these countries than are made in any part of the Continent of Europe. By far the best dry lenses[1] are made in America, while a single London firm (Powell & Lealand) leads all competitors in the manufacture of water-immersions of high aperture. The oil-immersions made in America reach apertures of N. A. 1.38 and 1.42, and within the range of their aperture surpass any foreign production that I have had an opportunity to examine. American opticians, however, have not thus far exceeded (commercially) a numerical aperture of 1.42. These lenses cost, for a $\frac{1}{10}$-inch or $\frac{1}{12}$-inch, from about eighty to one hundred dollars.

Powell & Lealand, however, in oil-immersion lenses have reached a numerical aperture of 1.50, for which they ask the following prices: $\frac{1}{8}$-inch, £35; $\frac{1}{12}$-inch, £40, and $\frac{1}{20}$-inch, £60. To estimate the American price, duty paid, reckon each pound at eight dollars. I mention these figures in order that the commercial value of these extra-high apertured lenses may be clearly appreciated, and to emphasize the importance of obtaining them, if possible, by means that shall not involve such great expense in their production.

About seventeen or eighteen years ago I purchased of Powell & Lealand a $\frac{1}{4}$ inch water-immersion, rated by its makers as having an angular aperture of 143°.[1] This would correspond to a numerical aperture of 1.26, and is, I believe, the highest aperture ever given to a water-immersion lens. The price of this objective was £12. Two or three years ago I discovered that it would work perfectly well with cedar oil, which raised its aperture to N. A. 1.44.

More recently I have ascertained that, by closing the systems as far as the correction collar would permit, and shortening the tube length to about 155 mm,[2] that the objective would correct perfectly with mono-bromide of naphthalin. Not only was the overcorrection introduced by the mono-bromide completely neutralized, but the character of the image remarkably improved.

I next investigated the possibility of error in the makers' statement as to the angular aperture, and found that with systems open and water contact the angle measured 143°; with systems half closed and oil contact the angle was 144°; and with systems entirely closed, using mono-bromide contact, the angle was also 144°. Applying the usual formula N. A = n. sin. u, the result gave N. A. = 1.56, the highest aperture, so far as known to me, that has ever been obtained with an achromatic lens, working with crown-glass slides and covers.[3] With the lens used in this manner I have resolved the Amphipleura pellucida on a dry mount, and this has been separately verified by my friend, Mr. H. C. Bennett, of this city. I mention this fact in order to show that the lens remained in a state of perfect correction, and stood up to the high eye-piecing which was needed to amplify the image to a point that would enable the resolution to be seen.

A duplicate of my lens and a Powell & Lealand $\frac{1}{8}$-inch water-immersion, N. A. 1.26, the property of Dr. William Stratford, were also found to correct perfectly with the mono-bromide. A $\frac{1}{8}$ inch oil-immersion, N. A. 1.50, of the same makers, failed to do so, possibly owing to insufficient range of adjustment.

Two American oil-immersion lenses of $\frac{1}{10}$-inch equivalent focus, rated by their maker (Spencer) as having N. A. 1.32 and N. A. 1.38, were next tried with mono-bromide, and found to respond to it perfectly, it being necessary, as with the others, to close the systems and shorten the tube length. I carefully measured the angular aperture of one of these with water, oil, and with mono-bromide: I found that its numerical aperture with water was 1.22; with oil, 1.39; and with mono-bromide was 1.51.

A Bausch & Lomb oil immersion, $\frac{1}{12}$-inch N. A.

[1] I refer to the strictly high-grade lenses of wide angular aperture. The medium angle dry achromatics of Leitz, however, are worthy of the warmest praise.

[1] The expression "Numerical Aperture" had not at that time found a place in optical nomenclature.

[2] It was intended by its makers to work with a tube length of 250 mm.

[3] As there may be some who do not understand the meaning of the equation N. A. = n. sin. u, I will state that n stands for the index of refraction of the medium that lies between the cover-glass and the front lens of the objective, be the same air (n = 1); water (n = 1.33); cedar-oil (n = 1.515), or mono-bromide of naphthalin (n = 1.65). Sin. u represents the natural sine of half the angle of aperture. In the case of the $\frac{1}{4}$ inch Powell & Lealand lens, whose angular aperture was 144° the N. A. = 1.65 × Sin. 72° = 1.65 × .951 = 1.569.

1.42, corrected perfectly with mono-bromide, giving an aperture, by calculation, of N. A. 1.54. Several other immersion lenses that I have tested failed to correct.

A striking peculiarity of the images obtained with mono-bromide immersion was the partial effacement of the secondary spectrum, approximating in character the image obtained with an apochromatic, but not to the same extent.

In order to obtain the full benefit of the increased apertures obtainable by the means here stated, it is necessary to have at command adequate sub stage illumination. The nearest approach to this that is at present available, are the achromatic and apochromatic condensers N. A. 1.40 of Powell & Lealand; or, as a cheap but less desirable substitute, the Zeiss chromatic condenser N. A. 1 60.

The experiments here related can be readily repeated by those possessing suitable objectives, namely, adjustable immersions corrected by their makers for the long tube (216 mm. or longer). It would be folly to attempt to obtain the same results with the medium-grade non-adjusting German immersion lenses which in late years have come to this country in such large numbers.

The ideal immersion lens for general bacteriological, biological, and histological research, it appears to me, would be one having the largest practicable angular aperture, and corrected for either the 160 mm. or 216 mm. tube, and a cover-glass not exceeding .20 mm. The adjustment should be arranged to close a little beyond the mono-bromide point, and open a little beyond the oil point, so as to permit the objective to be used at will with either fluid. It is possible, however, that the optician with mono-bromide in mind, would find it desirable to make some slight changes in his present formulas.

Having here shown a means whereby the true inwardness of minute objects can be displayed to better advantage than has heretofore been the case, I leave the further development to those who desire to avail themselves of these aids, and to the opticians whose business it is to supply them.

10 West Thirty-fifth Street.

GUAIACOL AS A TOPICAL APPLICATION IN THE TREATMENT OF ACUTE TONSILLITIS.

By JAMES HARVEY RAYMOND, M.D.,

CHICAGO, ILL.

INSTRUCTOR IN SURGICAL PATHOLOGY AND ASSISTANT IN CLINIC DISEASES OF NOSE, THROAT, AND CHEST, RUSH MEDICAL COLLEGE; ATTENDING PHYSICIAN TO THE CENTRAL FREE DISPENSARY, DEPARTMENT NOSE, THROAT, AND CHEST.

The etiology of tonsillitis, from the various hypotheses advanced by the most eminent laryngologists, seems to be as obscure as is the definite knowledge of the function of the tonsil. It is believed by many to be due to the essential cause of rheumatism; that it is the precursor or result of an acute attack of rheumatism; that it is due to an inherited tendency—the so-called rheumatic diathesis. By others it is thought to be of neurotic origin; the result of malnutrition; the errors of diet; the inhalation of sewer gas. Wet and cold and bad hygienic surroundings are considered as exciting causes.

Pathologists who have made this disease a study, among whom the names of Fränkel, Frederici, Gaffi, Schnell, and Richardiere are most prominent, attribute it to the action of pathogenic micro-organisms or their ptomaïnes, and present as strong corroborative evidence the facts revealed by microscopic examination.

Its clinical course shows a clear analogy to acute inflammations in other tissues. The symptoms of inflammation are too well known to mention here, but it is well to bear in mind that in all inflammatory conditions we do not find typical symptoms. Very much depends upon the anatomical seat of the process, the temperament of the patient, and the quantitative and qualitative conditions of the exciting cause.

Accepting the theory that inflammation is caused only by pathogenic microbes or their ptomaïnes, the so-called rheumatic diathesis, as well as the other etiological factors enumerated, seem to me only conditions that create a favorable soil for their growth and multiplication, cold being perhaps the most frequent predisposing cause. It is easy to understand how a weakened condition can be brought about in the tissues of the throat, especially in patients of a strumous or rheumatic diathesis. Pathological conditions of the nasal cavities that cause obstruction to nasal respiration give rise to congestion of the throat. This condition existing in poorly nourished patients adds greatly to their chances of having tonsillitis, since many kinds of bacteria are present at all times in the mouth, and have easy access to the most remote parts of the lacuna of the tonsils, where they lodge and multiply. Microscopical examination of the acutely inflamed tonsil reveals large colonies of staphylococci, streptococci, and many other species of bacteria commonly found in the mouth, in and about the lacunæ, with the characteristic histological elements of an inflammatory exudate.

The inflammatory process may exist in the mucous membrane, originating in the lacunæ, when it is commonly called follicular tonsillitis. It may attack the parenchyma of the glands, when it is called quinsy, and lastly it is found to attack the peritonsillar tissue. Lenox Browne states that quinsy implies acute inflammation, limited to, or at least originating in, the parenchyma of the glands themselves. Lefferts, of New York, states that the abscess is not in the tonsil, but in the peritonsillar tissue.

When it attacks the mucous membrane we find the same conditions that are common to inflammations in mucous tissues elsewhere.

We have the characteristic pathological changes of the capillaries, with plastic exudation composed of the exuded blood-corpuscles and the products of their disintegration, together with the detached epithelial cells These elements, mixed with the hypersecretion of the intact epithelial cells, fill the orifices and coalesce to form the pseudo-membrane seen about the ducts and sometimes covering the entire tonsil.

It is not an easy matter to differentiate between the parenchymatous and phlegmonous variety. The latter is due to emigration of microbes into the connective-tissue spaces, where they locate and multiply. In the former the blood-vessels supplying the parenchyma, which have undergone alteration by the inflammation, furnish an avenue of escape for microbes, that directly attack the secreting cells, giving rise to characteristic pathological changes, observed in parenchymatous inflammation. If their action is not arrested by antiseptic treatment, or by the physiological resistance of the tissues, the process becomes chronic, or the formation of an abscess is the result if pyogenic micro organisms are present and their intensity too strong to be overcome.

The determination of the exact location of the atrium of infection is a matter of very little or no practical importance.

If the interstitial tissue is the seat of localization of the infective microbes, the parenchyma is very apt to become involved, and *vice versâ*.

With these views the indications for treatment would be the application of antiseptic remedies, that would at once render inert the pathogenic micro-organisms or neutralize the substance formed by them that acts as the exciting cause.

The author in his experiments with guaiacol, during the past few months, has demonstrated that this drug is entitled to be considered a valuable remedy in the treatment of this affection.

He has had an opportunity of observing its effects in a large number of cases in the clinics of Professor E. Fletcher Ingals, and of the Central Free Dispensary, and in private practice. The result was that of marked relief in the majority of cases treated. At my solicitation Professor A. C. Cotton has given it a trial. He reports marked and immediate improvement in over ninety per

cent. of the forty-two cases in which he has applied guaiacol to the tonsil. Dr. John Edwin Rhodes reports having used the remedy in a number of cases with marked benefit, and mentions one case in which there were evidences of a speedy suppuration in the tonsil which was speedily relieved by the guaiacol. He has also used the remedy in facial erysipelas, and reports that the inflammation seemed to be checked, and relief was promptly afforded by the application. My friend Dr. Arthur M. Corwin has of late been applying the remedy in all cases of acute tonsillitis and pharyngitis which have appeared at his clinic at the Central Free Dispensary and in private practice, and reports fifteen cases, a few of which seemed to give promise of a phlegmonous course. In every instance there was improvement of all the symptoms and signs after the first application, and in none did suppuration occur. Three cases were apparently aborted within twenty four hours, and subsided almost completely after the second application, made after an interim of forty eight hours.

Of my own cases, in every one, except three, pure guaiacol was applied. In the others it was thought that a fifty-per-cent. solution in oil of sweet almonds, applied with an atomizer, would be sufficient, but it proved of much less value than the pure drug.

As might be expected, the application is somewhat unpleasant and is attended with quite a little smarting, but as its duration is only from one to five minutes in most cases (although in some instances it lasted for several hours), the relief immediately following more than overbalanced the pain caused by the application. However, it is frequently no more painful than nitrate of silver, or many other remedies commonly used, and possesses many advantages over them, the cardinal one being as a curative measure or an abortifacient. It was thought that a thorough application of cocaine (ten per cent. solution) prior to the application of guaiacol would lessen the degree of smarting, but it seemed to aggravate it. The applications were made by means of a cotton swab dipped into pure guaiacol, and applied over the surface of the tonsils, care being taken to prevent it from getting into the larynx. To keep the throat moistened, troches of althea, or guaiac, or gargles were given. In every case where marked febrile symptoms were noted, the temperature was found to drop from one degree to normal within a few hours. In one case where it registered 103.5° F., it fell to normal in four hours.

In the superficial or lacunar variety, the inflammation was terminated far more speedily than in the phlegmonous.

In a number of cases with a history of having had quinsy, and where every evidence of a recurrent attack was present, it was found that not more than two applications were necessary to abort the disease, and in many instances it did not last more than forty-eight hours, and in none did suppuration occur. In many cases where patients were unable to swallow without intense pain, they were able to do so within ten minutes. In a few patients suffering a primary attack, swelling was seen to subside within a few hours.

I have omitted tabulating or describing each case separately, but I am quite satisfied that pure guaiacol applied locally, early in an attack of acute tonsillitis, on account of its penetrating the tissues deeply, acts as a most efficient antiseptic. I believe it arrests the action of pathogenic and pyogenic microbes, which, when accomplished, speedily ends the inflammation and prevents suppuration, often aborting one of the most painful acute affections of the throat the physician is called upon to treat.

36 Washington Street.

American Chloroform.—Dr. Squibb has made a number of tests of the different brands of chloroform in the American market. He finds some impure, but none very bad, and he thinks that American chloroform is, on the whole, purer than that used in Europe.

Clinical Department.

A RARE FORM OF FOREIGN BODY IN THE MALE URETHRA.

By HERMANN GOLDENBERG, M.D.,

NEW YORK.

The patient was aged thirteen, and was referred to me in May, 1893, with the following history. I purposely reproduce the story as it was imparted to me; supplementary hints, essential to an accurate knowledge of the case, will appear later.

It was alleged that the boy had had the first urinary symptoms two years previously, during the transatlantic voyage to this port. As regards the diagnosis and subsequent treatment no complete data were obtainable. At any rate, he was entirely recovered at the end of a week, and was free from distress from that time up to two weeks ago, when he was suddenly taken ill with severe "pains in the stomach," which was followed by great distress upon micturition; the latter became so intense that spontaneous evacuation of the bladder was impossible during the previous three days. The urine flowed away involuntarily in drops, the tenesmus continuing uninterruptedly (Ischuria paradoxa). It was said that on the day preceding a physician had emptied, or attempted to empty, the bladder, without, however, discovering the cause of the retention.

Status Praesens.—The patient entered the room groaning with pain, his body bent forward, and his abdomen supported by his outstretched hands; the greatly enlarged bladder, extending as high up as the umbilicus, appeared at once to view upon disrobing him. External pressure upon the bladder caused the patient to cry out; no other abdominal changes could be noted. The urethra was slightly reddened and swollen; the lips of the meatus injected, moderately swollen and everted, and gave exit to foul-smelling urine. Upon palpating the penis, a hard movable body, about the size of a bean and lying in the long axis of the organ, could be made out about an inch behind the meatus; it was regarded as a urethral calculus.

After cocainization of the anterior part of the urethra, an attempt was made to extrude the supposed stone, but it impinged at the narrow portion of the meatus; the latter would only admit the passage of a No. 14 F. sound. Upon dividing the meatus with the knife, the body was then readily extracted.

Greatly to my astonishment it was not a calculus, but a medium sized date-pit, the thicker and distal end of which was about the size of a No. 21 F. sound, the thinner proximal end that of a No. 17; its cortex was superficially eroded at several places, laying bare its organic framework. The urine which was subsequently voided was very cloudy and of foul odor; unfortunately a chemical and microscopical examination was neglected.

Query: How did the foreign body enter the urethra? My first thought was that the boy had, for obvious reasons, introduced it there himself; he denied this absolutely and emphatically upon the closest cross-examination; notwithstanding this, his denials would not have influenced me, for even adults will dally with the truth in *puncto genitalium*, were it not that there were weighty objective reasons against the tenability of my original conclusion. In the first place it appeared to me to be absolutely impossible, even with the exercise of the greatest force, to push the body through so narrow a meatus: furthermore, the lad had had a similar attack some two years previously; when the pain appeared first in the region of the bladder, not in the urethra. These facts forced me to the conclusion that the date-pit was originally located within the bladder, and that it was washed to the site of its discovery by the urinary current. It was now an object to find out in what manner the foreign body had found its way into the bladder.

Dr. Ladinski, who rendered valuable assistance during

the examination at the Mount Sinai Dispensary, made an exploration per rectum, as it appeared to him probable that the pit had perforated from the appendix into the bladder. He found that the latter was drawn toward the right iliac fossa by strong adhesions. There was, furthermore, a decided tenderness of the appendix vermiformis upon pressure from without. The patient objecting to further examination, I had to postpone rectal exploration and eventually cystoscopical examination; but, unfortunately, had no opportunity to do so at a later time, the patient passing from observation. His condition, I was informed a few days later, was so very good that his parents thought further medical advice needless.

I am quite well aware that incontrovertible evidence in substantiation of my opinion (which was shared by a number of colleagues who saw the case) is lacking; nevertheless, I believe that enough has been found to make my surmise more than probable that originally in this case there was a perityphlitic abscess, certainly encapsulated, and that it and the date-pit perforated into the bladder. When this took place I cannot say. I am not inclined to believe that the foreign body was long in the bladder, in which event there would certainly have been some incrustation; the fact that it was superficially eroded in several places (all who saw it concur in the belief that it was no *arte fact*) may be explained on the theory that it had been for some time exposed to the action of pus in an abscess cavity.

I was at first of the opinion that the changes upon the surface of the pit were accomplished by stomach or intestinal digestion, but at a discussion of the case, which took place at a meeting of the "Wissenschaftliche Zusammenkunft Deutscher Aerzte in New York," I was convinced that the secretions of these organs have no influence upon cellulose.

Regarding the supposition of a precedent typhlitis or perityphlitis, I may here say that the boy was several years ago taken ill with severe pains in the right side of the abdomen, recurring upon two or three occasions in the course of time; since then he has been a sufferer from obstinate constipation, and voids his stools "undigested and in pieces." The parents of the lad had enjoyed a fair degree of material prosperity and educational advantages in their former Russian home, and their statements are entitled to greater respect than may be given to the average of their country-people whom we see in this city.

In parenthesis be it remarked, on the same day that I saw the above case I removed a calculus of respectable dimensions from the urethra of a man of twenty-five years, thus exemplifying the frequently observed "duplicity of cases."

26 East Sixty-second Street.

A CASE OF VARICOSE VEINS ON THE FACE AND TONGUE.

By IDA R. GRIDLEY, A.M., M.D.,

COLLINSVILLE, CONN.

A few weeks ago, Mrs. G——, fifty-nine years of age, consulted me about some nervous symptoms from which she was suffering. On examining her tongue I noticed a peculiar appearance which excited my curiosity. Both the upper and lower surfaces are much ridged and furrowed, and studded with irregular elevations, some the size of a large pea. These elevations are soft, purple, and but little covered with the ordinary coating of the tongue. There are five large elevations on the right side and two on the left. The anterior portion is more affected than the posterior. The lower lip, and the buccal mucous membrane are studded with similar small purple elevations.

I questioned her closely concerning the duration of this condition, and elicited the following history:

When she was born a small purple tumor was noticed underneath the chin.

When she was twenty-three years of age, a little red speck the size of a pin's head appeared on her left cheek, and was diagnosed as a "spider cancer" by a female quack calling herself a "cancer doctor." She applied a "fire plaster to draw out the cancer," and produced a large sore which did not heal for two months. A scar, the size of a quarter of a dollar, still remains. Immediately after the sore was made, varicose veins appeared on the tongue, the cheeks, and the side of the neck. Several physicians have thought that this treatment was the cause of the varicose condition. To me it seems more probable that there was a congenital tendency toward enlargement of the veins. She has also varicose veins under the pubes and near the anus.

At times the veins on her tongue and cheeks will swell up and become quite annoying. Once, twenty-one years ago, she burned her tongue with a piece of hot meat and opened one of the veins, causing a hemorrhage which was stopped with some difficulty.

Twice since then she has spit up blood, coming apparently from the throat, not from the mouth.

Aside from these annoyances this peculiar condition gives no trouble.

A CASE OF SUPRAPUBIC DISLOCATION OF THE LEFT FEMUR AND COMPOUND FRACTURE OF THE COCCYX.

By WILLIAM A. ROLFE, M.D.,

BOSTON, MASS.

SURGEON TO BOSTON EMERGENCY HOSPITAL.

The following case is reported because I think it presents a rather rare complication, and also on account of the perfect recovery the patient made after such severe injuries:

F. G——, aged twenty-seven, a machinist by trade, while standing before a high table in his shop examining a drawing, was struck over the sacrum by a large piece of T-iron, which was being run through a planing machine. The force of the blow was sufficient to jam him between the iron and table, and pin him there until the machinery could be reversed, when he was removed. He was brought to the hospital in the ambulance, and on arrival was found to be in a state of marked collapse.

On examination his left thigh was found to be strongly abducted and the whole leg everted, and one and one-half inch shorter than its fellow. In the left groin a round body presented, which was the head of the femur riding over the pubic bone. The skin over the head was so stretched that it was covered with a series of deep fissures, showing that a little more force would have sufficed to render the dislocation a compound one. Over the lower part of the sacrum was a ragged wound four inches in length, full of dirt, and through which the coccyx could be felt at an acute angle to the sacrum and freely movable. The rectum was uninjured.

The patient being etherized, reduction was attempted by flexing the thigh on to the abdomen and forcibly rotating same inward. Great care had to be exercised so as not to force the head of the bone through the groin. After repeated attempts the head of the femur was dislodged from over the pubes, but went with a snap into the thyroid foramen. Owing to the condition of the parts, which had been subjected to a prolonged stretching, this new dislocation was easily reduced.

The injury to the coccyx was not attended to that day, as the patient was in an extremely weak condition. The next morning, being again etherized, the coccyx was excised and the wound thoroughly irrigated, and packed lightly with iodoform gauze, good drainage taking place. For the first week the bladder had to be catheterized, the patient being unable to urinate voluntarily. The urine for a few days was slightly bloody, but gradually cleared up. On the fourth day the bowels were moved by an enema, and from then on the patient made an uninterrupted recovery. At the end of the third week the sacral wound was entirely healed up, and he was discharged.

He complained only of a slight stiffness in the left hip, and could walk very well with the aid of a cane. At last accounts he had resumed his work.

A RARE CASE OF SPONTANEOUS DELIVERY AFTER CHLOROFORM NARCOSIS.

By H. F. EICHACKER, M.D.,

NEW YORK.

The following case will give another illustration of what harm can be done in the hands of a midwife by the internal administration of ergot before delivery, for the purpose of increasing labor pains.

Friday, January 26th, 5 A.M., Mr. T—— called on me to attend his wife during confinement; he requested me to take instruments along, because his wife was instrumentally delivered at her first accouchement, this being the second. On my arrival at the patient's house I found a midwife present, who related the following (very likely) false story. Pains had begun the day before at 11 A.M.; membranes had ruptured at 11 P.M. She had examined woman one-half an hour ago; that child was alive; that she had given two drachms of fluid extract of ergot, and that she was about to give another one.

On examination I found an R.O.A.; going up a little higher the funis could be felt around neck, but pulseless and thin. The shoulders were yet above superior strait; pains very vigorous.

I twice made the attempt to put on forceps (McLane's), but twice they slipped, owing to the fact that the child was dead and therefore the head bloodless and hence easily compressible.

After having informed Mr. T—— that the child was dead, and that in order to deliver the woman she must be narcotized, he went after my friend Dr. Abrahams.

Dr. Abrahams proceeded at once to give the chloroform, which I happened to have in my bag. Several strong attempts at turning the fœtus were made, but with utter failure, owing to the tonic contracture of the uterus. Dr. Abrahams also convinced himself that it was impossible to lift the head out of the pelvis in order to bring down a foot. To be on the safe side we concluded to continue the anæsthesia with ether. While waiting a few moments for the husband to return with the ether, the child made its sudden appearance, simply rolling out of the vagina on the floor, followed by a great gush of blood. After removal of placenta the bleeding was stopped by firm pressure. There was nothing unusual about size of child. The woman herself never developed any untoward symptoms.

66 Columbia Street.

FRACTURE OF THE HEAD OF THE FIBULA BY MUSCULAR ACTION.

By SAMUEL PIERSON, M.D.,

STAMFORD, CONN.

The following case is reported on account of its extreme rarity, and of the perfect result of its treatment. In a cursory search of such authorities as are at hand, I have been unable to find any description or mention of this fracture.

John R——, age thirty, German, on September 4, 1893, was engaged in constructing a stone wall; and seeing that part of the wall was giving way and about to fall upon him, he sprang backward suddenly and fell to the ground; upon attempting to rise he found that his right leg was entirely disabled, although he had not been struck by any of the falling stones; on examination a few hours later, I found a fracture of the head of the fibula; the upper fragment, about three-fourths of an inch in length, was drawn up by the biceps tendon for fully two and a half inches, and the two ends could not be brought in apposition by any means except the most extreme flexion of the leg, and even in this position I found it impossible to keep them in perfect contact.

As the patient's occupation (that of farmer and teamster) made the probable partial disability of the leg a serious matter, I asked Dr. Charles T. Parker, of New York (who was spending the summer here), to see the case with me; he at once advised cutting down and suturing the fragment to the bone; this he did two days later, under strict asepsis.

An incision two and one-half inches long was made down to the bone, small holes were drilled in either fragment, and the two were drawn together with chromatized catgut. The wound was dressed in the usual manner and the leg was put up in a right angled plaster of Paris splint. There was no reaction from the operation and the first dressing was made two weeks later; the wound had healed by first intention throughout. A similar plaster splint was applied and left on for six weeks longer, when all dressings were removed and perfect bony union found to have taken place.

At the present time, four months from the date of the injury, there is perfect motion at the knee joint, and the man is pursuing his usual occupation with entire comfort.

OBSTINATE SINGULTUS.

By CHARLES S. DICKINSON, M.D.,

GOVERNMENT PHYSICIAN, FORT STEVENSON, N. DAK.

Having noticed the relation of several cases of singultus in the columns of the Medical Record, I will give a short history of a case I had recently. On February 5, 1894, Mr. B. T——, a young man, about thirty-three years of age, single, came to my office for treatment, complaining of dizziness, no appetite, lack of ambition, and tenderness in the epigastrium. Almost immediately he was taken with severe paroxysms of hiccough. I prescribed magnesia sulph. one ounce, to be followed by small doses of cocaine, without any benefit. In the afternoon of the 5th I determined to wash out the stomach, which I accordingly did, but without any favorable result. The patient could eat very little, and the food distressed him. No cessation during the night or next day, in spite of pilocarpine and various other remedies. In the evening of the 6th I gave the patient oleum ricini, ℥ ss.; bismuth subnit., gr. x.; ol. piperiti. ♏ij.; this had the effect of controlling them for the night; but early next morning, February 7th, they began again as bad as ever, the remedy of the night before did no good, and the patient was rapidly becoming exhausted. Could not eat anything. I gave morphine in the evening, which gave the patient little snatches of sleep, temporary cessation from hiccough, but ultimately failed of the desired result. On the morning of the 8th they were as bad as ever. I began to despair of giving any permanent relief with the various medicines. A happy thought took possession of me at this juncture. I had some oatmeal porridge made for him, which I had served with milk. This was on the afternoon of February 8th. Quickly hiccough stopped, no recurrence since; patient is doing finely on an oatmeal diet. It was of gastric origin, due probably to irritation of the walls of stomach; the oatmeal served as a demulcent to the irritated mucous membrane. This is, I believe, a new remedy, but it deserves a further trial by all practitioners who meet with this obstinate affection in their practice.

Diminution of the Mortality from Typhoid Fever in Paris.—Dr. Rochard states that the diminution in the lethal effects of typhoid fever has gone on steadily diminishing in Paris during the last twelve years. Thus, in 1869 the mortality reached 53.4 per 100,000 inhabitants, the corresponding figures for 1893 having been 25.7. The reason for this improvement is not far to seek: the dangerous beverage—Seine water—formerly largely consumed, is now replaced by fairly pure spring water, and great progress has been effected in the drainage of the city.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street.

New York, March 24, 1894.

LEGAL REQUIREMENTS FOR PRACTITIONERS IN DIFFERENT STATES.

THE Illinois State Board of Health has taken great pains in its report for 1894 to compile an account of the present requirements for practising medicine in different parts of the United States. The report is interesting and instructive, not only in showing the progress made in this very necessary department of medical legislation, but it enables us to compare the different States with each other, regarding the advantages of their respective systems. We have also offered us an opportunity for answering in a general way many questions which constantly arise in reference to the existence or not of medical laws regulating practice in particular States.

Altogether the outlook is very encouraging to the advocates of independent State examinations for license to practise, in that it proves the existence of a strong conviction in its favor, and a proper appreciation of its merits on the part of legislators generally. Much, if not all of this sentiment, has been created by the medical profession itself as the result of persistent advocacy of a very just and very reasonable measure of protection against quackery and incompetence, and has in the end tended more than any other means to elevate the standard of medical requirements.

It needs no argument to prove that the most equitable regulation is that of absolutely independent examinations by an impartial State board. In view of the varied standards adopted by different medical schools, and the great difficulty in bringing them to such a uniform degree of excellence as shall guarantee the highest possible order of attainments, there appears to be no other feasible method of compelling necessary fitness. Indeed, this relegates to the background that so-called generous rivalry among the lower grade of colleges for large classes, easy requirements, short terms of study, and, necessarily, unfit preparations.

It is encouraging in this connection to notice that there are sixteen States in which a diploma of itself is no license for practice, and in which an extra and independent State examination is demanded by law before the applicant can be qualified. These States are: Alabama, Arkansas, Florida, Maryland, Minnesota, Mississippi, New Jersey, New York, North Carolina, North Dakota, Pennsylvania, South Dakota, Texas, Utah, Virginia, Washington, and portions of the Indian Territory. They may be considered the banner ones in matters relating to high standards and advanced methods.

In examining the conditions of the remaining States on this question of legal license, we take a second grade in which it is obligatory to register diplomas after they have been supervised either by State Examining Boards, State Boards of Health, or officers of the County or Court, and in which an independent examination, although not obligatory, is sometimes considered necessary. The latitude of privilege under these circumstances is as varied as are the means to make them so. In the majority of instances, as may be readily imagined, it is a mere matter of form, and virtually gives the sanction of law to a mythical and elastic standard.

In this second list are the following States and Territories: California, Colorado, Connecticut, Delaware, Illinois, Iowa, Missouri, Montana, New Mexico, Oklahoma, Oregon, Tennessee, West Virginia, and Vermont. Of these the States and Territories having a State or Territorial Board of Examiners for such optional purposes are: California, Colorado, Connecticut, Delaware, the Cherokee and Choctaw Nations of the Indian Territory, Missouri, Montana, New Mexico, Oregon, Tennessee, and Vermont; while Illinois, Oklahoma, and West Virginia conduct such examinations throughout their respective State Health Boards.

Simple registration of diploma only is demanded in Georgia by the clerk of a superior court; in Idaho by a county clerk; in the District of Columbia by endorsement of the District Medical Society; in Indiana by the County Clerk; in Kansas by the State or County Society or college granting diploma; in Kentucky, Louisiana, and Nebraska by the State Board of Health; in Nevada, Ohio, South Carolina, and Wisconsin by the County Society, and in Wyoming by the Registrar of Deeds.

And, lastly, and with sorrow be it said, Maine, Massachusetts, New Hampshire, and Rhode Island, have no legal regulations whatever. Heretofore all efforts at obtaining proper licenses have failed, and the present conditions for practising are below the requirements of those in the far off Indian Territory. It is well known that the difficulties in obtaining necessary legislation are often very great, but in view of the end to be attained, the profession in the different States should not be discouraged, and should work persistently and patiently until the thing is done. We have had a hard time of it in New York State. It took years of persistent effort on the part of our State and County Societies to bring the standard where it is. Every year new enemies have arisen, but so far our efforts have been crowned with success. As a result, our colleges have better and higher standards, our students are better qualified for examinations, and altogether we are recruiting our ranks with first-class men. This experience will be repeated wherever the examining are separated from the teaching bodies, and should be an encouragement for other States who may be merely making experiments in this line, or have such measures merely on trial.

It is fair to say in this connection that the profession of the United States owes a great deal to the Illinois State Board of Health for the consistent, straightforward missionary work in this line that it has done for several years past. We congratulate it accordingly, and more especially in view of the present admirable showing of progress made so manifest in its last report, to which we are so glad to refer, and for which we are so happy to give proper credit.

THE CONTROL OF PROSTITUTION.

The control of prostitution has been so often discussed from the social and medical sides that we are beginning to become quite familiar with the standard arguments pro and con. But while we muse, the fire burns. We talk of what should be done, but, alas! it is only in the subjunctive sense. Many experiments have been tried under a licensing system and all have failed. The acknowledged difficulty has been that only one side of the question has been attacked. The other has seemingly been impossible of approach with a view to the reasonable remedy. One sex is warred against, while the other equally important factor is let alone. The absurdity of the measure is apparent on its face. The female is corralled, registered, restricted, mulcted, and blackmailed, while the necessary partner in the evil-doing goes unmolested as to personal liberty, untrammelled in the exercise of so-called individual rights, free from inspection or question, and is an unrestricted disseminator of foul disease. These are all patent facts which everyone admits who has studied the subject even in the most superficial manner. This, in truth, is one of the main reasons why all laws aiming to control prostitution are ineffective. They become essentially one-sided and consequently inoperative. The evil is said to be a necessary one, and the subject being also an unpleasant one for discussion we are inclined to seek others which are more congenial to refined tastes and more likely to produce tangible results. No attempt has been yet made to control the male element in the equation, and it is not probable that there will be. And even in such a possible event the evil is likely to go on, although in a less open manner, for no law has yet been found to effectually legislate against immorality based upon perverted or diseased appetite. The liquor laws show this. The individual resents the attempt as a blow at his personal rights, and retaliates in circumventing the law by acts which were not dreamed of before. The prostitution laws also show as much in the increase of clandestinism in direct proportion to the apparent decrease of legitimized wrong. All this proves the complexity and many-sided aspects of the question.

The most perfected inspection that can be at present instituted cannot eradicate venereal diseases, even allowing that both parties are equally subjected to such supervision. No absolute guarantee can be given against infection in persons exposed to the chances of the frequently concealed, the dangerously incubating, and the often unrecognized contaminating influences. The certificate has only an approximative value, which may be entirely annihilated by the first new comer, who may be the means of transmitting the virus to the next, even in the intervals of the most frequent official inspections. When such facts become more widely known, they may be of themselves an element of control of this form of licentiousness which will be more powerful than law and more effectual than any other form of appeal. It is here that the medical profession can do good in a quiet, admonitory, and telling manner.

The foregoing remarks are suggested by the report on the subject of prostitution in another column, and as a preliminary for heartily endorsing the sentiments on chastity so well expressed by some of the gentlemen who took part in the discussion. It is on this line, also, that the physician can do good work. Let him on all suitable occasions combat the idea that sexual indulgence is necessary for health, and maintain with equal truth and force that chastity is perfectly compatible with full vigor, that it conduces to strength of mind and body, is the foundation of the purest morality, is the most effectual safeguard against any form of prostitution, and the only and absolute answer to the possibility of controlling this widespread vice. If every physician could be a missionary in his own field and would inculcate such a doctrine, especially among the young, the effect upon the coming generation would be beyond calculation for good, and would prepare the way for that perfected education in morals which would strike at the very root of the evil.

USELESS MEDICAL CHARITIES.

The *Medical Times and Hospital Gazette* points out that thousands of dollars are yearly devoted to the maintenance of institutions that serve no other purpose than to advertise those connected with them. The profession certainly ought to frown down the frantic appeals for more funds made by such so called charities.

The promiscuous distribution of glowing circulars, and the soliciting of alms by benefit performances, coupled with the vulgar display of names composing so-called medical boards and boards of managers, ought to stamp an institution as undeserving lay support and professional countenance. When reputable hospitals make occasional appeals they do so in a dignified way and without ostentatiously parading the names of their medical boards before the public.

Our British contemporary has seen the starting and working of a few of these medical charities. The *modus operandi* is very simple. A F.R.C.S., or M.D., having failed to obtain an appointment at a hospital of standing, and finding patients do not troop into his consulting-room, as a last desperate resource takes a dilapidated house in a main thoroughfare and christens it a hospital. His baker, greengrocer, tailor, and other tradesmen, to whom he is over head and ears in debt, form a desirable committee of management, and nothing further need be done but to advertise the place, send out circulars and begging letters to the aristocracy, and judiciously place a large number of collecting-boxes.

But while enterprises of this character seem to do fairly well in England, they are apt to get into financial difficulties in our country. The gullable public is then asked to subscribe, in order to enable this "medical board" to pay off debts. This would, indeed, be medical charity of a novel kind.

Let us therefore draw the line sharply between charities undertaken for the benefit of the deserving poor and concerns propped up for the glory of ambitious nonentities.

Medical Association of Georgia.—The Forty-fifth Annual Session of the Medical Association of Georgia will meet in Atlanta, Ga., on April 18th, 19th, and 20th.

To Be Cholera Inspector Again at Hamburg.—The Government has ordered Surgeon Woodward to go back to Hamburg as cholera inspector for next summer.

News of the Week.

The Indian Medical Congress.—The proposal to have a Medical Congress in India was considered at a meeting of the Council of the Calcutta Medical Society on January 24th, when it was decided that an "Indian Medical Congress" shall be held in Calcutta at the beginning of January, 1895. The preliminary arrangements were discussed and a general plan sketched out. It was decided that in each province local secretaries, native as well as European, should be asked to co operate with the Calcutta secretaries, and it was further decided that the sections into which the Congress should be divided should be: 1. Medicine, including Pathology. 2. Surgery. 3. Obstetrics and Diseases of Women and Children. 4. Public Health. 5. Medico legal Medicine and allied subjects. Further details will be given in a future issue. It was decided that the Congress should be widely advertised, and that all medical men practising in every part of the world, but especially in India and the East, should be invited to take part in it and submit papers to be read in the different sections.—*Indian Medical Gazette*, Calcutta.

The Ohio State Medical Society is nearing the half-century of its existence. It will hold its forty-ninth session at Zanesville, May 16th, 17th, and 18th. The secretary reports an unusually good programme in preparation.

Not Quintuplets.—Dr. J. T. Deimar, of Manorville, Pa., writes: "I wish to correct a statement made in a recent issue of your journal concerning the birth of quintuplets by Mrs. Daniel Rosenberger. The woman lives but a few miles distant, so I can state positively that such event never took place. The family made application to the township for aid. One neighbor woman heard of their application, and in repeating it to another woman, added that there were five small children in the family of the Rosenbergers. The story gained by repetition until it was reported throughout the county that there were five children at one birth. Many amusing incidents were caused by the circulation of the story. The manager of a Pittsburg museum, in the hope of securing the children for his house, came to Kittanning, and drove ten miles over muddy roads, to find the story untrue. Several reporters and an agent for children's food were also disappointed."

For the Prevention of Blindness in the State of Ohio.—A bill for the prevention of blindness in Ohio has become a law. It has the following provisions: "Should one or both eyes of an infant become inflamed or swollen, or show any unnatural discharge at any time within ten days after its birth, it shall be the duty of the midwife, nurse, or relative having charge of such infant to report in writing, within six hours, to the physician in attendance upon the family, or, in the absence of an attending physician, to the health officer of the city, village, or township in which the infant is living at that time, or, in case there is no such officer, to some practitioner of medicine legally qualified to practise in the State of Ohio, the fact that such inflammation, swelling, or unnatural discharge exists. Any failure to comply with the provisions of this act shall be punished by a fine of not less than ten dollars, nor more than one hundred dollars, or imprisonment for not less than thirty days, nor more than six months, or both fine and imprisonment. This act shall take effect and be in force from and after its passage."

Typhoid in Buffalo, N. Y.—Typhoid fever is almost epidemic in Buffalo to date. An order has been issued to all the public schools to either filter or boil the drinking-water or shut off the supply from the children.

The Roman Fever.—In view of the number of foreign medical men who will visit Rome this season, the following, from Dr. David Young (*Medical Magazine*, March, 1894), may be of interest: "During the same period, *i.e.*, from the beginning of 1882 till the end of 1893, the number of deaths among English and American visitors to Rome was one hundred and ninety-four, or about sixteen deaths every year. Of these seventeen were due to typhoid fever, ten to gastritis and enteritis, and six to malaria. Even if the typhoid cases are bracketed with those registered as gastritis and enteritis, this would only give a total of twenty-seven cases in twelve years, or a little over two deaths from this cause every year; while, as regards malarial fevers, the mortality has been six for the same period, or an average of one death every two years. It is therefore matter for genuine surprise to the medical practitioners in Rome that so much is said of a deadly fever prevalent at all seasons in the city, and yet never appearing as a factor in the mortality except as of malarial or typhoid origin; and these have been shown to affect, to only a very slight degree, English and American strangers who reside in or happen to be passing through Rome."

The Ohio Pharmacy Law.—The pharmacists of Ohio are in an angry mood over the attempts now being made by interested parties in that State to secure the passage of a bill in the State Legislature to repeal the Pharmacy Act of Ohio. While not a repeal bill in the exact sense of the term, the measure, if it becomes law, will permit any one who can claim five years' experience in a drug store to register as a pharmacist or as an assistant pharmacist, as the case may be, without any examination whatsoever. The Ohio State Pharmaceutical Association is working vigorously in the matter, and has sent out a circular to all of its members requesting them to write personal letters to their Senators and use every influence possible to oppose the bill.

Prize of the Medical Society of the County of New York.—The Committee on Prize Essays of the County Medical Society beg leave to call the attention of the members of the Society to the annual prize offered by it, together with the rules governing the award of the prize. 1. The prize shall consist of a gold medal, 150 grammes in weight, which shall bear upon one side the seal of the Society, and on the other the following: Awarded as the annual prize by the Medical Society of the County of New York to ——— for an essay on ———. 2. The essays shall be handed to the Committee on Prize Essays on or before October 1st in each year. 3. Each essay shall be accompanied by a sealed envelope containing the name and address of the author, and bearing on the outside the motto which is inscribed upon the essay. 4.

The writer of each essay is expected to present his dissertation in a plain and distinct handwriting, and with the pages bound in book form. 5. Any clew by which the authorship of an essay is made known to the committee will debar such an essay from competition. 6. Other things being equal, preference will be given to essays which exhibit original work on the part of the author. 7. The Society does not consider itself as approving the doctrines contained in any of the essays to which the prize may be adjudged; and, in case of publication of a successful essay, the author shall be considered bound to print the above in connection therewith. 8. The selection of the subject upon which to write will be left open to the competitors, but will be restricted to the field of what are called the departments of medical study. 9. The Society will return to unsuccessful competitors their essays, if called for within six months after the award has been made 10. The committee is empowered not to award a prize in case none of the essays are worthy thereof. 11. The prize is restricted to members of the Medical Society of the County of New York. 12. The Society reserves to itself the right to require that the essay for which a prize is awarded shall be read before the Society previous to being placed at the disposal of the author.

Committee { Joseph D. Bryant, M.D., Virgil P. Gibney, M.D., Græme M. Hammond, M.D.

German Surgical Congress.—The twenty third congress of the German Surgical Society will be held in Berlin from April 18th to 21st, instead of at Eastertide, as usual, so as not to clash with the International Congress in Rome. Among other subjects on the programme are the following addresses: Professor Bruns, of Tübingen, "The Results of Tuberculous Inflammation of the Hip joint under Conservative Treatment;" Professor Küster, of Marburg, "Early Operation in Osteomyelitis;" and Professor von Bardeleben, of Berlin, "Early Movement of Fractured Limbs with Special Reference to the Lower Extremity." A report on the results of a collective investigation on anæsthetics will be presented by Professor Gurlt.

The International Medical Congress.—The *Lancet's* correspondent writes: "The Central Committee has come to a final decision as to the labors of the Congress and the order in which they shall succeed each other. The inauguration will be solemnized in presence of His Majesty the King of Italy on March 29th. There will be many festive demonstrations, public and private, including a grand reception in the Capitol, the sculpture gallery of which will be thrown open and its *chefs-d'œuvre* of statuary, as on similar occasions, placed *en évidence* under the electric light, while the Platea Archæologica (the Forum, the House of the Vestals, the Sacred Way, the Basilica of Constantine, the Arch of Titus, the Colosseum, the Arch of Constantine, and the Palace of the Cæsars) will be brilliantly illuminated. Thirty-two nations will be officially represented at the Congress by seventy three delegates; 344 scientific "corsi" (lectureships) will also send representatives. The communications hitherto announced for (possible) reading and discussion are 2,080. Among the chief personages in the science and practice of the profession there is hardly one —Italian or non Italian—who has not intimated his intention of coming to Rome. The official business will be overtaken by April 5th, as already stated. I may add that among the excursions in contemplation after the rising of the Congress few will equal in attractiveness the three now being organized by the Balneological Society of Naples. Incidentally meant to show the members the rich resources possessed by the Neapolitan Riviera in mineral waters, the excursions will cover ground in which archæology has alighted on its most precious treasure trove, besides affording views of mountain, insular, and coast scenery unrivalled on the Mediterranean littoral."

At Last Accounts the Hospital Sunday Fund this year was $10,000. Special efforts are being made to bring the amount up to the average.

Death of Dr. A. C. Stanard.—Dr. A. C. Stanard died at the New York Hospital, on the 19th inst., of peritonitis following an operation for acute appendicitis. He had suffered with chronic relapsing appendicitis for two or three years. He was of New England parentage, and aged twenty-nine. Educated at the University of Michigan and at the Harvard Medical School, he came to New York in 1889 and served the full term on the Second Surgical Division at the New York Hospital. After finishing his hospital service he was made Attending Gynecologist to the New York Dispensary and Instructor in Gynecology at the Post Graduate Medical School. He was a member of the Academy of Medicine, the County Medical Society, Harvard Medical Society, New York Hospital Alumni Association, and various other medical societies, as well as of the University Athletic and other social clubs. Dr. Stanard was a man of sterling worth, devoted to the profession which he loved, and in which he had already attained an enviable reputation. A firm friend, an ardent and enthusiastic worker, his loss will be severely felt by all who knew him.

Professor Billroth as an Operator.—The general public not unnaturally assume that a great surgeon is necessarily a most skilful operator, a mistake not infrequently made by the profession also. Ingenuity, however, and boldness in devising operations are very different attributes from the manipulative skill, decision, and tact required to carry them out. Professor Billroth united the two sets of qualities in a very conspicuous manner. Yet it was always the guiding intellect rather than the manual dexterity which impressed itself on the spectator. Truth to say in the actual performance of an important operation Billroth showed no very marked superiority over his fellow surgeons. He avoided any show of brilliancy or flourish, went steadily to work, erred, if at all, on the side of slowness, and was neither more nor less discomposed by any complication or untoward event than anyone else. The finish of his operative work was rather the result of his immense experience than of any remarkable aptitude. Nevertheless, as an operator he must be held to have justly earned a very high place.

Errata.—Dr. Hemingway wishes to make the following corrections to his recent article: Minor Surgical Gynecology in footnote 2, page 349, should be in footnote 3, and credited to Dr. P. F. Mundé. Encyclopædia of Obstetrics and Gynecology in footnote 3 should be Grandin. Editor.

Reviews and Notices of Books.

Reference Handbook of the Medical Sciences. Vol. IX. Supplement. Edited by Albert H. Buck, M.D. New York: William Wood & Co. 1893.

The present is a period of enormous activity in all branches of medical research. The above volume cannot fail to be of great service to the large body of physicians who desire to keep posted upon medical matters, but who find it impossible to refer to the multitude of journals and reports in which the results of research are recorded. The supplementary volume of the "Reference Handbook" is an admirably arranged and fairly exhaustive epitome of the progress that has been made in medical science during the years that have elapsed since the publication of the original work. It is but a few years since the appearance of the latter, and the size and character of the present volume are a striking indication of what has been accomplished in the meantime.

The greatest advances have been made in experimental medicine, and naturally the Supplement is especially rich in material from this department.

Yet the practical aims of the book have evidently been kept constantly in mind. Much space is given to accounts of new drugs. In many cases the real utility of these has not yet been determined, but of all of them satisfactory descriptions are given, and when possible an attempt has been made to estimate their value.

Moreover, the field of general therapeutics and hygiene has been carefully gone over, and the most interesting and important work that has been been done in this department is described under the appropriate headings.

The nervous system, its anatomy, physiology, and pathology, receive much consideration.

The scope of the work is very wide, covering, as it does, the entire range of medicine. The various articles are for the most part short enough to be of use even to busy practitioners, yet thorough enough to escape the charge of being superficial. In fact, one is throughout impressed by the thoroughness with which the various collaborators have executed their tasks.

On the whole, the work is one of great value, and is sure to be appreciated by all who aim to keep up with modern medical science.

Notes on Some Cases of Nervous Disease Treated with Brown-Séquard's Orchitic Fluid. (Wood & Whiting, *Lancet*, February 3, 1894.)

The writers treated by the above method twenty-three cases, among which were four cases of tabes, two of Friedreich's ataxy, one of ataxic paraplegia, and several cases of disseminated sclerosis and paralysis agitans. They give their results with this plan of treatment in the following words: "Of twenty-three cases of chronic nervous disease, one only showed any improvement in physical condition during this course of treatment, and, as has before been pointed out, the cause of this improvement must be looked upon as open to considerable question. We have obtained no results such as would justify further trial of this method of treatment."

The Medical Student's Manual of Chemistry. By R. A. Witthaus, A.M., M.D., Professor of Chemistry and Physics in the University of the City of New York; Professor of Chemistry and Toxicology in the University of Vermont; Member of the Chemical Societies of Paris and Berlin; Member of the American Chemical Society, etc. Fourth Edition. New York: William Wood & Co. 1893.

Ten years to the month and almost to the day from the date of the first edition's preface, that to the fourth was written, and in it the author states that he has much extended and in great part rewritten that portion of the work treating of the chemistry of the carbon compounds. Those alkaloids whose molecular structure has been determined have been properly classified according to the lines followed in previous editions, and other changes calculated to improve the character of this popular manual have been made, bringing the work well up to the advances of the times. One appendix gives the orthography and pronunciation of terms, while another presents tables of solubilities. A full index of 21 pages completes a well-arranged volume, well printed on good paper, and attractively bound in red muslin.

A Clinical Text book of Medical Diagnosis for Physicians and Students, Based on the most Recent Methods of Examination. By Oswald Vierordt, M.D., Professor of Medicine at Heidelberg University. Authorized translation with additions, by Francis H. Stuart, A.M., M.D., Member Medical Society, Kings County, N. Y., etc. Third Revised Edition. 8vo, pp. 700. Philadelphia: W. B. Saunders. 1894.

This work has become deservedly popular with progressive practitioners, and stands in the foremost rank of its class. Its compact form, admirable arrangement, and thoroughly scientific character are qualities which will commend themselves to every reader. As a result of long experience as a teacher, the distinguished author has learned to appreciate their actual wants, and with a conscientious thoroughness of detail succeeds in giving a distinctive picture of different diseases that is not only admirably clear, but distinctly practical. His system is such that the reader is taken by easy steps through the knowledge of the anatomy and physiology of the apparatus under consideration, to the abnormal deviations of function and structure which constitute disease, and then to that differential analysis of significant symptoms which is the high art in medicine. The painstaking and rational examination of the patient are the essential elements of this study, and tend to infuse in the student an enthusiasm for necessary details which is so essential to real success in practice. It is a good book in every way, and merits a wide patronage.

An American Text-book of Gynecology, Medical and Surgical, for Practitioners and Students. By Henry T. Byford, M.D., J. M. Baldy, M.D., Edwin B. Cragin, M.D., J. H. Etheridge, M.D., William Goodell, M.D., Howard A. Kelly, M.D., Florian Krug, M.D., E. E. Montgomery, M.D., William R. Pryor, M.D., George M. Tuttle, M.D. Edited by J. M. Baldy, M.D. 8vo, pp. 713. Philadelphia: W. H. Saunders. 1894.

This work is on the same plan as that of the American Text-book on Surgery, being the composite production of a number of specialists, with a corresponding distributive responsibility as to individual authorship. While this gives the readers a condensed and digested presentation of the views of the different writers, the whole responsibility of their effectiveness and consistency is vested with the editor. This has its advantages in the matter of practical condensation of the views of active workers in a given branch, but not infrequently the teachings lose their force and directness for the want of individual recommendation. When, however, we view the work as the joint product of a so-called stock company of experts, we must take it on its general merits as such. Thus far, certainly, it is a great success. It is practical from beginning to end. Its descriptions of conditions, its recommendations for treatment, and above all the necessary technique of different operations, are clearly and admirably presented. The divisions and arrangement of the work are excellent, the general style is terse and intelligible, and the numerous and excellent illustrations are admirably placed and judiciously selected. As a text-book it is well up to the most advanced views of the day, and embodies all the essential points of advanced American gynecology. It is destined to make and hold a place in gynecological literature which will be peculiarly its own. As a book for students it has a serious drawback in the matter of its restriction to subscription sale.

Laboratory Guide in Analysis and Toxicology. By R. A. Witthaus, M.D., Professor of Chemistry in the University Medical College, New York, etc. Third Edition. New York: William Wood & Co. 1893.

This is the well-known book of the author, who has added in the present edition a system of qualitative analysis. The manual has interleaved blank pages for note-taking, and is an ideal guide for medical students.

Information for Nurses in Home and Hospital. By Martin W. Curran, Graduate of the Mills Training School, Bellevue Hospital. 12mo, pp. 323. New York: J. H. Vail & Co. 1893.

Books of this kind are now so numerous that additions to the list can practically add nothing new. The task narrows itself down to the art of clear presentation of well-known facts. In this respect Mr. Curran has succeeded measurably well The book has a particularly attractive appearance. We confess that we have learned considerable from reading it, though it is written by a layman for his associates in the department of nursing. The author, too, seems to have an unusually accurate perception of the relative position of physician and nurse in the conduct of a case. A good vocabulary of medical terms is appended.

Healthy Hospitals: Observations on Some Points Connected with Hospital Construction. By Sir Douglas Galton, Late Royal Engineers, K.C.B., etc. 8vo, pp. 287. Oxford: The Clarendon Press. 1893.

This is a valuable contribution to the literature of a most important subject. The eminence in engineering circles of Sir Douglas Galton would alone determine its merit. After a brief introduction into the origin of hospitals, he defines them as places, "not only for the reception and cure of the sick poor, ... but also as technical schools in which the medical student must learn his profession, and as experimental workshops in which the matured physician or surgeon carries on scientific research." We commend this definition both for its accuracy and liberality of spirit.

Succeeding chapters treat technically of site, ventilation, warming, lighting, ward arrangement, etc. Special chapters are devoted to the consideration of institutions for special purposes, as lying-in hospitals, children's hospitals, etc. While the subject-matter is largely technical it is presented in a clear style, and its meaning is clear to any intelligent person. The book contains plans of, and references to, the construction of many notable hospitals in England and on the Continent, and our local New York Hospital is not overlooked. We commend Sir Douglas Galton's book to all builders of hospitals.

Text-book of Normal Histology. By George A. Piersol, M.D., Professor of Anatomy in the University of Pennsylvania. 8vo, pp. xviii., 439. Philadelphia: J. B. Lippincott Co. 1893.

Among recent works on histology we have a preference for the one before us. Only essentials are given, and controversial matter is barely alluded to. As an introduction to more complete manuals this volume will take high rank. Many of the cuts are originals, and most of them are very well executed. The mechanical execution of the work is decidedly good. It should prove a popular text-book with students.

Asiatic Cholera Its Genesis, Etiological Factors, Clinical History, Pathology, and Treatment. By John A. Benson, Professor of Physiology and Associate Chief of the Department of Clinical Medicine, College of Physicians and Surgeons of Chicago, Ill.; Member American Anthropometric Society of America; American Medico Psychological Society; of the Chicago Pathological Society. 16mo, pp. 248. Chicago: The J. Harrison White Co. 1893.

Asiatic Cholera. Its History, Pathology, and Modern Treatment. By A. J. Wall, M.D, London, Fellow of the Royal College of Surgeons of England; of the Medical Staff of H. M. Indian Army (Retired List). London: H. K. Lewis. 1893.

Both of these works are elementary treatises on a disease that was expected to reach our shores last summer. In ordinary times the physician takes but a lukewarm interest in cholera. But when the scourge becomes epidemic a voluminous literature at once springs up. The volumes before us present nothing new. But what is generally accepted as "sound doctrine" in relation to cholera is concisely stated.

Surgery: A Manual for Students and Practitioners. By Bern B. Gallaudet, M.D., Demonstrator of Anatomy and Clinical Lecturer on Surgery, College Physicians and Surgeons, New York, and Charles N. Dixon Jones, B.S., M.D., Fellow New York Academy of Medicine, etc. 12mo, pp. 301. Philadelphia: Lea Brothers & Co.

This little volume is one of the regular student's Quiz Series, and is an exceptionally good one, especially in the chapters treating of abdominal operations It covers the general field of practical surgery very effectively and intelligently, and is a model of its kind.

The Diseases of Childhood (Medical). By H. Bryan Donkin, M.D. Oxon., F.R.C.P., Physician to the Westminster Hospital and to the East London Hospital for Children at Shadwell; Joint Lecturer on Medicine and Clinical Medicine at Westminster Medical School. New York: William Wood & Co. 1893.

The work here presented to the medical public is attractively gotten up, and deals with the clinical aspects of children's diseases, subdivided into six sections covering the alimentary, febrile, nervous, respiratory, circulatory, and general disorders.

Mental and skin affections have been omitted, and very little is said on the subject of the skin manifestations of syphilis. It is praiseworthy in the author that he has preferred to leave out chapters on variola and some other maladies, rather than discuss questions in which he admits his own experience has been inconsiderable. With these omissions, however, the work cannot be considered complete, but one which must be supplemented by a treatise dealing with these diseases by themselves. A useful appendix is introduced between Sections III. and IV., giving the period of incubation and contagiousness of the infectious diseases. In diphtheria the author prefers early tracheotomy to incubation, "in view of the probable evil effects of constant inhalation of air which has passed over the diseased naso-pharynx." Little reliance is placed upon belladonna in the treatment of enuresis. In the enumeration of remedies for noma, bismuth packing as recommended by McGuire, and in whose hands it seemed to act so well, is not mentioned. The book is largely the record of the practical clinical experience of the author, and is clearly intended for those who have already some knowledge of the complaints of infancy and childhood. It will thus prove of value to advanced students as well as to practitioners.

A Guide to the Study of Gynecology. By Marie J. Mergler, M.D., Professor of Gynecology at the Northwestern University Woman's Medical School; Attending Surgeon at the Woman's Hospital, of Chicago; Gynecologist at the Wesley Hospital, etc. Chicago. 1893.

This little work of one hundred and sixty pages is practically a short synopsis of lectures on the diseases of women, or a mind-refreshing cursory review which may enable students to dispense with note taking at the lectures. It was originally intended for the author's own students, but might prove helpful to any preparing for examinations.

Diseases of the Skin. A Practical Treatise for the Use of Students and Practitioners. By James Nevius Hyde, A.M., M.D., Professor of Skin and Venereal Diseases, Rush Medical College, Chicago: Dermatologist to the Michael Reese Hospital, Chicago: one of the Physicians for Diseases of the Skin to the Presbyterian Hospital, Chicago; and Consulting Dermatologist to the Chicago Hospital for Women and Children. Third Edition, thoroughly revised and enlarged. Philadelphia: Lea Brothers & Co. 1893.

It is gratifying to know that dermatological investigation renders necessary the frequent rewriting of text-books on this important subject. The labor required for such revision, correction, and addition is in a measure understood when we learn that no less than thirty five new diseases are touched upon, with more or less fulness of detail, in the present edition of Dr. Hyde's excellent work. Five new and original plates and twenty-two wood-cuts have been added, to the marked improvement of the illustrations.

Some of the important changes noted are in the chapters on tuberculosis and lupus, while among the newly considered disorders are pityriasis rubra, pilaris, keratosis follicularis, pemphigus vegetans, Savill's disease, acanthosis nigricans, alopecia follicularis, etc. The volume reaches eight hundred pages, and in its new form commends itself more than ever to those requiring a treatise on the skin well up to the times.

A Medical Handbook for the Use of Practitioners and Students. By R. S. Aitchinson, M.B.C., M.F.R.C.P. With numerous Illustrations. London: Charles Griffin & Co. (Limited). Philadelphia: J. B. Lippincott Co. 1893.

This little handbook is divided into seventeen chapters, and although it numbers three hundred and forty-seven pages, it is so light that it can be easily slipped into the pocket to be used for quick reference. It is a most valuable book for a busy practitioner having no immediate access to a large and voluminous text-book. One objection, rather fine type, will greatly improve the book. The illustrations, especially from page 128 to 131, inclusive, are very good and practical.

Essentials of Minor Surgery. Bandaging and Venereal Diseases. Arranged in the Form of Questions and Answers. Prepared especially for Students of Medicine. By Edward Martin, A.M., M.D. Seventy-eight Illustrations. Philadelphia: W. B. Saunders. 1893.

This is one of the most practical books that one can desire, not only for students but for the general practitioner. The illustrations are neat and clear. The book deserves to be carefully studied, and will be found full of practical hints.

Technique d'Électrothérapie. Par G. Gautier. J. Larat Maloine, Éditeur, 91 Boulevard Saint-Germain, Paris.

This volume is the beginning of a series, a sort of compendium on electro therapeutics, giving the modern views and current information concerning the uses of electricity in medicine.

A Text-book of Physiological Chemistry. By Olaf Hammersten, Professor of Medicine and Physical Chemistry in the University of Upsala. Authorized translation from the second Swedish edition, and from the Author's enlarged and revised German edition, by John A. Mandel. First Edition. New York: John Wiley & Sons. 1893.

The work is divided into fifteen chapters, and deals with the Protein Substances, Animal Cell, Blood, Chyle, Lymph Transudations and Exudations, Liver, Digestion, Tissues of the Connective Substance, Muscle, Brain, and Nerves, Organs of Generation, Milk, the Skin and its Secretions, Urine, the Exchange of Material. It is clearly written and gives full details for both student and specialist. It should be well received by all desiring complete information on this subject. We welcome the translation as a thorough adaptation of that most earnest and brilliant scholar, Professor Hammersten.

The Art of Living in Australia. Together with Three Hundred Australian Cookery Recipes and Accessory Kitchen Information. By Mrs. H. Wicken, Lecturer on Cookery to the Technical College, Sydney. By Philip E. Muskett, Late Surgeon to the Sydney Hospital; formerly Surgeon Superintendent to the New South Wales Government; Medical Superintendent, Quarantine Station, Sydney, etc. 4to, pp. 431. London, Edinburgh, Glasgow, Melbourne, Sydney, and New York: Eyre & Spottiswoode.

This is a practical treatise on every-day hygiene and dietetics, with special reference to the physical and climatic peculiarities of Australia. In view of the semi tropical climate, the author strongly urges the more general use of fish and fruit rather than meat as an article of daily food, and gives much sensible advice of general application. Incidentally, considerable interesting information is given regarding the history and possibilities of the fisheries and the wine-growing industry of Australia.

A Text book of Physiology. By M. Foster, M.A., LL.D., F.R.S. Fifth American, from the Fifth English, Edition. Thoroughly revised, with Notes, Additions, and 316 Illustrations. Pp. 1,083. Philadelphia: Lea Brothers & Co. 1893.

A Text book of Physiology. By M. Foster, M.A., M.D., LL.D., F.R.S. With Illustrations. Sixth Edition. Part I., comprising Book I. Blood, The Tissues of Movement, The Vascular Mechanism. New York and London: Macmillan & Co. 1893.

Many of our readers will remember a little red book of eight hundred pages which gave them many a bad quarter of an hour in student days. It was "Foster's Physiology," and this small work has grown into a large octavo of eleven hundred pages Life is short, but the study of life gets longer and longer. Coincident with the issue of the fifth American edition we get Part I. of the sixth English edition.

"Foster's Physiology" is classic, and deserves to be. It has lost none of its authority, none of its merits, or its faults. The style is lucid and logical; it teaches the student to think; but its discursiveness at times is unnecessary, especially for the learner, and often a long process of inductive reasoning might be cut out and the reader given simply the conclusion. But "Foster's Physiology" has done a great deal of good, it is mental food and discipline as well as physiology. We are glad to see that it is still in the front of standard text-books. One who reads it can but feel that here is a man indeed, and not merely a book-maker.

A Practical Treatise on Materia Medica and Therapeutics. By Roberts Bartholow, A.M., M.D., LL.D, Professor of Materia Medica, General Therapeutics, and Hygiene, Jefferson Medical College, Pennsylvania. Eighth Edition. 8vo, pp. 820. New York: D. Appleton & Co. 1893.

The large number of students and practitioners who have looked upon this book as an authority on the subject of which it treats will be pleased to welcome a new edition from their favorite author. The peculiarities of the work are such as give to the teachings of Professor Bartholow a value which is thoroughly practical and impress the reader with the fact that the author is a thorough optimist in therapeutics and a firm believer in the power of properly selected drugs for given conditions. The work as a whole has been newly edited, to conform to the many changes in formulæ and remedies made by the decennial revision of the United States Pharmacopœia. Many new drugs are necessarily added, some of which are proprie-

tary in character, but the author explains his course regarding the latter that the demand for exact information regarding them is so great that no book on materia medica would be complete without reference to them. With this proposition many of his readers will agree. The metric system of weights and measures has been adopted, but the equivalents in the Troy measure are also given.

The Treatment of Cutaneous Malignant Epithelioma ta (Cancers). By A. R. Robinson, M.B., F.R.C P. & S. Edin., Professor of Dermatology in the New York Polyclinic, Attending Physician to the New York Cancer Hospital, etc. New York: The International Journal of Surgery Co.

This is a reproduction of two papers published in the *International Journal of Surgery*, 1892. The author is not a believer in the parasitic theory. He shows that secondary tumors owe their origin exclusively to epithelia derived originally from the primary tumor. For certain growths he advocates caustic pastes.

Myxœdema and the Effects of Climate on the Disease. By A. Marius Wilson, M.D. Pp. 36. London: Scientific Press. 1894.

In this brief monograph the author outlines the features of myxœdema as at present understood. In regard to climate he claims that the course of the disease is much slower in the warm countries, and that the abnormal sensations are those of heat instead of cold. Clinical histories illustrate the latter points.

A System of Genito-urinary Diseases, Syphilology, and Dermatology. By various Authors. Edited by Prince A. Morrow, A.M., M.D., Clinical Professor of Genito-urinary Diseases; formerly Lecturer on Dermatology in the University of the City of New York; Surgeon to Charity Hospital, etc. With Illustrations. In three Volumes. Vol. II., Syphilology. New York: D. Appleton & Co. 1893.

The scheme of copartnership in book production—especially in works of such pretension—seems to be simply an outcome of the onward march of science and its achievements. No one man could have written this treatise upon syphilis within any period of time at all proportionate to that consumed by the twenty-three contributors in making it ready for the printer's hands. No one author could have treated all the subjects equally well, and it seems eminently proper that the eye specialist should write upon syphilis as it implicates the eye tissues, the neurologist upon that of the nervous system, the orthopedic surgeon upon syphilis of the bones. The prevailing tendency stamped upon every chapter is the avoidance of unimportant details, and the evident intention that each subject shall be the exponent of the author's views and personal experience, has resulted in a striking freedom from bibliographical references.

It is thus a practical working-book of to-day rather than a history of syphilis of the past, and all the errors that have been connected with it.

We deem it unfortunate that a chapter on chancroid was included in this volume, for although it occupies but forty-seven of the nine hundred pages, it not only mars the monographic feature, but would seem to give a certain warrant for the belief that in some way chancroid is part of the syphilitic process. In those beginning the study of syphilis it is essential that no erroneous views are formed which will have to be unlearned, and for this reason when we read on the first page of Dr. Sach's article "that syphilis of the nervous system appears not infrequently after soft chancre without the customary secondary eruptions," we feel that a note of warning is necessary to guard against a fifty years' step backward. Let it be taught that the infection sore need not of necessity be indurated, if you will, that there may be a mixed infection, but do not give the impression that these primary lesions are chancroids. The illustrations, numerous and excellent as they are, for the most part, might still be improved upon—a few pictures of hereditary syphilis not quite so hideously hopeless as that of Plate XIX. could be introduced. Dr. Bull has illustrated his chapter with an instructive plate of eye affections, and two plates of fundus appearances taken mostly from Jules and Loring's works.

In Fig. 7 of Dr. Allen's plate of syphilitic tongue affections the references *a* and *b* should either have been omitted in the explanation or added in the engraving. The various skin lesions of syphilis are well illustrated in the chapter written by the editor himself.

Visceral syphilis has been ably treated by Dr. Councilman. Exact knowledge concerning many phases of internal syphilis has been most scanty until recent times, and although much yet remains to be learned, this chapter gives a good account of what is now known, and anyone will be repaid in reading "Syphilis of the Lungs." Throughout, the individual work of each writer gives the impression of having been carefully done, and with the desire to make it worthy of the scope and aim of the system to which this volume belongs.

A Manual of Diseases of the Nervous System. By W. R. Gowers, M.D., F.R.C.P., F.R.S. Second edition, Revised and Enlarged. Vol. II., Diseases of the Brain and Cranial Nerves, General and Functional Diseases of the Nervous System. With 182 Illustrations. 8vo, pp. 1,069. Philadelphia: P. Blakiston & Co.

The American publishers issued the first edition of this work in one volume, but the present is in two, making a work of seventeen hundred pages. The second volume has about one hundred additional pages.

The thoroughness and encyclopædic character of Dr. Gowers's work is well known. In reviewing the first edition we enumerated its merits and gave to it unstinted praise. We may be pardoned now for calling attention to some of the book's defects.

The anatomical parts are practically unchanged, and give no suggestion to the reader of the remarkable advances made in this direction during the past four years. The illustrations, though intelligently conceived, are very badly executed. The spinal-cord diagrams greatly need revision.

Dr. Gowers is evidently not a master of pathology, hence his descriptions of pathological changes and his classifications are lacking in clearness and definiteness. We doubt if neurology will long accept such old fashioned chapters as those on myelitis, encephalitis, and insular sclerosis. He has made no addition of importance to the subjects of the pathology of paralysis agitans or of epilepsy, despite recent important contributions to these diseases. He still ignores practically the existence of such a malady as neurasthenia in any of its types, and he gives us nothing regarding the traumatic neuroses. We hardly see the necessity of embodying in a systematic treatise the experience of a single case and giving it a new name; yet we find descriptions of tetanoid chorea, senile paraplegia, and chronic cerebritis, based on these extremely scant data. Such chapters make unnecessary padding to a book already very voluminous.

We should say that the present edition of this work was not nearly as closely in touch with modern neurology as was the first, particularly as regards its pathology, anatomy, and nosology.

Yet it is a remarkable clinical manual, showing learning, research, practical neurological experience, and an industry that is simply marvellous. In justice to the English publishers we ought to say that their edition is a much better printed one, though the illustrations are equally bad in each.

A Dress Reform Advocate asserts that a man should not marry a lady whose waist measures less than twenty-five inches.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, February 22, 1894.

MALCOLM MCLEAN, M.D., CHAIRMAN.

Presentation of Specimens.—DR. PAUL F. MUNDÉ presented the following specimens: 1. Five cases of tubal pregnancy removed by laparotomy; recovery. 2. A large double pyosalpinx; recovery. 3. Uterus with appendages and subperitoneal fibroid, removed per vaginam for epithelioma of the corporeal endometrium; recurrence. 4 Uterus with appendages removed entire by laparotomy for sarcoma of the body; recovery. 5. Abscess of the ovary; perforation into the large intestine; recovery.

Remarking upon the cases of tubal pregnancy, Dr. Mundé said that in the second one both the patient and her husband mentioned the fact that the orgasm was very unusual, a point which had been regarded by some authors as indicating conception. Interruption of the connection had been suggested to be one reason for tubal pregnancy, but this had not occurred in this case. Four of the five cases of tubal pregnancy had been seen within six weeks, the other within a year. In only one did he have any doubt as to the diagnosis after operation.

Referring to the case of double pyosalpinx, Dr. Mundé said that where both tubes were affected, whether free or adherent, he would remove them, but if only one were affected, and this were adherent, he thought it would be proper to drain per vaginam. Referring to vaginal hysterectomy, the speaker said this mode of operating had lost its charms for him; that he would rather do abdominal hysterectomy. In his fourth case, after removing the uterus and its appendages, he drained through the vagina, which he would not do again in a clean operation, as he regarded drainage unnecessary under such circumstances. This case was an interesting one because of starvation due to a cause which became quite clear only at the autopsy. The patient was a maiden lady, forty-nine years of age, who had had difficulty with swallowing since a girl. By some it was thought to be due to hysteria. It was only after peculiar efforts in the erect posture that she could get the food to pass from the œsophagus into the stomach. After the operation the family physician attempted to feed her through a stomach-tube, but later it became evident that he did not always succeed in introducing this farther than a large diverticulum of the œsophagus near its lower extremity; that food had collected here, remained undigested, and caused a great deal of distress. As already stated, death ensued from starvation in what had promised to be a very favorable case.

Referring to the fifth case, abscess of the ovary with perforation into the large intestine, Dr. Mundé thought it somewhat surprising how some women would go about months and years with abscess of the ovary, no accident resulting, while in others serious consequences resulted from rupture, perforation of the gut, etc.

The Chairman, DR. MCLEAN, thought it very possible that the development of the fœtus in tubal pregnancy might be arrested, while that of the envelops went on. In treatment by electricity some held that while the fœtus might thus be killed, the danger did not cease, for the envelops and vessels might go on increasing in size.

DR. MUNDÉ thought it an interesting question whether intraligamentous effusion of blood was always due to ectopic pregnancy. He had always taken the negative view but was becoming doubtful.

Modified Fritch Irrigation Tube—Modified Uterine Dilator.—DR. AGUSTIN H. GOELET presented the instruments which will be described in a later issue of the MEDICAL RECORD.

Umbilical Cord with a True Knot.—DR. S. MARX presented an umbilical cord with a true knot, the first case of the kind which he had ever seen. This labor and all previous ones of this woman had been complicated. The attending physician had temporized, the woman had been long in labor, the cord was prolapsed and could not be replaced, the child's life was in jeopardy, so that Dr. Marx thought it necessary to perform accouchement forcé. In ten minutes the child was on the bed, but unfortunately was still-born. The cord, besides having a true knot, was unusually long, forty-one inches.

Uncomplicated Ovariotomy—Septic Peritonitis from Unknown Cause.—DR. MUNDÉ related a case of laparotomy for removal of a simple multilocular ovarian tumor the size of a child's head; the operation a simple one—no adhesions encountered, time not more than twenty-five minutes—yet for some unaccountable reason the woman got up an intense acute septic peritonitis and died about the second day. All antiseptic and aseptic precautions had been taken, and inquiry failed to reveal any source of infection. Within twenty-four hours after the operation the temperature had risen to 103° F., the pulse to 150; the mind was perturbed. He therefore reopened the abdomen and found evidences of intense acute peritonitis, unquestionably septic in nature. The abdomen was washed out, but the case pursued its fatal course. Nothing was found at the autopsy to indicate the source of infection. The speaker referred to a similar case which had occurred in the practice of Dr. Thomas.

DR. GOELET mentioned a case of Cæsarean section in which the patient died without apparent cause unless from obscure shock.

Notes on Pruritus during Pregnancy and the Puerperium.—DR. H. C. COE sent a brief paper on this subject, which was read by the Secretary, Dr. Jarman. Of the many minor troubles from which women suffered during pregnancy and the puerperium few were more distressing than local pruritus. Physicians were apt to underrate such minor troubles and dismiss the patient with the cold comfort that this was one of the annoyances of pregnancy which must be patiently endured as it would come to an end in the course of time, or else they prescribed a common ointment and made no effort to discover the cause of the trouble.

We were driven to the conclusion, the author thought, that even local pruritus was mainly a dermato-neurosis dependent upon the general nervous condition. One of his patients, eight months pregnant, had pruritus of the external genitals which had been attributed to a discharge from the cervix, but douching and other local treatment did no good until the general nutrition had been improved. Concentrated, irritating urine might cause pruritus, but it had sometimes been given the credit when the state of the general nervous system was the real cause. This was illustrated in a case in which the urine was of high specific gravity, acid, scanty; one day only ten ounces were passed, but it contained no albumin nor casts, nor were there any other symptoms pointing to an organic lesion. Increasing the quantity of urine and local applications failed to give relief; exacerbations of the pruritus continued until after delivery and then disappeared. It was clearly a case of general neurosis depending directly upon pregnancy, and therefore treatment had been without avail.

Puerperal dermatitis was almost always of the form of acute urticaria. A case of this kind was that of a woman who after delivery got up a urticaria with some fever, there being no apparent cause. In a few days the patient was as well as ever, and he was disposed to regard the urticaria as due to some error in diet, until he learned that it had appeared the next morning after great excitement. In another case there was almost complete suppression of the lochia, which, however, had no bad odor. He irrigated the uterus and the flow reappeared. Two days later the temperature rose to 102° F., the patient had an eruption supposed to be measles, which proved to be urticaria, the fever and eruption gradually declined

after forty eight hours, septic trouble was excluded, and no cause of the symptoms could be found except nervousness. The accompanying headache, nervousness, and reduction of the lochia in these cases of urticaria during the puerperium might lead one to suspect sepsis and cause alarm.

The prognosis during pregnancy was doubtful. As to treatment, where the general nervous system was at fault he thought one should avoid strong lotions locally and drugs for internal use which tended only to further irritate the disturbed stomach. Locally one might apply carbolic acid in some form. Salicylic acid, which had been recommended by French writers for internal use, had not given Dr. Coe satisfaction. The kidneys and bowels should be kept regular, nervousness allayed, cooling lotions applied during the puerperium, diet regulated.

A First Experience.—Dr. Marx said that about the first case which he had on entering private practice was one of pruritus vulvæ in a pregnant woman who employed another physician because Dr. Marx failed to cure her. In some cases the pruritus of pregnancy was only a continuation of what had existed before; some of the vulva were due to parasites, others to a true neurosis. He had seen several of the latter kind permanently relieved by the application of the constant current, negative pole, to the affected part. A solution of nitrate of silver or menthol was also useful in this class. He questioned whether those cases reported in Dr. Coe's paper as having partial suppression of the lochia and some fever were entirely neurotic; there might have been some systemic infection.

Dr. Herman Collver thought a number of cases of pruritus vulvæ during pregnancy and the puerperium resulted from ulceration of the external os or small ulcerated patches in the vagina. He had seen applications of nitrate of silver set up so much pain as to almost induce abortion, and cautioned against the use of strong solutions to the cervix during pregnancy. Lukewarm injections with peroxide of hydrogen were advisable, also solutions of nitrate of silver if tried cautiously. Pruritus vulvæ after labor was probably due to infection. The discharge need not necessarily have an odor in sepsis. If the discharge were sufficiently irritating to produce pruritus, one should wash out the uterus, preferably with a weak solution of bichloride of mercury.

In old syphilitic patients a discharge was apt to be irritating whether it were or were not septic. Parasitic cases required special treatment, of course.

Thick Vaginal Secretion and Pruritus.—Dr. McLean said that in some of the worst cases of pruritus seen by him there was, in the folds of the vagina, a thick, "boiled-rice" secretion which seemed to be the exciting factor.

Dr. Goelet said the remedy which had given him the best results was the constant douche with Thiersch's solution, afterward dusting the parts with powdered boracic acid.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON PUBLIC HEALTH.

Stated Meeting, March 7, 1894.

J. West Roosevelt, M.D., Chairman.

Objects of the Section.—The Chairman, Dr. Roosevelt, stated some of the objects of this Section. It might not be generally understood that one of its purposes was to form a connecting link between the profession and the general public; that it was proper to bring before it for discussion all matters of interest both to the laity and physicians. The only action which the Section could take upon such matters, aside from discussing them, was to refer them to the Academy when requested to do so by a majority vote.

The Question of State Regulation of Prostitution.—Aaron M. Powell, Esq., read the paper. When Sanger wrote of prostitution, in 1858, the number of women living as prostitutes in the city of New York, from information given by the then Superintendent of Police and from other sources, was estimated to be six thousand. In a paper prepared for the World's Congress of Social Purity, held at Chicago, 1893, Mr. Gerry had stated that he and Superintendent of Police Byrnes had compared notes with the same results, estimating the present number of prostitutes in New York City at forty thousand. But prostitution was not an affair of one sex only. How numerous were the male prostitutes could be estimated only approximately. Dr. Sanger, writing of the liability to infection, etc., had said that if a prostitute received but one visitor a day she would be unable to pay her board and dress as she was required to do; even two visitors daily was a low estimate, and four was not an unreasonably large one. If, then, we accepted as substantially accurate the estimate of Mr. Gerry and Superintendent Byrnes, we could multiply forty thousand by four, and certainly not exceed the number of male prostitutes, or one hundred and sixty thousand. Large as this number appeared, there was no reason to believe that New York was more immoral than other large American cities. The evil was wide-spread, and had been since remotest times. It had been, and continued to be, a great destroyer of physical health and of the finer qualities of womanhood and manhood, and also involved great economic waste. Dr. Sanger had estimated that the weekly income of each courtesan could not be less than eleven dollars; in the more expensive houses it averaged not less than thirty or forty dollars. During his time, therefore, men gave directly to prostitutes over three million dollars annually, and if the number in New York to-day were forty thousand, the sum would amount to more than twenty million dollars, and if the average weekly income of prostitutes was twenty dollars, as it probably was, the sum would mount up to forty million dollars yearly. Add to this the expense of wine and liquors involved in visits to houses of prostitution, and the annual expense on prostitution to-day in the city of New York would probably be not less than sixty five million dollars.

Of course, of an evil of such magnitude, attended by consequences so grave, the State should take cognizance. The Old-World method had been for many years to license it. This plan was based upon the assumption that vice was a necessity for man, and that a certain class of women had to be set apart to minister to his lust; based upon a double standard of morals, one for woman, another for man. Experience had abundantly proven that this one sided plan of regulation, which licensed a few women to pursue prostitution as a trade, subjecting them to compulsory registration, while letting their miscellaneous male consorts go free to disseminate disease at will, and always leaving a large army of clandestine prostitutes without any surveillance whatever, was worse than a failure, for it served to stimulate rather than to check prostitution.

Law in itself was an educator, and might educate downward instead of upward. License gave prostitutes a legal status, yet made slaves of its victims, prepared pitfalls for young men, and perverted the true function of government, which was, according to Gladstone, to make it easy to do right and difficult to do wrong.

St. Louis's Experience with License.—America, he said, had had but a single noteworthy trial of licensed prostitution. By a trick a law was passed through the legislature of Missouri, in 1870, which gave licensed prostitution to St. Louis, and after four years of this system the law was repealed. The petition for its repeal was signed by many hundreds of laymen, lawyers, doctors, and ministers. Mr. Powell analyzed the statistics regarding the results of these four years of license, and thought they plainly demonstrated that the result was not what had been anticipated by its better-minded advocates, for clandestine prostitution was increased, the number of professed prostitutes also increased, venereal

diseases were also more widely spread. He dwelt upon St. Louis's experiment because of a disposition, even at this time, to quote it in favor of the license method, as had recently been done by the chief of police of Cleveland, who had assumed the right to establish a registration system in that city.

Experience in Cleveland.—Mr. Powell had been credibly informed that the result of the recent introduction of the system of registration into Cleveland by the chief of police was to give boldness to those who were registered, as they felt that the police would not interfere, and to demoralize citizens who previously might have led a chaste life. He had been informed that the examinations as to disease were made by medical students, perhaps weekly, for which they received one dollar and gave a certificate of health. These certificates of health were worse than useless. Even eminent physicians had acknowledged inability to say positively from such an examination that the subject was free from venereal disease. Moreover, if free at the time of the examination, the certificate would afford no assurance against infection by the next visitor.

Having referred to the experience with license on the continent of Europe, where, as the author stated, they were about to abandon it as a failure, a review was given of its operation in England, and finally in India. The statistics given by Dr. Nevins, of Liverpool, were accepted as authoritative, and they showed an increase of prostitution and of venereal disease during the years of license in England, up to the repeal of the law in 1886, and also in India, where the object of the system was especially to lessen venereal disease among the soldiers. At different places the number of prostitutes provided for the soldiers varied from about one for seventeen men, one for nine men, and one for three men. Yet venereal disease was more prevalent among the soldiers provided with the greatest number of prostitutes.

Social vice had been made an important factor in police misrule, of which New York was an example. Spasmodic efforts to shut it out were usually made with an ulterior purpose. The police tolerated, and even protected, the brothel for a consideration. Allied with the saloon and gambling room, the brothel had become not only a source of disease and moral degradation, but also of political corruption. The State could not do, and ought not to be expected to do, impossible things; it could do nothing effectively except as law was vitalized by public opinion. But it ought on no account to give prostitution a legal status and recognized right to be. Its aim should be the utmost restraint possible, and ultimate evolution of man's nature out of the thraldom of lust. It ought to be fair and just alike to women and men. It had hitherto dealt too exclusively with women. It rightfully interdicted the brothel as it did the gambling den; it prescribed punishment for the keeper of a house of public debauchery, and also for those who let the house for such a purpose. It ought to rigorously punish the incitement of minors of every sex to debauchery, and especially procurism or trafficking in girlhood. Its penalties should include imprisonment as well as fines, for fines in most cases were readily paid and acted only as a tax upon vice with a minimum of restraint. Especially for the proprietress and the landlord, imprisonment alone would deter.

The physician had greater power to mould public opinion in this matter than any other members of the community, especially concerning the sanitary aspect of prostitution, and could thus lead up to wholesome repressive laws in the interests of morality and health. There was still a popular notion that for men vice was a necessity, and that young men must sow their wild oats. But what was morally wrong could not be physiologically right.

The author would that physicians everywhere might be quickened to declare, with the late Sir Andrew Clark, that immorality was not a necessity, and that chastity for all was a human possibility.

Improbable Statistics.—Before calling for discussion Dr. Roosevelt remarked that it seemed hardly conceivable that the number of prostitutes in New York City, given by the two gentlemen quoted in the paper, could be correct, for forty thousand meant one in twenty of the female population.

Destructive of the Foundations of Government.—Dr. D. B. St John Roosa was not sure, considering his training from childhood, that he was in a position to express an impartial opinion upon the subject of State regulation of prostitution, but he found himself unable to believe that there was any necessity for municipal establishment of a set of people to minister to that which was not necessary, which was vicious, and destructive of the foundations of the country. While he did not claim to be an expert in venereal diseases, yet he had had experience in a large municipal hospital, and he did not believe any doctor, whatever his experience, would say that he could positively state, from a physical examination of prostitutes, that they were free from disease, and if they could not make a positive statement upon the question it would be of no value. Never give authority into the hands of officials anywhere which could easily be abused. The evil consequences in this city from such a system could hardly be imagined; but add to the political power which the authorities now possessed, that which might come from giving into the hands of two or three hundred physicians the right to pronounce for a fee, after examination from week to week, upon the health of prostitutes, and he thought Sodom and Gomorrah ought to have something to say.

It had been placed before our minds that the police authorities had a right to condone evil of any kind. But Dr. Roosa asserted that they had no moral right to condone any legal offence, and we had no more cause to submit to it than to their entering our houses and taking away our property. They were put there to be the defenders of the law, and if the laws were wrong the right remedy was for the people to amend them.

Active Suppression.—Dr. Emma Blackwell referred to the example of Glasgow, in proof of the fact that the police could, if they would, do much in the way of active suppression of prostitution.

Dr. A. F. Currier deprecated the evil of prostitution and the suggestion of giving it what appeared like a legal standing, and also confirmed the view expressed by others that a physical examination by young physicians, or even by experts, would be of little value as security against infection, even if made after the departure of each visitor—an impossible thing when it was remembered that in such an event four examinations or more might be required daily. He also denounced the practice of the police condoning the evil for political purposes.

Chastity Possible for All.—Dr. Andrew H. Smith would like an expression of opinion from the Academy, which would be imitated by the medical profession throughout the length and breadth of the land, that chastity was possible and wholesome, in no way detrimental, but in every way promotive of health and human happiness. If the public could be impressed with the fact that this was the view of the entire medical profession, prostitution itself would accompany the belief that it was a necessity into oblivion.

Dr. C. T. Adams thought the question which concerned physicians chiefly was whether venereal diseases could be diagnosed by a physical examination, and if so, it seemed to him that as long as prostitution existed a law calling for compulsory examination would tend to check the spread of such diseases.

Dr. Lesser expressed the opinion that a system of prostitution avoided a greater evil, the seduction of innocent girls.

Mr. Powell closed the discussion. He earnestly desired that the medical profession would impress upon the public at every opportunity the view expressed by Dr. A. H. Smith, that chastity was good for the health as well as for the morals, and was possible for all men.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

MULTIPLICATION OF SOCIETIES, GENERAL AND SPECIAL—JEALOUSIES AMONG THEM—THE DERMATOLOGICAL SOCIETY AND THE PROPOSAL TO FORM A SECOND—A STORM IN A TEACUP—BRITISH INSTITUTE OF PREVENTIVE MEDICINE—OPPOSITION OF FADDISTS—REV. MR. HAWEIS AS ONE—RECENT LECTURES—LONDON BAKEHOUSES—DEATH OF MR. BERNARD HOLT.

LONDON, March 3, 1894.

I HAVE previously alluded to the recent increase in the number of medical societies here. Notwithstanding this development our number is trifling compared with yours. But we seem rather to run in grooves. Of course there are numerous branches of the British Medical Association, but we do not reckon them. In the country they serve a certain purpose, bringing together a few neighbors, more or less disposed to meet. In London the districts meet and the branch has its dinner. This, too, is an important function of country branches; a president of one told me once that he presided over an assembly of two, three, or four at the local hotel, when the bodily refreshments were well attended to—and nothing else. Another confessed that he and one other had often constituted a meeting.

Some of the societies of specialists have done good work, the ophthalmological, for example. So have the obstetrical and the gynecological, concerning the jealousy between which I have said a word or two. A still more jealous set seem the two laryngological, for the second has established itself. A friend of mine asked one of the most interested in the second what was the necessity of it, and was gravely told that it was for "the respectable laryngologists" to meet! Asked if none of the members of the first were respectable, he "would not go so far as to say that," but it was not select enough. Asked if any one of the most respectable had held aloof from both, he was obliged to admit the fact. It really seems a pity that there should be so much waste of superfluous energy which might be more usefully directed into strictly scientific channels.

The dermatologists, too, have their little difficulties about societies. There has been for a long time a sort of clinical club of dermatologists, restricted to thirty members, who met from time to time to chat over cases exhibited at the meeting. These gentlemen called themselves the Dermatological Society, as they had a full right to do, there being no other body entitled to the name. As their proceedings were quite private, no transactions being issued and no reporters invited, there was no occasion for non-members to recognize their existence. They had their friendly clinical chat ten times a year. Lately, however, it was proposed to form a real Dermatological Society, which could be called British, or by any other distinctive name. Then the harmless club, or rather some of the thirty, became suddenly alive to its privilege, and a "state of tension" was produced between some of the old club and the proposers of the new society. Why, it is hard to say, and Mr. Jonathan Hutchinson seems to think so too, for he lent his support to the new movement, although a prominent member of the old. Then followed a funny little "storm in a teacup."

Mr. Malcolm Morris, in an address, enumerated, as the British dermatologists, the prominent members of the old society, but left out Mr. Hutchinson's name—he, as I have said, having countenanced the new one, and so, it was averred, having given offence. A good deal of talk went on about this little cabal, which somehow found its way into the *Medical Press and Circular*, which rated the thirty rather severely. It was hardly worth while, for Mr. Morris's address would have attracted no attention but for the attack of the promoters of the new society. No one takes Mr. Morris very seriously, either from the side of science or courtesy, and Mr. Hutchinson has no need of the praise of any dermatologist. In fact, he wrote a letter to your contemporary deprecating the tone of the correspondence that had been published and the state of tension among dermatologists, as well as pointing out that, in his opinion, there was room for the new society and no occasion for rivalry. So many spicy stories have been circulated over dinner-tables and at other meetings that it may be doubted whether Mr. Hutchinson's authority will be able to control the ill-feeling engendered. He will certainly experience the usual difficulty of "running with the hare and holding with the hounds." The best thing would be for the club to enlarge its bounds and take in the new society. One well-supported society would surely be enough.

The British Medical Institute of Preventive Medicine is fast becoming a solid fact. Money and a site have been secured. The anti vaccinationists are accordingly enraged, and adopting their usual tactics of circulating statements of a grossly inaccurate character. The Rev. Mr. Haweis is a V. P. of one of the faddists' societies, and has joined in this effort to thwart scientific research. I do not know Mr. Haweis personally, but I hope he is a more pleasant acquaintance to those who do than his public actions would lead some to suppose. He always strikes me as very much of a quack. From the pronunciation of his name in a manner that the letters would suggest to no Englishman, and his conspicuous yellow carriage, up to his sensational lectures on queer topics in his pulpit—all smacks of clap-trap. Then his literary productions—well, perhaps I have been unfortunate in my selection, so will withhold my opinion. But in this matter of the Institute it is too bad that a clergyman who has achieved notoriety should, in the endeavor to enhance it, make accusations which he ought to know are not true. When a man is ignorant on a subject he is not called upon to express an opinion. If his love of notoriety impels him to do so, he is bound to be sure of his facts. This is especially true of a clergyman when charging others with motives of which he would himself be ashamed. But some parsons have so high an opinion of their own acquirements that they consider no subject is beyond their ken. Medicine and science to such seem "milk for babes," and they shower upon others modern euphemisms, for "I am Sir Oracle, and when I ope my mouth let no dog bark."

At the Medical Society of London the Lettsomian Lectures are now concluded. The Milroy Lectures at the College of Physicians have also been given, and their treatment is exciting some comment. The horrible condition of some London bakehouses has again been brought before the public. St. George's Hospital is about to have a statue of John Hunter. The movement can hardly be called premature.

Mr. Bernard Holt, whose name must be well known to your readers from his writings on "Stricture of the Urethra," died on Tuesday last, aged seventy-seven. He had long held a prominent position in London, and was surgeon, and subsequently consulting surgeon, to the Westminster Hospital. He was a lover of horses, and largely interested in a West-End livery stable.

Migranine.—Under this name Overlach (*Deutsche Med. Woch.*, No. 47, 1893) describes the properties of a combination of antipyrin with caffeine and citric acid. He considers it a chemical combination of the three substances, and, after five years' experience of its action in cases of migraine and other forms of headache, he has come to regard it as an almost infallible cure, even in the most obstinate cases. It is useful whether given in the premonitory stage or after the headache has fully developed, and it is seldom that more than one dose is required. The dose is 1.1 gr., to be taken dissolved in water. This quantity contains only 0.09 gr. of caffeine, or one-sixth of the maximal dose of this substance. It is recommended that the patient rest a while after taking the drug, especially in cases of severe migraine.

A HYPOTHETICAL QUESTION.

To the Editor of the Medical Record.

Sir: In the complexity of experience a principle that under certain circumstances shall be a correct rule of action may fail to guide us under different surroundings. There are certain great moral principles which we are compelled to think of as unchangeable. But the rules derived from them are in constant flux.

It is not, then, useless or improper at any time to search among the foundations of any law or custom to know whether it is based upon principles in harmony with the state of society as at present constituted, or whether it is a relic of other conditions now subject to revision. It is not subversive to morality or social order to make such inquiries. If the foundations are based upon principles at present in force and furnishing a logical basis for what they support, investigation can only strengthen the intellectual structure.

If the study shall reveal weaknesses and rottenness, it surely cannot be beneficial to society to conceal the fact, even if it be at some minor point. Gradual repair, the result of foresight, is better than revolution, the result of wilful blindness.

Let us suppose a not impossible case. An arrest has been made of a murderer of the stamp of Guiteau, Prendergast, or Vaillant. The evidence shows that he is a crank, a chronic criminal of inherited criminal tendencies, a constant menace to society. Any expert could pick out his photograph among a hundred others as belonging to the type. He is sent, after a longer or shorter trial, to the gallows or to the insane asylum.

About the same time a woman built after Lombroso's type of female degeneracy finds that she is pregnant by this man. What little foresight she has tells her that loss of any respect she may have would follow the birth of the child, and that she would be unable to support herself with the child clinging to her.

We physicians who have more carefully studied sociology and inheritance can predicate much more. The child might die early in an asylum or from neglect, perhaps the most fortunate result. In this case there is simply left the disgrace of the mother and the effect upon her health, and the time and expense of her accouchement, which are probably directly or indirectly paid by society, then and thereafter. If the child should live it would inherit no tendencies but those of its father and mother. It might grow up no worse than a street Arab or a wharf rat. Probably, however, if a girl she would become a strumpet; if a boy, a thief.

This result, as inevitable as other laws of nature, is now recognized by society. Attempts have been made to counteract the evil. Institutions for the training of such boys, like the Elmira Reformatory, have been established. The indiscriminate cohabitation of criminals said to have been allowed in English jails, would now be looked upon as reprehensible social policy. It is proposed after the third conviction for crime to castrate the criminal. Statistics and essays are being multiplied to arouse society to the immanence of the evil, that some remedy may be found. In these days of train-wreckers and anarchists, that the problem of inherited vice is one of the most important to our increasingly interdependent society is evident.

To return to our hypothetical case. This woman finding herself four or five weeks over time consults me, who have attended the family at times. I find that she is probably pregnant, but I tell her that I am not an abortionist, and if she persist in her importunities, I very properly order her out of the room. What shall she do? The only legal course is to remain passive and trust to society to care for her and her little one.

But she may go to one of the many professed abortionists, who for what money she can raise will introduce a dirty wire through the os uteri, perhaps gonorrheal, and produce abortion for her, either with or without peritonitis. Since these people are not disturbed unless one of their cases should die, one would think that in self-protection they would have already learned surgical cleanliness. But working, as they must, in the dark and underhandedly, with no literature, without the possibility of exchange of thought on this subject, in only the rarest cases ever having a medical education, it is not strange that the risk to life in consulting them is very great.

It is noteworthy that when an abortionist is arrested, it is the death of the mother, not the destruction of the fœtus, that entails danger of punishment. Does this not show that while we still style the production of fœtal death murder, all common judgment unites with the results of the study of development in recognizing the human fœtus at six weeks as not yet a human being.

Or our supposititious case may get a hint from some friend, and, after repeated attempts, herself get some instrument past the internal os. This is illegal and a State-prison offence; but she knows, and everybody knows, that no woman since the adoption of the United States Constitution was ever arrested for it. The only risk she runs is the same as do her married sisters in producing peritonitis, cellulitis, salpingitis, and the train of diseases that swell our gynecological clinics.

There remains but one very improbable, but still possible, hypothesis. She may find a regular, capable physician who, realizing what is portended to herself and to society by letting nature take its course, will perform the operation for her. We will suppose that he had talked the case over with a brother practitioner—that he had done the operation antiseptically as he would curette the uterus—that he had put the woman to bed as after any other operation, visited her till a week was passed, and dismissed her entirely well.

Sometime later this physician is arrested, the facts all come out in court, and according to law he is sentenced to ten years in State prison. In what way is society benefited by his incarceration? Is it impossible to conceive a time in the evolution of society when the operation in such a case shall be made mandatory?

Respectfully,

F. W. Higgins, M.D.

Cortland, N. Y., February 28, 1894.

TURKEY AND PTOMAÏNE.

To the Editor of the Medical Record.

Sir: Since your recent publication of my account of what seemed to be a case of "Atropia Poisoning from Eating Turkey," I have received a number of communications suggesting various other explanations. The one of a "ptomaïne-poisoning," from a partial decomposition of the flesh which was at that time in exactly the right stage for the production of these animal alkaloids, seems the most probable one in view of the arguments brought forth, the recently published experience of L. C. Osmun, M.D., with fish-poisoning, and later experiments carried out by myself with the same turkey meat. In my account of the experience sent to the Medical Record I stated that the "rest of the turkey was burned," but in fact I had left a few small pieces, cut from the portions I had originally examined, which I had put aside in a moderately cool place. After writing that article I did not get time to give further thought to the matter for over a week. But then it occurred to me to repeat the experiments more in detail, to find, if possible, whether the offending alkaloid was contained in the skin, the brown meat, or the white meat, or in all equally. On looking at the pieces I had preserved, I was disappointed to find they had undergone such a degree of putrefaction that the odor was very offensive. But in spite of this I made three separate infusions of the parts mentioned, and at different times instilled some of each in one eye only. I was at first surprised and disgusted to find that in neither case was the slightest effect produced on the pupil, nor yet when the infusions were all mixed together. This result I now find goes far toward proving the ptomaïne theory. For experiments on de-

composing flesh have shown that these atropia simulating animal alkaloids are only originated at a particular stage of decomposition, while a still further advance in the process decomposes them and renders them inert.

I wish here to acknowledge my, perhaps, excusable error in diagnosis while expressing my thanks for the suggestions and information so kindly offered by letter and in print, for the clearing up of this peculiar case.

H. H. SEELYE, M D.

AMHERST, MASS.

BLOODLESS AMPUTATION AT HIP-JOINT.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I enclose Dr. Brashear's description of his method of hip amputation, which is published in an appendix to Mott's "Velpeau's Surgery."

If Dr. Buechner has not seen it, I think that it should add some difficulty to the retention by him of the shade of doubt that he expresses in his letter to you, which was published in your issue of January 27, 1894, to observe that this description was written before the resurrection which claims his faith.

One who did not believe (as I most assuredly do believe) that Dr. Brashear performed the operation as stated, might give him the credit that his priority deserves, when he has described so minutely the method almost universally preferred to-day, with modifications which cannot affect its essential character, to suit individual operators. I was at the pains to correct some misstatements on this subject in a short letter that appeared in your journal, July 18, 1891. This letter indicated the popular diffusion of Dr. Brashear's fame. He was given credit for his work by Dr. Paul F. Eve, both in his "Remarkable Cases in Surgery" and in his lectures for many years on surgery in Nashville, Tenn.; and I am told that Dr. Valentine Mott, Sr., reviewed the case annually in his lectures at Bellevue in *ante-bellum* days.

I have made some efforts, in the way of private correspondence with the authors of some modern representative works on surgery, to secure for this backwoods surgeon the acknowledgment that is due his advanced judgment, but without avail. Hence I announce that I have forwarded to *The Lancet* also a copy of Dr. Brashear's letter, in order to give it the widest diffusion possible in our tongue.

While I appreciate the expedients of Dr. Wyeth to the extent of not only having done everying in my power to have them introduced into our service, but also agreeing heartily with a recent reviewer, who calls this method for the prevention of hemorrhage "one of the greatest improvements of modern surgery," yet I am willing to join forces with Dr. Buechner, if he is willing "to go still farther back." I can perceive no valid objection to the longer journey, and I doubt if Anglo-Saxon justice will deprive a pioneer of his deserved fame, either for having been forgotten or for not having been known.

Very respectfully,

W. F. ARNOLD, M.D.,
Passed Assistant Surgeon,
United States Navy.

UNITED STATES COAST DEFENCE VESSEL MONTEREY,
MARE ISLAND, CAL., February 14, 1894.

[LETTER FROM DR. BRASHEAR TO DR. P. S. TOWNSEND.]

PHILADELPHIA, August 13, 1846.

MY DEAR SIR: In conformity to promise, I now give a brief statement of the operation which I performed in Bardstown, Ky., in August, 1806, on the hip-joint.

The subject was a boy, seventeen years of age. Without assigning the causes which led to the necessity of the operation, the same was, after consultation with Drs. Harrison and Goodlet, conducted in manner following, first premising that, in absence of any knowledge of an established mode for this operation, a common-sense reasoning as to its safety and facility alone dictated the manner of performing it. Therefore an operation of the thigh in the ordinary manner was determined on, as remote from the hip-joint as circumstances might justify (in this case about mid-thigh). The amputation was performed, and the arteries secured.

The next step was to make an incision to and from the lower end of the bone, externally, over the great trochanter to the head of the bone and upper part of the socket. The dissection of the bone from the surrounding muscles was simple and safe, by keeping the edge of the knife resting against the bone. The bone being disengaged from its integuments at its lower extremity, was then turned at a right angle from the body, so as to give every facility in the operation to separate the capsular ligament and remove the head from its socket. After the operation, nothing more than ordinary dressings were used, and in the course of a short time the patient removed to St. Louis, where he was living within a few years past.

I am, very respectfully,

WALTER BRASHEAR.

EX-CONFEDERATES AND PENSION SURGEONS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue of February 24, 1894, page 244, you state in substance that the Commissioner of Pensions has ruled that no ex-Confederate surgeon is eligible to serve on Pension Board, etc., which is taken up and commented on in high dudgeon by the Texas surgeons.

Now, if our section of the United States is any criterion to go by, it is far from true. In Kansas City, Mo., to-day, the Pension Board is composed of two ex Confederates, the third not being old enough to have been one. In Kansas City, to-day also, there are at least a dozen regular reputable physicians of the Democratic persuasion, who served their three and four years in the Union army during the rebellion. Hence there can be no excuse, from a political stand-point that reputable physicians were not attainable. We hear that all over Missouri the same condition exists—that the ex-Confederates take preference. We can easily understand that where there are both ex-Union and ex-Confederates, that naturally the ex Union surgeon should take preference in such a responsible and, I may say, delicate place. But why, in our locality, the ex-Union is totally ignored, can only be answered by the politician. I am of the impression that no such ruling has ever been made by Judge Lochren.

Yours, etc.,

EX UNION.

KANSAS CITY, MO., February 26, 1894.

A STOP OVER EN ROUTE FOR DELEGATES TO THE INTERNATIONAL CONGRESS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The time chosen for the meeting of the International Medical Congress of 1894 will unfortunately prevent most, if not all, of the Anglo-American physicians practising at the winter stations of the Riviera from attending. Many of us have still very vivid recollections of the delightful time we had on the occasion of our visit to the Washington Congress of 1887, of the unbounded kindness shown to us, and of the charming trip from Washington to Niagara, provided for us by the liberal hospitality of our *confrères* of the United States, which will ever live in the memory of those who had the privilege of taking part in it. Our attendance in Rome being impossible, we are unable to arrange any return for the favors received in 1887, and it occurs to one whether it would not be possible to organize a meeting at Nice (the capital of the Alpes-Maritimes), or some other station on the Riviera, of those of our American brethren who will be passing through it *en route* from Rome to Paris on their return from the Congress.

It is extremely probable that many will take this opportunity of making a first acquaintance with the beauties of this coast, then looking its very best, and it would

be, I am sure, a very great pleasure to their *confrères* of this region if, by combined action, they could do anything in their power to make a visit to these sunny climes as agreeable to them as possible.

May I beg the great favor of your inserting this letter, which I have made as short as possible, in an early number of your valuable paper, with an earnest request that the Secretary, or other officer who is responsible for the arrangements of the visit of the American members to Rome, will have the kindness to communicate with me his ideas on the subject; on receipt of which I will place myself in correspondence with the English and American physicians practising on the Riviera in order to arrange combination of action. I am, sir,

Your obedient servant,

S. S. ASHMORE-NOAKES, M.D.

5 PROMENADE DES ANGLAIS, NICE, FRANCE,
February 28, 1894.

New Instruments.

AN ASEPTIC OBSTETRICAL INSTRUMENTARIUM.

BY GUSTAV SEELIGMANN, M.D.,

NEW YORK.

A PUBLICATION by Professor G. Winter, of Olshausen's Clinic, in Berlin, in the *Deutsche Medizin. Wochenschrift*, No. 4, 1894, in which he describes a new aseptic case for obstetrical use, induces me to briefly note an apparatus which I have had constructed for the same purpose and have been using for some time.

Winter lays down three postulates as required in such an apparatus: 1. All instruments which come in immediate contact with the patient must be absolutely sterile. 2. The obstetrician should be provided with all instruments and utensils which may possibly be used in obstetrical operations, including Cæsarean section, laparotomy for abdominal gestation, etc. 3. The instruments should be so arranged that only those probably necessary in any given case need be carried. All of these requirements are perfectly fulfilled in the arrangement which I have devised, and I venture to say, far more conveniently than in the rather cumbersome apparatus of Professor Winter.

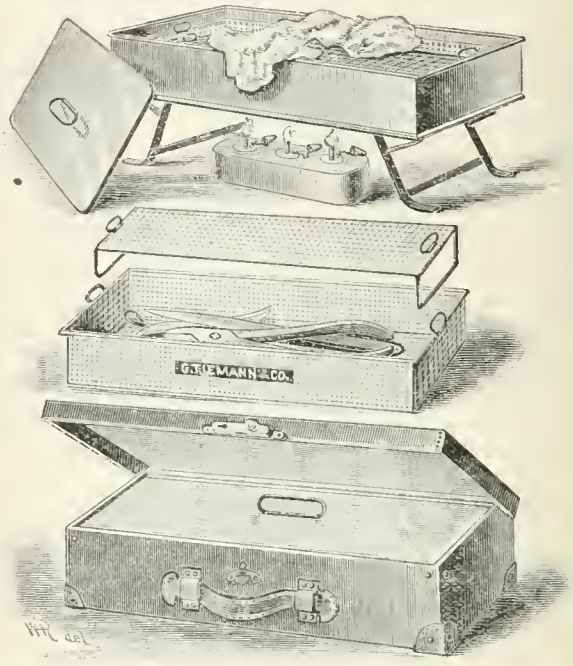
I attempted, in my first essays, to provide a suitable sterilizer for obstetrical purposes, to include in one case all the instruments, utensils, drugs, etc., which may be required, but soon found such an arrangement to be unpractical.

In the first place, a satchel containing the twenty or thirty articles necessary besides the instruments, is far too large and too heavy. In the second place, each of these numerous articles must be provided with an appropriate place in the satchel; this complicates the arrangement enormously and creates a third difficulty, namely, that any deviation from the arrangement provided by the instrument-maker is virtually impossible, and the physician is compelled to forego the advantages which he may derive from modifications suggested by his experience.

It seems to me better not to bind the obstetrician too closely to any given armamentarium. Even the very elaborate Winter's apparatus fails to provide for certain instruments which American physicians would not like to be deprived of, as, for instance, a set of Simon's specula, side levers for examination and suture of the cervix in cases of laceration, a colpeurynter or Barnes's dilator, a long probe pointed knife for cervix incisions (though for my part I prefer a scissors for that purpose), axis traction forceps, etc. Kelly's pad and Clover's crutch are considered almost necessities in private practice, and they, of course, cannot be packed into any such case as Professor Winter's. We would therefore, in any case, be compelled to carry along an additional satchel to our patients.

These considerations have led me to modify my former apparatus in the direction of greater simplicity. I make now use of two satchels. One is an ordinary leather portmanteau into which everything except instruments is put, such as all rubber articles, drugs, chloroform inhaler, etc. The other satchel contains the instruments and is at the same time the sterilizer.

A stout leather cover, 17½ × 8½ inches, with handle and lock on one side, encloses a close fitting box of thin nickel-plated copper. The latter contains a similar close-fitting tray of galvanized wire gauze, on the floor of which the stand for the box lies folded, occupying a minimum of space. An alcohol lamp with three burners serves as the source of heat. The apparatus in working order is seen in the figure. The instruments may be



wrapped in clean sterilized towels, or a simple contrivance made by stitching a strip of linen down the middle of a sheet of the same stuff may be employed.

The instruments to be used are taken from their linen cover and boiled for ten minutes in one per cent. soda solution. There is practically always time enough for this procedure. If hot water is used, five minutes are required to bring it to the boiling-point; if the water be cold, fifteen to twenty minutes are necessary. After ten minutes' boiling the tray containing the instruments is lifted out of the water and the instruments upset into a basin of carbolic or lysol solution. Of course the instruments should not be handled.

For the sterilization of dressing material a second tray, half the height of the larger gauze tray, into which it fits, is added, the dressing material is placed on top of this tray, and is sterilized in the steam of the boiling water.

The whole apparatus seems to me as simple as possible. I carry along in each case what of instruments I think will be necessary. If I know nothing of the case in advance I take along everything; if I have examined a primipara a week before her confinement and have found the fœtal head well engaged in a normal pelvis, I know that I shall not require any instruments for craniotomy, etc.

It goes without saying that the apparatus is equally available for gynecological instruments.

The apparatus is made by Messrs. George Tiemann & Co., of this city, and costs, complete, $18 net. It is compact, neat, of moderate weight, and fills all indications demanded in modern obstetrical practice.

693 MADISON AVENUE.

"He who physics himself poisons a fool."

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 17, 1894.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	5	2
Scarlet fever	178	15
Cerebro-spinal meningitis	0	5
Measles	309	25
Diphtheria	107	40
Small-pox	26	7
Cholera	0	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0

Migration of Syphilis from East Asia into America by Way of the Behring Sea.—Syphilis is admitted by Professor Brinton to have existed in America when Columbus landed. Yet this author will not see any connection between ancient Americans and East Asiatics: in fact, he denies it positively. He is inclined to think that the disease existed independently in America and in Europe, and that Columbus, therefore, could not have introduced it from Europe to America. Now, if syphilis existed in America, that is, the now Spanish America, before the arrival of Columbus, it either originated in the South, in moisture and heat, to speak with the Chinese, for nowhere but in the South have we any evidence of its presence, or it was brought over, say from China or Japan. This happened, if at all, by way of migration, for commerce there was none. We hear, indeed, of a drifting of Chinese junks to ancient Peru and Ecuador; of course this may be only a myth. But the fact that the Aztecs of Mexico, and the Incas of Peru, the most ancient American races, came from the North is not mythical. If they came from the North, say from the Behring Sea, it is reasonable to believe that they crossed from the nearest point of Eastern Asia.—Ashmead, in *Journal of the American Medical Association*, February 5, 1894.

Amendment of Medical Statutes.—The following amendments to existing laws relative to the State medical examinations have been introduced at Albany and are now in the hands of the Senate Committee on Public Health.

Appropriation and Expenses.—There shall be appropriated annually, to be paid to the regents by the treasurer on the warrant of the comptroller, such sums of money as shall be necessary for the conduct of the examinations provided for by this article. Out of the moneys so appropriated, or out of any moneys in their hands, the regents are authorized and directed to use as much thereof as shall not exceed in the aggregate the sum of $25 for each and every candidate who shall be admitted to examination according to the provisions of this article. And out of the moneys which the regents are hereby so authorized and directed to use, they shall pay all proper expenses incurred by the provisions of this article, except compensation to medical examiners; and any surplus at the end of each fiscal year shall be apportioned among the three boards *pro rata* according to the number of candidates whose answer papers have been marked by each.

Admission to Examination.—The regents shall admit to examination any candidate who submits satisfactory evidences, verified by oath, if required, that he: 1. Is more than twenty one years of age; 2, is of good moral character; 3, has the general education required in all cases after August 1, 1895, preliminary to receiving the degree of bachelor or doctor of medicine, in this State: 4, has studied medicine not less than three full years, including three satisfactory courses, in three different academic years, in a medical school registered as maintaining at the time a satisfactory standard; 5, has either received the degree of bachelor or doctor of medicine from some registered medical school, or a diploma or license conferring full right to practise medicine in some foreign country. The degree of bachelor or doctor of medicine shall not be conferred in this State before the candidate has filed, with the institution conferring it, the certificate of the regents that three years before the date of degree, or before or during his first year of medical study in this State, he had either graduated from a registered college or satisfactorily completed not less than a three years' academic course in a registered academy or high school: or had a preliminary education considered and accepted by the regents as fully equivalent; or had passed regents' examinations in arithmetic, elementary English, geography, spelling, United States history, English composition, and physics. Students who had matriculated in a New York medical school before June 5, 1890, shall be exempt from this preliminary education requirement, provided the degree be conferred before August 1, 1895. The regents may, in their discretion, accept as the equivalent for any part of the third and fourth requirement, evidence of five or more years' reputable practice of medicine, provided that such substitution be specified in the license. This act shall take effect upon October 1, 1894.

The Historian Parkman and His Physicians.—Francis Parkman, now in the first glory of his posthumous fame, in a brief autobiography, in the possession of the Massachusetts Historical Society, with a good-natured irony thus hits off his various physicians: "The Faculty of Medicine were not idle," he says, "displaying that exuberance of resource for which that remarkable profession is justly famed. The wisest, indeed, did nothing; commending his patient to time and fate; but the activity of his brethren made full amends for this masterly inaction. One was for tonics, another for a diet of milk; one counselled galvanism, another hydropathy; one scarred him behind the neck with nitric acid, another drew red hot irons along his spine with a view of enlivening that organ. Opinion was divergent as practice. One assured him of recovery in six years; another thought that he would never recover. Another, with grave circumlocution, lest the patient should take fright, informed him that he was the victim of an organic disease of the brain which must needs despatch him to another world within a twelvemonth; and he stood amazed at the smile of an auditor who neither cared for the announcement nor believed it. Another, an eminent physiologist of Paris, after an acquaintance of three months, told him one day that from the nature of the disorder, he had at first supposed that it must, in accordance with precedent, be attended by insanity, and that he had ever since been studying him to discover in what form the supposed aberration declared itself, adding, with a somewhat humorous look, that his researches had not been rewarded with the smallest success."

Pathogeny of Pneumonia.—Dr. Wassermann, assistant in the Institute for Infectious Diseases under the direction of Professor Koch, writes on the differential diagnosis of inflammatory lung affections. Pneumonia may be caused in several ways, hence the importance of a careful microscopical examination of the sputum in each case. We are acquainted, he points out, with a number of parasites capable of exciting pneumonic disturbance—Fraenkel's diplococcus, Pfeiffer's influenza bacillus, Friedländer's bacillus, streptococci, and staphylococci. In two cases of lung disease of long duration, with a temperature of the septic type, the sputum was found to contain large numbers of streptococci, but no tubercle bacilli; had it not been for the examination of the sputum the cases could easily have been taken for tuberculous disease. Dr. Wassermann controverts the commonly held opinion that the prevalence of pneumonia

during epidemics of influenza is due to the effect of the attack of influenza, rendering a person more susceptible to pneumonia. In the Institute for Infectious Diseases, in cases of pneumonia with influenza, the sputum was found to contain pure cultures of influenza bacillus, and hence this pneumonia is to be regarded as being an extension of the influenza process.

The Discovery of Chloroform.—The *Century Magazine* for January contains a paper on "Sir James Simpson's Introduction of Chloroform," written by his daughter Following up the American discovery of sulphuric ether as an anæsthetic, we are told of Simpson's infinite pains and frequent disappointments in his search for a more effectual means of avoiding the agonies of operation. Sir James was daring even to rashness in his experiments, and, as a rule, tried the effect of agents upon himself, more than once endangering his life in doing so. The account of the first trial of chloroform reminds one somewhat of the Bacchanalian orgies of Squire Western and his bucolic companions; and, despite the weighty interests with which the sitting was fraught, we cannot repress a smile at the ludicrous disappearance of the investigators "under the table." On returning home after a weary day's labor, Dr. Simpson, with his two friends and assistants (Drs. George Keith and Mathews Duncan), sat down to their somewhat hazardous work in Dr. Simpson's dining-room. Having inhaled several substances, but without much effect, it occurred to Dr. Simpson to try a ponderous material which, on account of its great weight, he had hitherto regarded as of no use. It happened to be a small bottle of chloroform. It was searched for, and recovered from beneath a heap of loose paper; and, with each tumbler newly charged, the inhalers resumed their occupation. Immediately an unwonted hilarity seized the party; they became bright-eyed, very happy, and very loquacious, expatiating on the delicious aroma of the new fluid. The conversation was of unusual intelligence, and quite charmed the listeners—some ladies of the family and a naval officer, a brother-in-law of Dr. Simpson. But, suddenly, there was a talk of sounds being heard like those of a cotton-mill, louder and louder; a moment more, then all was quiet; then a crash. On awaking, Dr. Simpson's first perception was mental. "This is far stronger and better than ether," said he to himself. His second was to note that he was prostrate on the floor, and that among the friends about him there was both confusion and alarm. Hearing a noise, he turned about, saw Dr. Duncan beneath a chair; his jaw had dropped, his eyes were staring, his head was bent half under him; he was quite unconscious, and was snoring in a most determined and alarming manner. More noise still, and much motion. And then his eyes overtook Dr. Keith's feet and legs making valorous efforts to overturn the supper-table, or more probably to annihilate everything that was on it. After such convincing testimony to its power, Sir James lost no time in publicly proclaiming the virtues of the new anæsthetic.

Sanitary Insurance.—Dr. G. W. Steeves proposes, in the *Nineteenth Century*, a method of sanitary insurance which has the merit of novelty and which seems not impracticable. This plan is that any city or district may organize for itself a sanitary protective and insurance association founded for the purpose of providing the public with a source of protection against unsanitary dwellings and surroundings. The definite objects would be: 1. To examine into the sanitary condition of any building previous to tenancy, or after, and to afford skilled advice on hygienic matters or appliances, either on existing premises or on the plans of proposed arrangements of new buildings. 2. To issue certificates respecting the sanitary condition of dwelling-houses and buildings. 3. To provide the means by which a cleanly and wholesome state of dwelling-houses and premises may be maintained. 4. The sanitary registration of dwellings. 5. The insurance of buildings against a defective sanitary condition.

Succi's Digestion.—Dr. Sansoni has published, in the *Riforma Medica*, some notes on the gastric secretion of Succi, the fasting man, which are pathologically interesting. It would appear that Succi's stomach does not secrete hydrochloric acid, the defect being functional and not the result of an anatomical lesion. It is believed that prolonged fasts have brought about this state of things, and that in consequence of it the sensation of hunger is suppressed. The absence of the acid, moreover, probably helps in the resistance to the effects of starvation. The question arises whether we would not all be better without hydrochloric acid in our stomachs. There would be then no fear of over-eating and the disastrous effects of gluttony would forever be removed. One formal meal a day, containing of proteids 118 grammes, carbohydrates 500, and fats 60, with a pinch of salt, would carry us all through.

The Staining of Living Cells.—Professor Ehrich, at a meeting of the Berlin Medical Society, said that for a number of years he had been attempting to decide certain biological therapeutic medicinal questions by the introduction of coloring material into the bodies of animals. In the course of his investigation he propounded the question, which of all coloring material had the greatest affinity to the living animal. The answer was very simple. On experiments with tadpoles he found that neutral red was the best suited for staining purposes, a material that had not hitherto been used in microscopic work, but which could be obtained from Grubler. If the color was diluted and an alkali added, a fuchsin color was produced. From the manner of staining it could be seen whether an animal tissue was alkaline, weakly alkaline, or acid. If, for instance, a tadpole was made to swim in a weak solution of neutral red (1 to 2,300,000), it was astonishing how it absorbed the coloring material. It became red in a quarter of an hour. If they were kept in the fluid a longer time, all the tissue of the body, the brain, etc., became perfectly red. The speaker knew of no material so suited for staining living cells as neutral red. Such coloring material must, therefore, be possessed of two properties: 1. It must be able to penetrate the covering membranes of the living tissues. 2. There must be something in the cells that has an active attraction for the staining material.

Professor Von Esmarch has done 20,000 important operations.

BOOKS RECEIVED.

Climates of the United States. By Charles Dennison, M.D. 8vo, 47 pages. The W. T. Keener Co., Chicago, Ill. Price, $1.00.

An American Text-book of Gynecology. By various authors: edited by J. N. Baldy, M.D. 8vo, 713 pages, illustrated. W. B. Saunders, Philadelphia, Pa. Price, cloth, $6.00; sheep, $7.00; half Russia, $8.00.

Physiological Chemistry of the Animal Body. By Arthur Gamgee. Vol. II. 8vo, 528 pages, illustrated. Macmillan & Co., New York City. Price, $4.50.

Transactions of the American Association of Obstetricians and Gynecologists. Vol. VI. For the year 1893. 8vo. 308 pages, illustrated.

Suicide and Insanity. By S. A. K. Strahan, M.D. 12mo, 228 pages. Macmillan & Co., New York City. Price, $1 75.

Treatment of Cases of Abdominal Section. By Christopher Martin. 8vo. 38 pages. Simpkin, Marshall, Hamilton, Kemp & Co., London, England.

The Healing of Rodent Cancer by Electricity. By J. Englis Parsons, M.D. 12mo, 82 pages, illustrated. John Bale & Sons, London, Eng. Price, 5s.

On Gout as a Peripheral Neurosis. By Willoughby Francis Wade. One vol., 8vo, 59 pages. Simpkin, Marshall, Hamilton, Kemp & Co., London, England.

New Truths of Ophthalmology as Developed By G. C. Savage, M.D. 12mo, 152 pages, illustrated.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 45, No. 13.
Whole No. 1221.

NEW YORK, MARCH 31, 1894.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

FURTHER OBSERVATIONS ON CHRONIC RELAPSING APPENDICITIS—EIGHTEEN CASES, WITH ONE DEATH—LIST OF FOUR HUNDRED AND FIFTY OPERATIONS.

BY WILLIAM T. BULL, M.D.,

NEW YORK.

PROFESSOR OF SURGERY, COLUMBIA COLLEGE; SURGEON TO THE NEW YORK HOSPITAL.

ABOUT a year ago I reported to the Practitioners' Society twelve cases of chronic relapsing appendicitis which had been subjected to operation, with one fatal result.[1] My purpose now is to record six additional cases, all successful, and to present fuller statistics bearing on the mortality. All these operations have been done because of acute attacks so frequently repeated as to lead to the belief that there was a chronic appendicitis which had no tendency to disappear spontaneously or with the aid of medical measures. These attacks seriously interfered with the occupations of the patients. In most of the cases there was palpable evidence of chronic inflammation in the shape of a tumor in the iliac fossa, and a history of chronic invalidism to a greater or less degree, marked by such symptoms as irregular pain or discomfort in the iliac fossa increased on exertion, irregularity in action of the bowels, flatulence and pain, and distention after eating. In about the same number of patients—eighteen or twenty—I have advised against operation because the attacks were at long or irregular intervals and few in number, and the condition in the interval was apparently one of good health without tumor and without history of intestinal irregularity or pain. These cases may be called recurring appendicitis in distinction from the others. It is fair to state that one or two operated cases are "on the line" between these two divisions.

For the histories which are appended I will substitute a brief summary of the symptoms, clinical features, and condition of the appendix at operation, drawn from a consideration of the entire eighteen cases. It is worth recording that but 2 of 18 patients were females, fifty and fifty-five years of age respectively. Of the ages of the others, there were 4 between fifteen and twenty, 7 between twenty and thirty, 4 between thirty and forty, and 1 between forty and fifty. Nine patients have presented histories of severe attacks lasting two weeks or more, with vomiting at the outset, and, later, fever, prostration, abdominal pain, and distention. Several of these have not been entirely well and strong after the first attack, and the inflammatory exudation or tumor has resolved very slowly. In 7 pus was found at the operation, either in the appendix or close by in the false membrane, and the adhesions were firm and thick in the majority. By these adhesions the appendix was firmly held in various positions. It was in four instances so closely united to the small intestine as to make it probable that its contents had previously found escape in that way. One small purulent focus contained a fecal concretion, and in 2 cases the cæcal end of the appendix was obliterated. All of these patients had a distinct tumor in the iliac fossa deeply or superficially situated according as the adhesions had drawn the appendix to the anterior parieties or into the iliac fossa. The volume of the tumor was influenced by the inflammatory thickening and involvement of the omentum. It is to be noted of these cases that the history extends over a brief period: in 5, under one year; in 2, under eighteen months; in 2 it covers two and a half and four years, respectively.

Six patients gave histories of frequently repeated (three to ten per year) attacks of moderate severity, lasting a week or less, with little or no fever and no marked prostration. Two of these had constant discomfort in the iliac fossa and pain on exertion. In these the adhesions were lighter, the appendix not so buried in dense membrane, its lumen patulous but bent, stenosed, or contracted at one point and dilated at another. In 2 patients the lumen was entirely obliterated and the appendix adherent in the iliac fossa. On examination 4 presented a distinct tumor, 1 none at all; in the sixth the tumor had been felt only at the time of the attack. These milder and more frequently recurring cases have a longer duration, in five of the six extending over three years.

One patient had been drained only, for an abscess eighteen months previous to operation. The appendix was not found. Following recovery there were occasional attacks, confining him to the bed for a day or two with local pain, tenderness, tympanites, and constipation. Here no tumor could be made out. At operation the appendix, with lumen still patent and sharply curved, was buried in a thick layer of false membrane on the surface of the cæcum.

One patient gave a history of four characteristic attacks, of five to seven days' duration, during two and a half years, with steady discomfort in the iliac region for six months before operation. A tumor was felt, under ether, by the physician a month before my examination, when none was detected. The operation revealed no trace of the previous inflammation beyond an adhesion of the omentum to the anterior abdominal wall and what the pathologist called a normal appendix, though there was thickening of the mucous coat. The patient, a woman of fifty years of age, has experienced entire relief of symptoms.

In one patient (Case XIII.) the operation was undertaken with the view that a neoplasm, chronic appendicitis, or colitis might cause the symptoms. An appendix was found slightly curled up by adhesions and contracted at its middle. A small uterine fibroid and several hemorrhoids were ligated. No distinct tumor was felt before operation; but all symptoms were relieved, and the patient has been well now for a year and ten months.[1]

That the diagnosis is not always clear, I have learned from several experiences quite independently of this list. I have mistaken cancer of the ileo-cæcal region in two instances for chronic appendicitis, and been unable to decide without exploration in a third case. When there are such symptoms as diarrhœa with bloody and mucous stools, and occasional attacks of obstruction with a persisting tumor and gradual emaciation, one cannot doubt the existence of cancer. But this group of signs does not exist in the early stages, at the only time when there is a chance for cure by excision of the neoplasm. Persistent pain and persistent definite tumor point to cancer; less severe and occasional pain and a less distinct tumor which disappears at times argue in favor of appendicitis. But these are only indications of what may be the probable

[1] MEDICAL RECORD, March 18, 1893.

[1] This case was mentioned in my previous paper as an exploratory incision in which the normal appendix was removed. It was incorrect, as I have learned by finding fuller notes than were at my disposal earlier.

condition, and exploratory incision must be our reliance for diagnosis. In one instance of peritoneal tuberculosis, I supposed I was dealing with chronic appendicitis, and the condition was made clear only after ether was administered. Dr. Kinnicutt, also, saw this patient. A clerk, aged twenty, had typhoid fever three and hæmoptysis four years previously to admission to hospital. In last two months persistent dull pain in central region of abdomen, with sharper colicky pains, almost daily, of several hours' duration, referred to right side of abdomen. In last two weeks a tenderspot in iliac fossa, which on examination is found to correspond with a mass the size of an English walnut about midway between spine of ilium and navel. This is superficial. Other organs healthy. No fever. Pain interferes with occupation. Laparotomy, May 28, 1891. After narcosis was complete the tumor could be distinctly felt, and a second smaller one near it. This and the antecedent history of hæmoptysis, and the fact of the pain being more widely diffused than is usual in appendicitis, suggested at once the diagnosis of tubercular peritonitis. The cæcum was covered on its outer and posterior surfaces by a firm mass of inflammatory membrane in which the appendix was embedded. It was not removed. The mesentery contained numerous enlarged glands, two of which constituted the tumors felt on palpation. One of these was examined; its centre was cheesy and it was pronounced tuberculous by Dr. Ferguson. Recovery was prompt and followed by three months' rest in the Catskills. Two years later the patient was reported (not seen) as being in apparent good health.

In another instance a young female domestic was referred to me with the statement that an operation had been advised for relapsing appendicitis. She had frequent attacks of nausea and pain referred to the umbilicus and epigastrium. There was no tumor of the iliac fossa, but this region on both sides was tender at one point on deep pressure. I found the right ovary tender, suggested douches and external counter irritation. The symptoms were relieved for six months, but soon afterward steady epigastric pain and vomiting and distress after eating made it clear that she was suffering from ulcer of the stomach. Here undue stress had been placed on the existence of a tender point in the right iliac fossa. This symptom or sign alone is of little value, in my opinion, unless interpreted by the aid of a history of characteristic attacks, in some of which a larger area of tenderness has been detected by a competent observer and also after comparison with the left side. In one case the tenderness was felt only posteriorly in the lumbar region.

It is desirable to remove the appendix in case the symptoms are reasonably definite, as is shown by the testimony of one case in which the operation had to be repeated and another in which after recovery there was a return of the symptoms. The first case is No. 1 of the first series,[1] the second was published by Dr. Coley in 1891[2] as a case of chronic peritonitis. W. E——, aged twenty three, single, German, was admitted to the hospital on September 5, 1889, and was treated on the medical side for typhoid fever. He was discharged cured on October 28th. After leaving the hospital, he had recurrent attacks of abdominal pain, mostly in the right iliac region, and extending into the lumbar region. He was readmitted on January 1, 1890, and transferred to the surgical side on March 15th. During this time he had had two or three attacks of pain in the right iliac region, accompanied by an indistinct tumefaction and tenderness on pressure. Rectal examination was negative. His general condition was fair; there was moderate constipation, with some nausea and occasional vomiting. At the operation, March 15, 1890, the cæcum seemed to be abnormally fixed in the pelvis, and the appendix could not be found. Extensive manipulation was not thought desirable, and the wound was closed. No drainage was used. The wound healed quickly, and the patient made a good recovery. In the third week after the operation he had persistent nausea and vomiting, but no abdominal pain; a slight feeling of discomfort only. He was up and about in the third week, his condition improved somewhat, and he was discharged. Fifteen months later he reported to me that he was usually well, worked hard as a baker, but had been obliged to stop work four times for several days on account of obstinate abdominal pain without any reference to constipation.

The mortality following the operation has been variously estimated of late. In my previous paper I could find, including my own, but seventy-six cases recorded, and my fatal result was the only one. Since then, by personal correspondence and a renewed search of the journals, in which Dr. Powers has given his kind co operation, I have brought to light a much larger number of cases. Many of my colleagues here and in other cities have given us great assistance, as will be seen by the appended table. Four hundred and fifty operations[1] have been performed, with eight deaths, which would give a mortality percentage of $1\frac{7}{7}\frac{7}{0}$ per cent. This would be raised to over two per cent. if I could include four other fatal cases of which I have indirectly been informed. If we look at the record of individual surgeons and strike an average, we should say that five or six per cent. would be a fairer estimate. Over eighty per cent. of operations have been performed in this country, and three hundred and forty-one cases have been communicated to me by the operators themselves. These figures convey another impression to my mind, which is that we have a large amount of material stored up in private and hospital note-books which could with great advantage be subjected to study and analysis. The absence of such studies by men whose experience has been ample, leads me to think that they are yet in doubt as to many points in the natural history, diagnosis, and treatment, while the success of operative methods leads to their frequent adoption. We need more carefully recorded cases not only of the patients who come to operation, but those who have successive attacks relieved by medical measures. There are many gaps to be filled between the position of the surgeon who operates only when there are definite symptoms of chronic disease which have been found by operation to correspond with definite lesions of the appendix, and those who resort to operation after one or two attacks in individuals who have no symptoms, because they believe future attacks must occur in the order of nature and must endanger life. The position of the former may be too conservative, but I think it is "up to date" with the knowledge we have at present. The attitude of the latter is unscientific, as their statements are not borne out by demonstration. When it is well established by numerous observations that we must "consider an appendix once so affected as to deserve the name of appendicitis" (to quote from a recent paper), "whether from tuberculosis or trauma, as a permanently diseased structure," or that it is "a risk to life to leave an infected appendix baited and set in the iliac fossa," I shall be ready to advise and perform removal of this useless appendage so soon as a patient has recovered from one attack, light or severe.

The number of these collected cases suggests that there is a tendency to recur in a greater percentage than has been hitherto stated. Fitz's first estimate of eleven per cent. must be too small. This point can only be determined by full reports of all classes of cases. If the natural tendency of the majority is to recur, if, as above quoted, the appendix once inflamed is a permanently diseased and threatening condition, we have an argument in favor of operating for far less urgent symptoms in the acute attack. Physicians must co operate with surgeons in determining this point; and I can conceive no better way than for the Congress of American Physicians

[1] MEDICAL RECORD, March 18, 1893.
[2] A Clinical Report of Operative Surgery. New York Medical Journal, April to August 1891.

[1] Braine (Archiv. de la Policlin. de Paris, 1892, p. 313) reports Quénu as having performed forty-two operations, all successful. I have not included these because it is not definitely stated that all the operations were done in the period of quiescence.

and Surgeons at its coming meeting to appoint a committee to collect and edit reports that may be contributed on all questions relating to this important subject.

These observations are intended merely as a guide-post on the way of progress toward a fuller knowledge of this disease. I therefore forbear from formulating any conclusions beyond such as can be inferred from the record of the cases.

List of Cases Already Reported.

Surgeon.	Recovered.	Died.	Reference.
Page	1	..	Transactions London Clinical Society, 1892, p. 150.
Wicks	1	..	Transactions American Surgical Association, vol. x., p. 179.
Mayol	2	..	Allg. Wien. Med. Ztg., 37, p. 465.
Terrier	1	..	Bull. et. mém. de la Soc. de Chir., 1892, p. 410.
Routier	1	..	Bull. et mém. de la Soc. de Chir., 1892, p. 424.
Rosenwasser	1	..	Cleveland Medical Gazette, December, 1892, p. 68.
Jacobson	1	..	Medical News, vol. lxii., p. 228.
Curtis	2	..	New York Medical Journal, June 3, 1891.
Plummer	1	..	Medical Record, vol. 43, p. 541.
Gordon	15	..	British Medical and Surgical Journal, vol. cxxviii., p. 592; vol cxxix., December 7, 1893.
Treves	16	..	British Medical Journal, 1893, vol. i., p. 836; Lancet, 1891, vol i., p. 227; ibid., 1888, vol. i., p 322.
Affleck	1	..	Edinburgh Medical Journal, August, 1893, p. 106.
Duncan	..	1	Edinburgh Medical Journal, August, 1893, p. 114 (sepsis).
Lenander	15	..	Centralb. für Chir., 1893, p. 953.
Reclus	1	..	Bull. et mém. de la Soc. de Chir., vol. xix., p. 422.
Schede	4	..	Deutsche Med. Wochenschrift, 1892, p. 521.
Jalaguier	1	..	Bul. et mém. de la Soc. de Chir., 1892, p. 349.
Munro	1	..	Boston Medical and Surgical Journal, 1892, p. 653.
Sutton	2	..	British Medical Journal, February 21, 1891, p. 409; Transactions London Clinical Society, vol. xxiv.
Rogers	1	..	Memphis Journal Medical Science, vol. viii., p. 329.
Kümmel	7	..	Arch. für klin. Chir., Bd. 43, p. 477.
Mayo Robson	1	..	Lancet, February 13, 1892.
Jessop	1	..	British Medical Journal, April 9, 1892.
Mayland	1	..	Lancet, 1891, vol. ii., p. 13.
Holmes	1	..	Lancet, 1888, vol. i., p. 322.
Armstrong	1	..	Montreal Medical Journal, vol. xix., p. 261.
Iversen	2	..	Deutsche Med. Wochenschrift, 1891, p. 425.
Huntington	1	..	Occidental Medical Times, 1891, p. 602.
Murray	1	..	New York Medical Journal, May 24, 1890.
Monks	1	..	Boston Medical and Surgical Journal, June 5, 1890.
Roux	8	..	Bull et mém. de la Soc. de Chir., 1892, p. 400 (Note by Quénu).
Hadra	1	..	Medical Record, March 8, 1890.
Tait	3	..	British Medical Journal, 1889, p. 763.
Hoegh	1	..	Journal American Medical Association, November 2, 1889.
Bridge	1	..	Medical News, May 24, 1890.
Smith	1	..	Lancet, May 3, 1890.
Hume	1	..	British Medical Journal, April 11, 1891, p. 803.
Total	101	1	

List of Cases Communicated by Operators.

Surgeon.	Recovered.	Died.	Remarks.	Surgeon.	Recovered.	Died.	Remarks.
Abbe	4	..		Outerbridge.	4	..	
Allen	11	..		Parker	3	..	
Baldy	2	..		Porter	6	..	
Bernardy	1	..		Polk	6	..	
*Bernays	4	..		Ransohoff	4	..	
Bradford	1	..		Richardson	7	..	
Bryant	2	..		Shrady	4	..	
Beach	4	..		Stimson	16	..	
Cabot	14	.		*Walker	2	..	
Carmalt	5	..		Weir	7	..	
Coley	1	..		White	11	..	
Edebohls	2	..		Yocum	1	..	
Elliott	2	..		Fenger	4	1	Sepsis.
Grandin	1	..		Fuwler	14	1	Tubercular ulcer ileum.
Gerster	6	..		McBurney	31	2	*a*. Sepsis. *b*. Volvulus small intestine, left side.
Hartley	13	..					
Halsted	7	..					
Homans	5	..					
Johnson	7	..					
Kammerer	3	..		Senn	34	1	Septic peritonitis.
Lange	4	..					
Meyer	3	..		Wyeth	15	1	Septic peritonitis.
McCosh	2	..					
Morris	39	..		Bull	17	1	Septic peritonitis.
Morton	3	.					
Mudd	2	..					
Murphy	7	..		Total	341	7	

* Communicated by Dr. Miles F. Porter, Fort Wayne, Ind.

Case XIII.[1]—A single woman, aged fifty-five, patient of Dr. D. M. Stimson, had had several attacks of pain with tenderness in the ileo-cæcal region during four months She had frequently diarrhœa with mucus and blood in the stools, could not digest solid food, and often complained (aside from the attacks already mentioned) of dull pain in the right side of the abdomen. Examination was negative, except for an indistinct tender fulness in the right iliac fossa and several internal hemorrhoids. Abdominal wall thick.

April 22, 1892.—Operation: The appendix presented itself at once on opening the cavity, with a thin slip of the omentum attaching it in a curled-up form lightly to the cæcum. It was four inches in length; its extremity for one inch and a half stiff and hard; the rest soft. Its lumen, which was patent, contained two small fecal masses and was lightly constricted at the middle. It was excised, a small pediculated fibroid of the uterus (size of an apple), and three hemorrhoidal tumors tied off. Recovery uneventful, save for a small mural abscess. Since then she has been perfectly free from pain or functional disturbance of the intestines. Dr. Ferguson reported the appendix wall in its distal half to be the seat of chronic inflammation.



Fig. 1.

Case XIV.—A student, aged nineteen, a large eater and frequently constipated, was sick with abdominal pain and vomiting for two days on a yacht. On reaching Seabright, June 24, 1892, Dr. R. B. Kimball found no tumor, but tenderness and resistance in the iliac fossa; fever, 103.5° F. Temperature fell in two days; vomiting ceased, but pain and induration continued. Two weeks later I examined him with Dr. Kimball, and found a firm inflammatory mass between the iliac fossa and rectum, as large as the fist. It was not tender, there was no fever, and but slight pain. The bowels moved regularly. A week later the mass was one-half smaller, without tenderness, and no temperature above 99⅕° F. The patient was allowed to get up, to take moderate exercise, and use pills of aloes, belladonna, and strychnia. In the following November and January he was apparently quite well, and I could find no trace of the tumor. The second attack began March 15, 1893, at 2 A.M., several hours after bolting a hearty meal, with abdominal pain and vomiting. Dr. Schiff, of New Haven, at 5 A.M. found him in a condition of mild collapse, with severe pain and still vomiting.



Fig. 2.—Mass of Thickened and Rolled-up Omentum Containing the Appendix.

March 16th, 8 A.M.—The vomiting was repeated. Temperature normal; pulse, 88. At 1.30 P.M.: Pulse, 100; temperature, 101° F.; right side of abdomen rigid; slightly tender in centre of iliac fossa, and resonance in

[1] The twelve previously reported cases are to be found in Medical Record, March 18, 1893.

creased on percussion. Gas passed. I saw him at this time and advised removal to New York. There was a spontaneous movement in the evening, with pulse, 80; temperature, 100° F.; rectum, 101° F. In the following three days the abdomen became natural and free from tenderness, and there was recognized a distinct induration outside the right rectus muscle and above the middle of Poupart's ligament.

After consultation with Dr. J. W. McLane and Dr. McBurney, operation performed March 20th. The omentum covering anterior wall of cæcum was discovered at once on incising the peritoneum. It was firmly adherent to the anterior parietes opposite the lower third of Poupart's ligament, and formed a pretty firm mass as large as a hen's egg, being rolled upon itself and enclosing the appendix and a layer of old granulation-tissue. (Figs. 2 and 3.) The appendix was curled upon itself, its cæcal end obliterated; its lumen contained a few drops of thin pus. It was removed after ligating the omentum, where it was spread over the cæcum. In doing this firm adhesions to small intestines were torn through carefully, but the serous coat was stripped off in two places, an inch and a half, and a half inch in length, which necessitated the use of Lembert sutures. The catgut ligature slipped off the soft and friable omental stump, and half an hour was spent in drawing it, with the transverse colon, down, and securing the vessels. The cavity was irrigated with boiled water, and a tent of iodoform gauze left in. For two days there was frequent vomiting with slight fever (100°–101° F.) but no pain or tympanites, then recovery ensued. The gauze was withdrawn on the third day, the wound was healed at the end of two weeks, and the patient was out of bed at the end of three weeks.



Fig. 3.—Omentum Unrolled Showing Portion of Appendix in Old Abscess Cavity.

Case XV.—A merchant, aged twenty-eight, patient of Dr. Henry C. Pest, of Fultonville, N. Y., presented the following history: He was always well up to the first attack, in October, 1891, when he suffered for twenty-four hours with sharp abdominal pain and collapse. The second attack (January, 1892) was marked by pain and vomiting at the outset. It followed the ingestion of green apples, and lasted six or seven weeks, with fever, right-sided abdominal pain, tenderness and induration, and general abdominal swelling. The third attack, of three weeks' duration, in October, 1892, was of less severe character. A fourth attack (January, 1893) began (after two days' discomfort in New York) with chill, followed by fever and the usual local symptoms, was attended with great prostration, and lasted three weeks. A week later (February 15, 1893) there was a fifth attack, marked by return of the abdominal pain without vomiting, which confined him to the house for two weeks. He had lost flesh, and looked anæmic and felt weak. On examination by Dr. Kinnicutt and myself, the abdominal wall was found thin and relaxed. Beneath the outer edge of the right rectus a soft tumor (size of one-half the index-finger), not adherent, movable antero-posteriorly. At the operation, March 16, 1893, St. Luke's Hospital, this tumor was found to be made up of the appendix sharply bent on itself and enclosed in a layer of false membrane, closely uniting the cæcum on its internal and inferior aspect to a loop of small intestine. The appendix was two and one-half inches long, and its lumen was obliterated at the bend and at the cæcal end—forming two small cavities with only mucous contents. Iodoform gauze was employed for three days. Wound healed in three weeks.

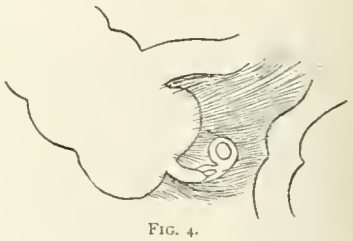


Fig. 4.

Case XVI.—A clerk, aged twenty two, patient of Dr. Van Cott, of Brooklyn, had three years ago an attack of pain in abdomen and right iliac fossa, with fever and vomiting; he was ill for one month. Since then has had every second or fourth month a similar attack, of less severe character and lasting about a week. When seen by me with Dr. Van Cott, October, 1893, he had been sick three days with characteristic symptoms, which were abating. In the iliac fossa there was a slightly tender, deep seated, indurated area, which had disappeared by the eighth day, while the temperature had become normal and the bowels had moved naturally. The operation was then done. The omentum was found adherent to the anterior parietes covering the cæcum, and the appendix, which was short, club-shaped, and thickened, was held by slight adhesions between the cæcum and a loop of ileum. The mucous membrane was thickened and folded into numerous ridges, the lumen patulous, and nowhere stenosed. Dr. Van Cott reported it to be the seat of chronic interstitial inflammation in the serous and muscular coats. Primary union resulted, and the patient was up on the seventeenth day.



Fig. 5.

Case XVII.—A laborer, aged twenty, presented himself at the New York Hospital Out-patient Department, October 8, 1893, with the story that four months previously, he had been sick abed for three weeks with "inflammation of the bowels," the pain being on the right side low down. A few days later he was taken again with similar symptoms, and was in bed four weeks. He felt well till a month ago, when the pain returned and compelled him to give up work. On examination by Dr. Nammack and Dr. Forbes, there was felt in the right iliac fossa, beginning opposite the middle of Poupart's ligament and extending upward and outward, an elongated tender tumor, three and one-half inches long by one

inch in breadth. It was attached to the abdominal wall. There was no fever. Slight dulness. He was admitted at once to the hospital, and operated on four days later, October 12, 1893. The swelling remained unchanged. An incision on the outer side of the swelling disclosed the cæcum adherent, and the appendix curled upward and forward around its lower end. At its middle the appendix was closely united to the small intestine, and its tip was detached from a mass of inflammatory exudation which infiltrated the abdominal wall and gave rise to the tumor which was felt. In the centre of this exudation, near the tip of the appendix, was a layer of softened granulation-tissue with a few drops of pus. After excising the appendix the upper half of the wound was sutured; the lower part packed with gauze. Healing was complete without complications in five weeks.



FIG. 6.

CASE XVIII.—A merchant, aged twenty-seven; patient of Dr. J. L. C. Whitcomb; consulted me on October 9, 1893, for frequent attacks of abdominal pain, which he had experienced during the past three years. The first attack was attended with chills, prostration, fever, and abdominal pain; the second occurred nine months later, but without any chill. Since then, two years and three months, he has had an attack about every month, lasting two days. The pain is felt below and to the right of the navel; the abdomen is tender there; there is flatulence, which is relieved by rest and laxatives. After meals there is often tenderness in the right iliac fossa, and the weight and pressure of the clothing is uncomfortable. On examination a small, slightly tender area, of the size of half the thumb, was found midway between the navel and the iliac spine on the right side. At the operation, which was done November 3, 1893, a strip of omentum was found adherent to the cæcum. The appendix was bound by false membrane around the convex end of the cæcum, with its tip lightly adherent to the peritoneum of the iliac fossa. It was three and one-half inches in length; in its proximal three-fourths it was dwindled to a cord no more than one-fourth inch in diameter, while its tip was a trifle larger. No lumen could be discovered with a fine probe. Dr. Ferguson reported that the mucous membrane had entirely disappeared. Primary union, and discharge from hospital on the twenty-first day. A small stitch abscess occurred subsequently.


FIG. 7

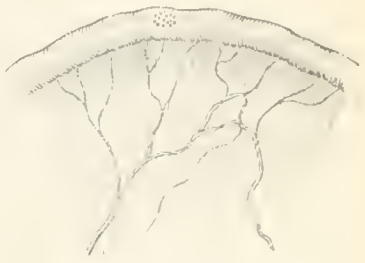
Ecclesiastical Honors to Hydrotherapy. — Father Kneipp, of Morishöfen, the author of a system of hydrotherapy, was recently called to Rome by the Pope, who desired to create him a Monseigneur, and also, it is said, to consult him professionally. Upon the occasion of his visit, a few weeks ago, he improved the opportunity to deliver a lecture upon the virtues of his peculiar hobby. The lecture was delivered in excellent Italian in the drawing-room of the Hôtel de Minerva, before a large audience of clericals and lay-folk, both Romans and foreigners. His discourse was chiefly upon the value of cold baths and a simple diet as a preservation of health. The Monseigneur is a man of splendid physique, and bears witness in himself to the virtues of cleanly living as a means of warding off the minor ills to which humanity is exposed.

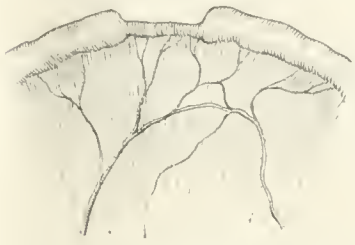
THE PRODUCTION OF ILEAL INTUSSUSCEPTION WITH CARBONATE OF SODIUM.[1]

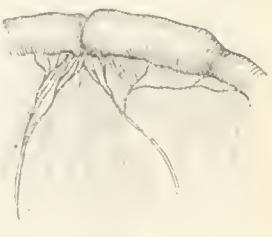
BY ROBERT T. MORRIS, M.D.,

NEW YORK.

IN order to save time and avoid unnecessary handling of bowel in abdominal work, it is frequently a matter of considerable importance for the surgeon to determine quickly the direction in which the intestine runs. The method which is perhaps most commonly employed consists in exciting reversed peristalsis of the bowel by applying certain irritants, and a note has recently been going the rounds of the medical press to the effect that carbonate of sodium is the best material for this purpose. I have demonstrated by experiments upon rabbits that carbonate of sodium is dangerous, because of its influence in producing intussusception of the small intestine. The mechanism of the process consists in a tonic spasm of the circular muscular fibres of the bowel at a point that has been touched with the sodium salt, and for a considerable distance cephalad and caudad from that point; the segment of intestine which is in a condition of spasm being then slowly, but progressively, intussuscepted by the action of the longitudinal muscular fibres of the unaffected bowel. Several inches of the intestine will eventually become intussuscepted in some experiments, the intussusceptum remaining within the intussuscipiens after normal peristalsis has recommenced. This mechanism is the opposite of that which occurs as a post-mortem phenomenon, as I have observed it in one case. In that case the intussusception resulted from a wave of relaxation of the circular muscular fibres of the ileum, allowing a normal segment of bowel to become deeply introverted within the relaxed portion, the mechanism seeming to depend upon the fact that the nerves of the longitudinal muscular fibres remained active longer than those of the circular fibres.


FIG. 1.—Ileum of Rabbit at Moment of Application of a Trifle of Carbonate of Sodium.


FIG. 2.—Ileum, Twenty Seconds Later. Spasm of Circular Muscular Fibres.


FIG. 3.—Ileum, Five Minutes Later. Intussusception Progressing.

The demonstration of the action of carbonate of sodium which I now give upon an anæsthetized rabbit, explains perfectly the action of the salt, rather more than two inches of the ileum becoming intussuscepted at the end of ten minutes as a result of irritating one-fourth of an inch of the bowel. It is thus evident that a patient may have complications due to intussusception after an operation in which carbonate of sodium had been employed for reversing peristalsis, and the surgeon would be unlikely to surmise the nature of the trouble. Chloride of sodium will excite reversed peristalsis, and in a harmless way, so far as I can determine by a satisfactory series of experiments; but it is well to remove the salt as soon as its object has been accomplished.

It seems to me that a certain proportion of cases of "idiopathic" intussusception may perhaps be caused by the absorption of intestinal ptomaïnes which cause spasm of the circular muscular coat of the bowel. This would

[1] Demonstration and remarks at the meeting of the Surgical Section of the New York Academy of Medicine, February 27, 1894.

be more likely to occur in children, because of the sensitiveness of young subjects to influences which are productive of muscular spasm. The intussusception would be of the descending type, unless reversed peristalsis was caused at the same time, in which case ascending intussusception would occur.

SOME LESS CULTIVATED PHASES OF PSYCHOLOGY.

Being Considerations on the Genesis of the Feelings; or the Relation of Desire to the Will-function—Practical Deductions therefrom Concerning the Management of Various Psychopathic Conditions.[1]

By J. LEONARD CORNING, A.M, M.D.,

NEW YORK.

While the literature dealing with the ratiocinative side of mind is exceedingly voluminous, and the subject itself has been deemed worthy of the sages for two thousand years, the feelings and emotions have formed the theme of much less frequent and searching inquiry, the more derivative phenomena of the same, as manifested in the conative (*conari*, to endeavor) or will-faculty, being alone selected for purposes of analysis. Even in this important but relatively restricted field, failure has been the rule, since most of those who have presumed to cultivate it have neglected to trace the volitional faculty to those simple phenomena of which it is the direct issue.

I am sure that every student of psychology who has given the subject thought must have suspected—even though complete logical appreciation was for the time withheld—this glaring inadequacy; and I feel all the more certain, therefore, that the excellent work of clarification so recently performed by Mr. Lester Ward in this important field will meet, at the hands of advanced scholars, that recognition which it so richly deserves.

For reasons which would require much time to elaborate, but of which the justice will at once appeal to this Society, Ward classifies the emotions and feelings—the affective side of mind—as subjective, as contrasted with the relatively objective or thinking faculty. Hence his revival of the two great subdivisions of psychology—first proposed by Kant, but subsequently abandoned by him—the "subjective" and the "objective" psychology. These subdivisions are scientifically explanatory, and therefore convenient; they are worthy, it seems to me, of more general adoption.

It is, however, chiefly with the subjective branch that we shall have to deal in the present argument, wherein the biological precedence which belongs, both chronologically and psychologically, to the affective side of mind will be briefly set forth. It will likewise be expedient to trace the evolution of desire as well as the relation of the same to the conative faculty.

To these propositions may be added a corollary on the scientific cultivation of the will, a problem which, from the standpoint of psychiatry, involves nothing less than the evoking, direction, and strengthening of desire, which in many conditions, and notably in melancholia and hysteria, are prerequisites that will often tax both ingenuity and patience to the utmost.

As has previously been hinted, only recently has an attempt been made to trace biologically the feelings to their primitive elements. The results of these investigations have been startling, since they reveal conclusively that, contrary to popularly accepted belief, the affective faculties immeasurably antedate those of ratiocination, their rudimentary prototype being distinctly traceable even in insect life. Thus, till the close of Jurassic time, vegetation was composed entirely of plants whose reproductive functions were exercised either by the aid of a species of close fertilization, or, when the sexes were separate, by some precarious agency, such as water or wind. Enormous waste in the form of pollen grains was, of course, the inevitable accompaniment of such hap-hazard reproduction.

But there came a change, which is tersely described by Lester Ward, who is not only a sociologist but a botanist, in this wise: "It is known that during the cretaceous epoch the class of plants which now bear true, often showy and fragrant, flowers was introduced. . . . Toward the close of this same epoch, and especially during early Tertiary time, it is also known that insects resembling the present hymenoptera, coleoptera, and lepidoptera made their appearance. So it is now known that the sole purpose of showy and fragrant flowers is to attract insects and secure cross fertilization."

The existence of these flowers, then, is clearly traceable to the agency of insects whose affective functions they, in turn, still further developed. Here, then, in these modest insects is found the embryonic feeling, the sense of the beautiful—the primordial soul-function. But what for us, as students of mental phenomena, is most significant, both from a theoretic and practical standpoint, is the fact that color still remains one of the two most potent means of awakening desire, even where encephalic development has attained its maximum, as in man. The other desire provoking influence is sound, especially, though not exclusively, in the form of concerted minor accords.

Now, when it is borne in mind that the potency of the will, indeed its very existence, is dependent upon desire; and when, in its ultimate analysis, the will-reaction is seen to take place in accordance with the most ardent desire—or at least that which consciously or unconsciously is for the moment most vivid—it becomes evident that the awakening, fostering, and guidance of desire are of the first importance in dealing with a number of important psychical conditions. This is true of many phases of neurasthenia; it is true of hysteria; it is pre-eminently true of melancholia of the simple, non-delusional type. Yet, while the sociological importance of desire in its relation to volition has been well exhibited, the principle, so far as it is applicable in the management of morbid psychic conditions, has been but dimly apprehended.

Exhortations to "use your will;" "interest yourself in this and that;" "take your mind off yourself," and the like, are confessions that while the nature of the psychic difficulty is perceived, its possible removal by external interference is less apparent. But appeals by way of sight and hearing are hardly sufficient—at least not in pathological cases—to evoke or perpetuate desire.

One lady, who was a sufferer from simple melancholy, and whom I sent to the opera, declared that melancholy reflections would frequently obtrude themselves in the midst of the most enchanting harmonies; and that these distressing thoughts afterward interfered with the perfection of what would otherwise have been delightful memories. Conceiving that this lack of complete emotional responsiveness was due, or largely due, to cerebral atony—if I may so express it—I requested her to take a small cup of strong coffee, to which a moderate dose of cognac was added, immediately before going to the opera. As a result of this the triste reflections failed to obtrude themselves, and the resultant memories were without melancholy admixture.

Stimulation of the sensorium before the sensory appeal is made. is the second important element, then, in the awakening of desire. When submitted to final analysis it will be seen that what has previously been propounded constitutes in reality nothing more nor less than a physiological rebuttal of pessimism. I speak of this overthrow, this rebuttal of pessimistic tendencies as physiological to mark the essentially different character of the process as contrasted with the ratiocinative method, which is really that of speculative philosophy. But while what may be termed the physiological rebuttal of pessimism, *i.e.*, its attack by way of the senses, more especially those of sight and hearing, and by increasing, at the

[1] Read at a stated meeting of the New York Neurological Society, January 2, 1894.

same time, the responsiveness of the central nervous system by material means (stimulants, tonics), is the most effective means of awakening desire and arousing dormant volition, it must be confessed that a purely philosophical appeal is exceptionally not without value, especially where we have to deal with persons in whom the intellectual faculties are predominant.

A gentleman of much importance in the literary world, who was under my professional care for a long time, is a good illustration of emotional inaccessibility. He suffered from what he graphically termed "intellectual despair," the keynote of which was the old pessimistic one that "pleasure is a myth, the only real thing in life its pains." This condition of mind was not materially modified in his case by appeals through the special senses and by cerebral stimulation. But when I said to him: "Ah, yes, pleasure is a reality after all; for it has duration, being computable in units of time," he was visibly affected. Yet he was apparently not altogether convinced, for he remarked, "This may be true, but so far as I can judge, the unpleasant sensations far outweigh the pleasant ones. Either I wish for things I cannot get, or I get things I do not wish."

"This," I replied, "is doubtless partly owing to the fact that your desires are not directed in reasonable channels; that you wish for things which, if obtained, would be inexpedient or fraught with injury to others, instead of desiring those which are simple and easily attainable. In part, however, it is owing to the fact that you forget the pleasant sensations you have had, and store away in memory only those which you have not had, but unreasonably crave. Consequently those sombre memories are alone revived and lend a pessimistic coloring to all your reasoning. In future let me urge you to pursue just the opposite course; commit to memory only the euphonic passages, and forget as speedily as may be the dissonances of life. Try, also, to discourage unreasonable desires by substitution, *i.e.*, by exposing yourself to those suggestions which eventuate in simple, easily obtainable wants."

He seemed decidedly affected by this train of reasoning, and subsequently he told me that the resultant transformation in his philosophy was sufficient to antagonize his habitual melancholy to a notable degree.

I have cited this case somewhat in detail, with a view to exhibiting what may occasionally be accomplished by an adroit appeal made to the intellect alone. Such results are, however, exceptional, and alone attainable in persons in whom the emotional faculties are quite subordinate to the intellect.

Indeed, as noted above, the desires—and ultimately the will—are in most neuropathic individuals best evoked and fostered through the special senses, notably sight and hearing; while, at the same time, the receptivity of the sensorium is increased by proper stimulation. Nor is the effect necessarily evanescent; for, by encouraging the subject to recall from memory—several times a day, if necessary—these vivid sensations, a distinct melioristic tendency is gradually imparted to the mind. That due heed should also be given to the general bodily condition; that nutrition must be improved, and gouty or other morbid tendencies antagonized, in order to insure any degree of permanency, is so self evident that the discussion of this aspect of the question would be supererogatory in such an assembly as this.

The expedients here advocated are, then, both physiological and psychological; and so far as is possible in a brief sketch, I have endeavored to set forth the mutuality of their offices in modifying not only the concept but the emotional state, which, from a medical point of view, is on the whole more important.

To have given more than the barest outline of the subtle, not to say labyrinthian aspects of the psychology involved, would have been difficult in a lengthy communication, and is out of the question in a short paper. To do the matter justice would indeed require a volume of no mean proportions.

The question of influencing the mind to the profit of the patient is, however, on all sides, conceded to be a worthy and important problem of neurology. I have, therefore, dared to hope that the inadequacy of this sketch might be atoned for by the value of the discussion which it might possibly evoke.

With the loss of prestige which has apparently overtaken hypnotism; with the consciousness on the part of many neurologists that, in too many instances, the only service rendered by this expedient is to substitute a veritable neurosis for the morbid condition which it was sought to modify, there has arisen, I am sure, a widespread desire for a more intelligent appreciation of what may be done to influence the mind along strictly scientific lines and without melodramatic assistance. It is in this spirit that these observations are made; and what is inadequate in the presentation, may, I trust, gain completeness in the discussion.

53 West Thirty-eighth Street.

A NEW DISEASE OF THE VAGINA—PERIVAGINITIS SIMPLEX.[1]

By J. J. E. MAHER, M.D. McGill,

NEW YORK.

LATE PHYSICIAN TO THE NEW YORK, THE EASTERN AND THE NORTHERN DISPENSARIES, AND THE NEW YORK ASYLUM FOR LYING-IN WOMEN. MEMBER NEW YORK COUNTY MEDICAL SOCIETY, NEW YORK COUNTY MEDICAL ASSOCIATION, ETC.

It is seldom in a lifetime a man is called upon to describe a new disease, and consequently when the phenomena which characterize the malady are not frequently observed, and nothing can be found in the medical literature of many tongues that could in any possible manner be construed into a parallel, it becomes difficult to assert that the description is entirely complete and all that could be desired. No matter how perspicuous the delineation of the salient features of a case may appear, owing to a possible oversight, or a disregard of some minor details as irrelevant, it may require further elaboration to demonstrate the integrity of the whole. The main and important features of this case, however, are so strikingly unique as to present a harmonious and independent individuality. On the strength of this conviction I volunteer the following description of my case:

Mrs. N——, aged twenty three, a brunette, of average height, 106 pounds, of nervous temperament and irritable disposition, was one of those wiry persons who with a delicate physique always enjoy good health. From a causative stand-point her family history presented nothing of importance, unless we consider the fact that the husband was a megalomaniac at liberty, though shortly afterward confined for general paresis.

She had been married one year, and had just been delivered, nineteen days, of her first child, when I was called to see her on account of puerperal hemorrhages and painful sitting. There was nothing unusual about the male child, nor had there been anything unwonted about the pregnancy. Labor at term had lasted only nine hours, when the attending physician, becoming impatient from whatever cause, delivered her under chloroform anæsthesia by means of the forceps. Soon after delivery she began to cough, and two hours later a hemorrhage ensued. This continued nearly three days, more or less checked by drachm doses of fluid extract of ergot every four hours.

About the fourth day a fœtor was observed and met by carbolic douches, on the supposition that it emanated from the genital tract. At the end of two weeks the disagreeable odor had been quite subdued; the lochial discharge remained a bright red, though small in amount; and the attendant, considering the case favorably disposed, left her to get up when she pleased. On his assurance that she was well, she thought she must be so, and accordingly made an effort to rise the following day. When she assumed the erect posture a gush of blood issued from the vagina. Though frightened at the bleed-

[1] Read before the Medical Society of the County of New York.

ing, she determined to sit down, but found she could not, owing to intense pressure pain in the perineum. She repeated this attempt unsuccessfully during the ensuing five days. She had become frantic, almost desperate, and wished to die rather than suffer so.

It was at this juncture that I saw her for the first time. She lay abed, pale and weak, and wore an anxious look of dread, as if wrought up by the existence of a lulled pain easily provoked and aggravated. The pulse was 120; temperature, 100° F. The skin felt somewhat clammy. The tongue was quite clean, yet inappetence and liquid stools obtained. There was no remarkable thirst. The alvine dejections were said to have been of a liquid character every day since the day following delivery, when she had an unprovoked liquid stool similar to the subsequent ones.

I might here interject that she had been constipated for two or three days prior to delivery, and had taken castor-oil, which proved to be emetic instead of cathartic; and also, that owing to the putrescent odor of the constantly escaping flatus, her mother would jocularly say she was rotten. This is significant.

She was restless, and complained of insomnia, painful sitting, and a disagreeable succussion of liquid in the pelvis on moving suddenly in the horizontal position, with a discharge of blood from the vagina on assuming the erect posture.

The entire perineal body possessed a brawny hardness and was lacerated about a centimetre. The laceration presented thickened, everted, indurated lips that could not easily be approximated. The labia in coaptation presented nothing unusual; but when separated, the visual field beyond was astonishing. The vagina formed a rigid tube, all agape, with the cervix and os uteri distinctly visible at its upper end. One would have thought an invisible speculum held the walls asunder. Never did I see the entire and natural calibre of the vagina so remarkably demonstrated. There was a rigid, cylindrical tube, more funnel shaped at its upper extremity, where the cervix protruded into it from above. The mucous membrane was apparently unaltered. Pressure on the perineum and this vaginal tube was repelled as painful, and identified with the painful sitting. The sensation produced was like that of sitting down suddenly on an apple, ball, or some other similar hard substance. This same pain was elicited by pushing the uterus toward the vulva. Very slight pressure in either direction was intolerable. Pressure on either side of the uterus and over its body gave negative results. The body of the uterus was movable without pain, save in the downward direction. A blunt curette was passed into the uterus and it brought away only a few small coagula the size of a pin's head. There was no return of the bleeding after that. Not the slightest fœtor could be detected. The entire genital tract was, as a matter of precaution, washed out with an antiseptic solution. A glycerine tampon was placed in the vagina. The laceration was treated as an ulcer. Three days later the vaginal walls had collapsed at the upper end to the extent of almost hiding the entire cervix from view. Thus far, be it remembered, no speculum had been used. Though the vagina about the cervix seemed soft enough, the latter remained tilted forward. This gave rise to a suspicion of a possible tumor behind the uterus. The constitutional symptoms still persisted, and the condition of the vagina prevented a digital examination. Under the circumstances I made a digital exploration per rectum instead. The tip of the finger, despite the pain from pressure on the perineum, impinged on what seemed a solid, slimy body. Pressure was made on every side of the rectal walls with no avail. The rectum was filled with injected fluid, and the eccentric pressure repeated with the result of bringing the mass within easy reach of the finger. A piece broken off was extracted. In a few minutes the entire fecal tumor was removed. The dislodged, mouse-colored mass produced such a stench as necessitated the immediate opening of every aperture in the room, and the use of a counter-odor of a more agreeable character.

In a few days after the operation all the general symptoms disappeared, all the induration melted away, the vaginal walls collapsed apace from above downward, and the slight laceration of the perineum was all that remained to indicate a pathological condition.

The symptomatology of the above case evidently consists of the general irritative, febrile condition, and the local complex of relative phenomena. For its origin and persistence the former obviously depends on the latter. The general symptoms: pallor, lassitude, anxiety, inappetence, restlessness, insomnia, clammy surface, elevation of temperature, and rapid pulse.

The local symptoms: The feeling of succussion of fluid in the pelvis in the recumbent position; the gush of blood from the vagina on assuming the erect posture; the inability to sit; the sensation of a hard body in the vagina when attempting to sit; the brawny induration of the perineum; the gaping, cylindrical, and rigid condition of the vaginal tube, which rendered the cervix and os uteri distinctly visible at its upper end without the use of artificial aid; the pain of pressure on either end of the tube, upward or downward, identified with that of painful sitting; the limitation of the disease to the immediate environment of the vagina.

To these must be added those symptoms referable to the rectum: The elusive liquid stools, the deceptive freedom of the bowels, the almost constant escape of mephitic gas, and the presence of a decomposing fecal mass.

The etiology of the disease, in this case at least, can only be apprehended and demonstrated on the assumption that the fecal mass existed before delivery, and that the head of the child was forcibly dragged over it.

This stercoraceous accumulation, flattened out by the compressive force of the passing fœtal head, must have expanded the rectal walls to an extent commensurate with the size of the mass. Simultaneously the vaginal walls were distended to their utmost by the fœtal head.

This mechanical extreme distention of either the rectum or the vagina, considered separately, might be easily regarded as within the scope of the functional laws of either organ, and thus be reckoned within physiological bounds; but if it is possible for either organ to be distended beyond the natural limit, the extreme distention of the two organs synchronously surely exceeds the restrictions of physiology, and consequently enters the field of pathology. While the vagina is enormously distended by the head of the child, the recto-vaginal cellular tissue is expanded *pari passu* to an extreme degree—probably its natural limit of physiological resistance. If, when in this condition of extreme tension of the recto-vaginal cellular tissue, the rectum is greatly distended, there is little doubt that the resistance of the intramural connective tissue has been overspent, and that a physiological function forced to excess eventuated in a pathological condition; because the overstrained connective tissue, subjected to the infecting influence of the decomposing fecal mass (which meanwhile remains in close proximity) is overstimulated in the process of repair; and the ensuing proliferative exudation, exceeding the normal limit of restoration, and spreading to the similar contiguous elements surrounding the vagina, induces thickening of its substance to a remarkable degree, and thus establishes the characteristic inflammation which I have termed perivaginitis simplex.

I would therefore consider the causation in this case as depending on the resultant expansion of the intramural cellular tissue, incident to the distentions of the vagina and the rectum conjointly, plus the infection derived from the decomposing rectal mass.

This theory is, to my mind, all the more tenable when it is observed that precedent lends it color and strengthens conviction.

There is a case[1] recorded in French literature in which a child, by forceps' traction, was dragged over a fecal tumor by dint of the muscular efforts of three students in attendance, and in which the patient died a

[1] Flammant: J. de Méd. et de Chir. pratique, t. ii., 1832, p. 332.

month later with abscess of the intramural cellular tissue. Hence mine would not be the first such case in which the attendant dragged the fœtal head over a mass of fecal matter impacted in the rectum.

The diagnosis of simple acute perivaginitis is readily established by the existence of the pathognomonic sign: the patent condition of the vaginal canal. The extent and character of the inflammation can readily be estimated by passing the left index-finger into the rectum, and the right into the vagina. Between the two fingers thus placed the amount of thickening and induration of the recto vaginal cellular tissue can be easily ascertained. Likewise with a curved sound in the bladder the condition of the vesico vaginal wall may be learned. The uniformity of the thickness and consistence is significant in discovering the inception of softening and abscess formation.

It may be suggested as a question of differential diagnosis that œdema of the perivaginal cellular tissue might be mistaken for perivaginitis. Œdema would be a non-inflammatory affection, and consequently would not give rise to general febrile phenomena. Moreover, I have not been able to find a description of such a disease as perivaginal œdema, and, of course, cannot speak more definitely of it than inferential reasoning will permit.

The pathological condition considered by analogy: I have had the good fortune to find the record [1] of a case which occurred in the New York Hospital forty odd years ago, and which will readily be recognized in its pathological aspect as one of inflammation of the peri vaginal cellular tissue.

The patient, a drunkard, was treated for inflammation of the stomach and liver, on account of the violent gastric symptoms. The autopsy showed all the organs of the body outside of the pelvis to be in a healthy condition, save a slight congestion of the lungs. In the pelvis was found her disease, which was described partly thus: "The cellular tissue uniting the vagina to the surrounding parts was very much developed, being about half an inch in thickness, of a grayish ash color, very moist, but retaining a considerable degree of consistence." Owing, however, to the discoloration of parts of the adjoining mucous membranes of the vagina, bladder, and rectum, the case was called gangrene, probably from want of a better and more explicit term. In periostitis, when the blood supply is cut off by inflammation, and the tissue that should be nourished succumbs to necrosis in whole or in part, we might equally as well call it gangrene; but periostitis is more distinctively significant, and consequently, like perivaginitis, preferable.

The prognosis of acute simple perivaginitis, as illustrated in this case, seems decidedly favorable. But when the inflammatory process is excessive or too long overlooked, the cellular tissue may continue to increase in thickness and density to such a degree as to compress and finally obliterate the vaginal arteries supplying the vagina, a part of the rectum, and a part of the bladder; these parts would then undergo necrotic changes. The intumescence of the cellular tissue might soften and dissolve into purulent elements, forming an abscess. Again, these two processes might co operate or succeed, the one the other, in such a manner as to effect the complete segregation of the entire vagina and a part of the cervix from their environment. Such, indeed, was the occurrence in the obscure cases so incompletely described first by Marconet [2] of Moscow.

The treatment of perivaginitis in its simple, suppurative, or gangrenous form, based on general principles, would appear to me very obvious. The source of irritation, first of all, if possible, should be removed. In the simple form thorough cleanliness and a tampon of cotton saturated with boric acid and glycerine fulfil the requirements of the case.

In the more advanced and violent forms the same treatment demanded in periostitis may be here justly and properly applied. Incision to remove tension and permit the escape of suppurative fluid may be imperatively called for. This, with proper antiseptic absorbent compresses, and scrupulous cleanliness, supplies the necessity of the case.

Though in the beginning I did not intend to digress from my own individual case, the temptation to enter upon analogy proved very seductive. Withal I hope the whole will be found as interesting to others as to myself.

213 West Twenty-third Street.

[1] J. A. Sweet: New York Journal of Medicine, 1850, N. S. V., 197.
[2] Virchow's Arch., B 34, p. 225.

ABSCESS OF THE ANTRUM OF HIGHMORE, WITH CASES AND THEIR TREATMENT.

By E. HARRISON GRIFFIN, M.D.,
NEW YORK.
LECTURER ON DISEASES OF THROAT AND NOSE AT BELLEVUE HOSPITAL MEDICAL COLLEGE; ATTENDING SURGEON OF THROAT AND NOSE DEPARTMENT OF BELLEVUE HOSPITAL OUT-DOOR POOR, NEW YORK.

The treatment of this disease in my hands until late years was always unsatisfactory. I began to look upon it as a condition that could be relieved, but hard to cure. Cases were under my care for months; the discharge would diminish under treatment, but in the spring or fall the patient would come to consult me for that discharge from the nose.

I tried every manner of medication; but with always the same result.

Lately I have been following out a different mode of treatment, and I find the disease surrenders under its application and fails to reappear. The diagnosis is simple if the following points are borne in mind:

If the patient should designate one side of the nose as the source of a discharge, suspect an abscess of the antrum, and substantiate it by the following facts: the secretion from the normal nose is a viscid mucus; in an atrophic condition the crust formation takes place; in a hypertrophic state the secretion from the front of the nose is diminished.

In an acute abscess, the discharge is of a creamy consistency, sometimes of a yellowish white, in some cases it may be pure white, at times it may be mixed with blood. The discharge has a very disagreeable, penetrating odor, distinctly different from the odor that is associated with atrophic rhinitis.

To sum up the symptoms of antrum abscess, first, it generally affects only one side of the nose; second, a muco-purulent secretion; third, it will quickly reform after removal.

Pain may be quite a factor in antrum abscess when the ostium maxillary is closed and prevents the discharge from finding its way out through the nose. In these cases the retention of the pus causes a necrosis of some of the bone and it makes its escape through the alveoli, orbit, or cheek. I have seen this occur in two cases where the patient applied to me for the external abscess rather than the primary cause of the trouble.

The older writers on this subject, Merbomius, Drake, Cowper, and Jucker traced the origin of this disease to decayed teeth.

Other authorities, Zuckerkandl, Schiffers, Chatellier, and Krause, describe, as the most frequent cause, the extension of the inflammatory process from the nasal canal.

Bosworth takes the ground that when the nose is obstructed by hypertrophic rhinitis the ostium maxillary is liable to be completely occluded, the normal secretion of the antrum retained, a moderate hyperæmia of mucous membrane resulting in and leading lastly to an abscess. This he points out to be the most general cause of antrum disease. The abscess produced by occlusion of the ostium maxillary rather than an extension of a catarrhal inflammation.

Cases have been reported where the disease has arisen from traumatism; an accident attendant on parturition: division of the infraorbital nerve and facial erysipelas. The disease is purely a local trouble at the start, and this view is entertained by many of the life insurance com-

panies, as two cases that were under my care stated that they had this trouble and were given policies.

We have at our disposal several ways of gaining an opening into the antrum. First, by the removal of the first or second molar tooth. If one of them is carious remove the one that is diseased; if both are apparently healthy, the one that gives pain by the stroke of a steel instrument is the one to be selected. A spray of ether is also a good diagnostic point. After the tooth has been extracted, it is necessary in some cases to drill through a stratum of thin bone, when the antrum is easily reached. This opening should be made as large as possible, as the larger the opening, the better the drainage. If it should tend to close up, the parts can be touched with a twenty-per-cent. solution of cocaine and can be easily enlarged by passing a good steel probe through the opening. Cotton wrapped on the probe will dilate the parts still more.

The opening into the antrum should show a flow of pus. I have had very little trouble with this opening closing up before I desired. Various tubes are in the shops that can be fitted into the opening and attached to an adjoining tooth. Professor Partsch, of Breslau, recommends one with a valve; but it prevents the discharge from coming down through the opening, thus I think his instrument is a drawback.

When the antrum is first opened it is well to probe thoroughly in search of any necrosed bone. Wyeth had a case where a supernumerary tooth produced the discharge.

M. Lawrovier, in 1743, opened into the antrum below the eminence which is felt by carrying the finger as high up as possible under the upper lip, the mouth being closed, namely the malar apophysis. The membrane is dissected off by a transverse incision and the bone is perforated. This operation shows very good results, its fault is that food is liable to enter the sinus.

The antrum can also be reached through the inferior meatus, as proposed by Michuliez.

M. Jourdain, in 1765, treated these cases through the natural opening by injections. This manner of operating is tedious and unsuccessful. The time of a cure varies from a few weeks to two years. Those that were cured in a few weeks must have been very mild cases or the cure incomplete.

Of all the various operations I have stated I prefer the one that requires the removal of a tooth. It is the easiest operation and at the same time the opening is made at the most advantageous point for drainage.

After the opening has been made into the antrum, the case is ready for local medication. A late authority proposes cleaning the cavity and packing it with iodoform gauze. He claims good results with this mode of procedure. It seems rational, as the gauze keeps the parts open and permits a free drainage.

Solutions of zinc, iodine, mercurials, carbolic acid and peroxide of hydrogen have been used as local injections to the sinus. Of all the drugs I have named, and there are any number of others used for this purpose, I prefer the peroxide of hydrogen. I use it from one fifth to one-half strength, in some cases full strength, although I generally use the milder mixture.

The injection of this cavity is painless if the aperture is touched with a twenty-per-cent. solution of cocaine, and time given for it to act. I use a long rubber syringe made by Tiemann. The point of it is as large as the French No. 8 sound. If the opening is too small to admit this instrument at first, it can be dilated as I have before stated.

The first injection had better be mild, as the peroxide will give rise to a fulness in the head, but the patient soon becomes used to the feeling.

If a cup or a bone dish shaped like a crescent is held under the nose by the patient, the operation can be done without soiling the clothes.

I have used the above drugs and have had only partial success in the treatment of this disease; till lately I have followed up the peroxide treatment with the injection of the following preparation: ten grains of iodoform in one ounce of albolene oil. The iodoform will not dissolve in the oil; but if the bottle is well shaken, it will be held in suspension. In syringing some of the liquid will ooze into the mouth; but the most will flow down through the nose, while a sufficient quantity will remain in the antrum to cover the membrane with this perfect unguent.

At first a mild injection might be used to test the susceptibility of the patient to the iodoform preparation. If the eyes are inflamed or the nose runs very much after the treatment the strength of the solution should be diminished. If the nose should be examined after one of these injections, the mucous membrane will be found covered with the iodoform as perfectly as if it was covered with an ointment. I tried this injection on the maxillary bone covering over the apertures and found upon inspection the same appearance in the sinus.

After two or three injections of this preparation, this discharge through the ostium maxillary will have changed from its creamy pus to about the discharge that it is customary to find in hypertrophic catarrh. The peroxide will diminish the amount of the secretion; but its character will remain the same unless persisted in for a lengthened period.

The iodoform preparation will change it after a few medications. This is also true of aristol or europhen. I use nothing internally unless the patient should be debilitated. If necrosis has taken place and the patient is a syphilitic, the iodide of potash and mercury are indicated. The antrum should be syringed thoroughly once a day at the start with the peroxide and iodoform solution. If the case is one where the the pus quickly reforms, the peroxide might be used twice a day. The mistake is often made of stopping the syringing when the pus discharge has decreased and to trust to nature to perform the rest of the cure. These cases will come back in the spring or fall, and an examination of the internal nose will reveal the old pus discharge in the locality of the ostium maxillary. Keep the parts open till all sign of the pus discharge has ceased. When it is time for the opening to close, it will obliterate without any local medication.

Case I.—Male, tailor, complained that he had a discharge from the nose, he had been under treatment for catarrh before I saw the case, without any improvement. Inspection of the left nose revealed antrum disease. The discharge had flowed from his nose now for one year and over. I had the second molar tooth extracted and enlarged the opening by a steel probe. I treated the case at first with the peroxide treatment, found the discharge diminished, but the nature the same. Three weeks' treatment with iodoform allowed me to discharge my case as cured.

Case II —Female, aged twenty-six, came complaining that she was forced to use her handkerchief very often to one side of her nose; the discharge had a disagreeable odor. Inspection revealed antrum abscess. Removal of tooth and syringing with the above preparations gradually decreased the amount of the discharge and permitted me to dismiss my patient after thirty days' treatment.

The above treatment has been very efficient in the cases that have come under my charge. This mode of medication changes the character of the discharge in a short period, and if it is persisted in the case can be permanently cured.

112 West Forty-fifth Street.

Hysteria and Marriage.—The belief is as old as Hippocrates that hysteria is cured by marriage. But Dr. Wythe Cook finds, from his experience, that in most cases of dysmenorrhœa and hysteria among single women, marriage aggravates the disease. Hysteria is by no means cured by marriage, dysmenorrhœa often returns after pregnancy.—*American Journal of Obstetrics.*

ATONY OF THE STOMACH.

By M. GROSS, M.D.,

NEW YORK.

By the term atony of the stomach we understand that condition of the organ which manifests itself by relaxation of the muscular tissue, that is, a mechanical insufficiency of the stomach.

Unquestionably, the occurrence of paresis of the gastric muscular tissue, which must be looked upon not as a symptom of an anatomical alteration of the stomach-wall, but as a pure neurosis, is far more rare. In the production of dilatation of the stomach such conditions of atony play an important part, as I shall show hereafter.

These primary atonic conditions may occur as an independent disease of the innervation of the nerve centres governing the peristalsis of the stomach, whether situated at the seat of the affection or in the central nervous system, and are a frequent cause of the resulting dyspeptic troubles;[1] but in the great majority of cases atony of the muscular tissue of the stomach appears as a symptom. Thus we find weakness of the muscles either in consequence of excessive work thrown upon them, which is followed by gradual relaxation, or after insufficient nutrition of the contractile elements of the stomach wall in anæmia, chlorosis, nervous affections, debilitating acute and chronic diseases, etc.

In chronic gastric catarrh the ingesta remain for a long time in the stomach; the organ is overtaxed, and the immediate result is relaxation of the muscular tissue, *i.e.*, an atonic condition of the stomach-wall. In hyperchlorhydria, for instance, the digestion of amylaceous substances is retarded, the stomach is emptied very late if at all, and here, too, the consequences of overtaxing the organ will ensue. I have frequently found an atonic condition of the stomach in chronic malaria, which is by no means rare in this city.

The subjective symptoms complained of are mainly caused by the long retention of the food in the stomach and the results produced thereby. Thus the patients complain of a sense of fulness and premature satiety; of burning and eructations with an acid taste, either due to the excessive production of acids, or to the fermentation undergone by the food which remains long in the stomach.

In atony we not rarely find the form of vertigo first described by Trousseau (vertigo stomachalis), probably due to stretching of the gastric nerves. When the trouble is of long standing reflex effects upon the heart may occur, in the form of the well-known symptom-complex of cardiac (dyspeptic) asthma, with palpitation and irregular heart-action, probably the result of a neurosis of the vagus.

Of greater importance are the results of the objective examination. On percussion we find the stomach enlarged; but if we take into consideration how greatly the size of the stomach varies even under normal conditions, we shall ascribe to this sign a corroborative value only. Often enough I have had an opportunity of demonstrating a low position of the greater curvature without being able to find any dyspeptic symptoms. Thus many large eaters have a big stomach (megalogastria) without being troubled by any gastric symptoms. Of still greater importance, however, is it to determine the elasticity or tonus of the stomach.

Penzoldt makes the patient drink a quart of fluid on an empty stomach; should the greater curvature, which stood above the umbilicus, sink to the navel or lower, then the stomach-wall has lost some elasticity, because under similar conditions in the healthy state the greater curvature hardly ever reaches the navel.

Dehio took the view that the more relaxed the stomach-wall the sooner will even small quantities of fluid bring the inferior limit of the stomach to its lowest point. Hence he makes the patient drink half a pint of water in the erect position, and then marks the greater curvature.

[1] Ewald.

Gradually the patient is given more water in like quantities; in health the greater curvature will never pass below the navel, but in the atonic condition of the stomach the greater curvature will reach the umbilicus after one or two doses, and soon descends lower when more fluid is given.

I inflate the stomach by means of the tube devised by me,[1] and thus easily find the position of the greater curvature; its previous position having been determined by percussion. We may also ascertain the atonic condition of the stomach by demonstrating its lessened motor power.

1. Following Leube, we give a test-meal consisting of a plate of soup, a large beefsteak, some wheaten bread, and a glass of water. If remnants are found after the lapse of from six to seven hours, insufficiency of the stomach exists.

2. Ewald and Sievers have devised the so-called salol method, which is based on the fact that salol is decomposed into salicylic acid and phenol by alkaline solutions, or in the presence of the pancreatic juice, or of the microorganisms in the intestine, but remains unaltered in the stomach when its contents are acid in reaction. One gramme of salol is given with the meal, and twenty four hours later the urine is tested for salicylic acid by means of dilute chloride of iron solution; if the reaction is obtained (violet coloration of the urine) atony is present. The appearance of the salicylic acid in the urine enables us to form an estimate as to the rapidity with which the contents of the stomach reach the intestine; or, in other words, as to the muscular activity of the stomach.

Huber has determined the time limit within which the reaction for salicylic acid can be obtained in the urine after the ingestion of salol. This is said to be twenty-four hours for healthy persons, but in patients with weakened motility of the stomach may continue for forty-eight hours and longer.

The chemical examination of the contents of the stomach furnishes different results according to the prevailing conditions of the organ, but they offer nothing characteristic, and are not available for the diagnosis of the atonic state.

It is clear *a priori* that a continual variation from mechanical to chemical disturbance, and the reverse, must be present; for in proportion as the ingesta remain for a longer time in the stomach, they must react by mechanical irritation upon the glandular activity. This irritation will result in increased secretion of hydrochloric acid, which may even amount to a continual flow of the gastric juice (Reichmann). Eventually, however, decrease of glandular activity ensues, the ingesta undergo earlier and more rapid decomposition processes, whose products again act as noxious irritants upon the gastric mucous membrane, and even on the entire stomach-wall. In this way a vicious circle develops, which finally terminates in the stage of intense paresis and relaxation of the muscular tissue—that is, in atony and dilatation.

I have stated above that I have occasionally found in malarious patients, at my policlinic and in private practice, atonic conditions of the stomach traceable to the malarious dyscrasia alone; chemical examination of the contents of the stomach in these patients showed, in most cases, a decrease in free hydrochloric acid.

The course of the atonic condition of the stomach will depend altogether on the fundamental affection, and often assume an acute or a more chronic character.

According to what has been stated, the diagnosis of atony of the stomach would not be difficult. In the differential diagnosis, dilatation alone might come in question, and in this respect the course of the case would be decisive. Moreover, in ectasia the succussion sound can always be obtained, but in atony only for a short time after a meal.

Again, if we give test-suppers (after Boas) consisting of wheat-bread and butter, cold meat, and a large cup of tea, and find the next morning, on several occasions,

[1] New York Medical Journal, November 18, 1893.

that the stomach is invariably empty, we have to deal, not with ectasia, but with atony, if the other signs of this condition are present.

Finally, attention should be paid to the markedly diminished diuresis in ectasia, at least in the advanced stages, while in atony diuresis is approximately normal.

The therapeutic measures to be instituted should be adapted mainly to the fundamental affection; but frequently enough we shall be forced to treat the atony as a symptom. In that event the diet above all should be carefully regulated, so that the stomach-wall be relieved as much as possible of any strain by the quantity of food or its indigestibility. Hydriatic procedures in the form of the so-called "Scottish douche," may be used with good effect, and so may the systematic extra-ventricular or intra ventricular electrization conjoined with massage of the stomach and the intestinal canal. In the way of drugs, the extract of nux vomica might be tried in doses of from one-sixth to one-half grain.

1042 Lexington Avenue.

Clinical Department.

SUPPURATION OF FRONTAL SINUS.[1]

By G. D. GREGOR, M.D.,

Salt Lake City, Utah.

I wish, briefly, to call your attention this evening to the subject of suppuration of the frontal sinuses, and to report an unfortunate experience I had with a case some months ago. From the fact that we are liable to learn more wisely from our mistakes than from our brilliant successes, and also from the fact that this subject is given but scant attention in most of our surgical works, affords me the opportunity to place before you the importance of this unusual subject.

You will remember that the frontal sinuses are two irregular-shaped cavities, of variable size, that extend upward and outward between the two tables of the frontal bone upon the vertical portion of its internal surface; that they are situated on each side of the nasal spine of that bone; that they are separated by a thin bony partition which is occasionally perforated, and that their cavities are frequently subdivided by incomplete bony laminæ. They are absent at birth, are small during childhood, are developed rapidly after puberty, and are said to be relatively larger in the male than in the female.

They communicate with the middle meatus of the nose by means of the infundibulum. They are lined with mucous membrane, which is continuous with that of the nose, an important anatomical fact in considering the etiology of the present subject. Owing to this continuity of tissue and similarity of anatomical structure, we would naturally expect that all inflammatory troubles in the Schneiderian membrane would be liable to extend into the sinuses, and this, as a matter of fact, does occasionally occur.

We can safely say that nearly all inflammatory troubles in the frontal sinuses are due to extension of inflammation from the nose, of course excepting those due to injuries or to the presence of neoplasms.

Inflammation of a suppurative nature in the sinuses may also be due to syphilis in the tertiary stage, then beginning as an endostitis.

The symptoms of inflammation of the frontal sinuses vary with the course of the disease. In acute cases we have the symptoms of an attack of cold in the head, to which may be added a feeling of weight and distention over the frontal protuberance, which the patient vainly tries to relieve by violently blowing the nose. If the inflammation becomes more intense, so that the swelling of the mucous membrane obstructs the communication with the nose, the suffering of the patient becomes greatly aggravated, due to the retention of secretions within the sinus. The pain, then, is referable to the forehead, and generally follows the distribution of the fifth pair of nerves in that locality. Sneezing, lachrymation, and suffusion of the eyes are particularly marked.

When these latter symptoms are present, we will find that the general indisposition that accompanies an attack of acute coryza becomes almost a prostration. In the chronic cases the symptoms are simply those of chronic nasal catarrh, with the weight and fulness in the forehead and the frequent attacks of catarrhal headache. This latter symptom is entirely dependent upon the involvement of the sinuses in the morbid process.

Under appropriate treatment the acute cases usually subside in a few days. The infundibulum becomes patent, the pent-up secretions are discharged, the pain leaves the forehead, and the patient gets well.

Unfortunately, however, there are exceptions to this happy termination. There will occasionally be a case in which the infundibulum does not become pervious. The secretion of muco-pus gives place to pus itself. The mucous membrane of the sinus becomes a regular pyogenic membrane, and we have the formation of an abscess, an empyema of the frontal sinuses. Some writers claim that this condition never obtains unless due to tertiary syphilis, others, that such a history is not at all necessary. My experience with one case shows that it unquestionably may occur when there is no suspicion of syphilis.

I am unable to obtain any statistics as to whether this suppurative inflammation is more liable to occur during a primary attack or during an exacerbation of a chronic condition. My own case evidently belonged to the latter type, and we would naturally infer that this generally would be the case.

When an abscess is forming we may know it by the chronicity of the case, the excessive and persistent headache, the rapid pulse, rigors followed by fever and sweating; in fact we have the same symptoms that we get when pus is forming in any situation, to which may be added the local symptoms of pain in the forehead, the local swelling and œdema, and an erysipelatous blush over the frontal protuberances. Now if prompt relief is not given to the patient in this stage, more disastrous results will surely follow. First would be caries or necrosis of the bony walls of the sinus, and second, the membranes of the brain will become involved in the morbid process, or more likely the formation of an abscess from the deposit of septic material on the surface of the brain. Whether this deposit occurs directly, from the lymphatics of the sinus communicating with those of the brain, or by first breaking through the bony partition and coming in direct contact with them, is of little importance. It is sufficient for us to know that, often, abscess of the brain follows very closely upon the inauguration of a suppurative process in the frontal sinus. A few authors state that occasionally the pus may find its way into the cavity of the nose, or by breaking down the anterior wall of the sinus be discharged externally. I have found the reports of a few cases that followed the latter course. However, they all unite in saying that no reliance can, with safety, be placed on the probability of such an occurrence.

In the treatment of the acute catarrhal types, it is only necessary to follow the same general lines that are used in an ordinary attack of coryza, such as opium, diaphoretics, the instillation into the nose of a few drops of a four per cent. solution of cocaine, to which may be added, if the symptoms point to more or less obstruction of the infundibulum, local depletion followed by warm fomentations over the frontal protuberance.

If we become satisfied that that opening is completely closed, and that we have an accumulation of mucus in the sinus, the question of mechanically reopening it should be considered. Some authors speak of it as a very simple operation. Others say it is extremely difficult, and advise us to be satisfied with local applications to the Schneiderian membrane, stating that modifica-

[1] Read before the Salt Lake Medical Society, December 18, 1893.

tion in the inflammation in one cavity will speedily be followed by improvement in the other.

When from the general and local symptoms it becomes evident that we have pus in the frontal sinuses we should not delay, but at once provide for its safe discharge. Again would come up the advisability of trying to render patent the infundibulum by means of probes and to keep it so by drainage-tubes. I must confess that it seems to me a difficult if not a dangerous operation, under such conditions, to introduce a probe into the sinus, and almost impossible to successfully introduce a drainage-tube. As it is imperative, however, that some means should be provided for escape of the pus, we will find an easier and safer method by an external opening. This is done by making an incision along the inner border of the orbit, laying the bone bare over the most dependent portion of the sinus, and then opening the sinus with a small trephine.

The cavity should be washed out with an antiseptic solution and drainage maintained. The importance of early interference, or, rather the danger of delay is only too well illustrated by the following case, which came under my observation some few months ago.

On March 27, 1893, when visiting a patient in an adjoining town, I was requested to see a lady, who, I was informed, had been suffering from neuralgia for some two months. I found the patient a large fleshy woman, thirty two years of age; native of Utah; mother of three bright, healthy children. Family history good. Nothing of importance in personal history except one mild attack of rheumatism some six years previous, and that for a few years past she had been troubled with catarrh. She stated that she was subject to occasional attacks of headache, lasting several days, and which would terminate by a profuse offensive discharge of muco-pus from the nose—"gatherings in the head," as she expressed it. Careful questioning failed to elicit any suspicion of a syphilitic taint. Her present trouble she dated back two or three months since she first began to feel badly, and have some pain in the forehead, but the intense pain did not begin until about six weeks prior to my visit. The immediate cause she attributed to taking cold while doing a washing in an open shed adjacent to the kitchen. From that time until I saw her she was too ill to attend to her household duties. There had been a a little fever, slight chilly sensations, some cough, more or less sneezing, anorexia, and prostration. Her one great cry, however, was the pain in the forehead, which she described as being constantly present and of a dull character, but at times it would become paroxysmal and radiate all over the forehead and even to the back of the head. At such times the pain was almost unbearable. She was unable to sleep except by the use of opiates. About a week before my visit the upper eyelids began to swell, occasionally the eyes were nearly closed, especially after lying down, the dependent eye being the one to swell the most. Most of her time, however, was spent in a reclining position, as the recumbent position seemed to intensify the pain. Examination showed marked œdema over the nasal eminence, extending well up on the forehead and involving both upper eyelids. The skin had a reddish blush. No indication of fluctuation and but little pain on pressure, and that following the distribution of the fifth pair of nerves over the forehead. There was a little fever and a rapid pulse. Further examination of the patient was negative. I diagnosed empyema of the frontal sinuses and advised local fomentations to the forehead, with a warm nasal douche three times daily. Constitutionally she had quinia and iron, with opiates to control pain. I explained to the family that if within a week she did not get relief, they were to bring her up to me and I would open the sinus. I also stated to them that there was some danger of the brain becoming involved on account of the proximity of the abscess to the brain tissue.

On returning to my home and looking the subject up I felt that I had not fully appreciated the urgency of the case myself, so probably had not impressed the friends of the patient with the importance of an early interference, so I immediately wrote the husband, urging him to bring his wife up so we could open the sinus at once. A few days later he reported that the abscess had the appearance of being about to break on the outside, so he would wait. Again in a few days he reported that it had broken and discharged through the nose, and that the patient was greatly relieved. Nothing further was heard from her until April 24th, four weeks from my first visit, when I was requested to see the case. I found her in a deplorable condition, prostrated, rapid pulse, and high fever. There was a large accumulation of pus over the right side of the forehead, and two others on the head, one on the right, and one on the left side. There had been delirium for two nights previous, but there was nothing to show that it was due to more than her general septic condition. I administered ether and opened the external abscesses—and I may say that the pus lay, not in the tissue of the scalp, but beneath the pericranium—washed them out and provided for drainage. I then opened the right frontal sinus by an incision along the inner border of the orbit until the bone was well exposed, and then used a small trephine. Some pus was discharged from the sinus. I washed it out and introduced a small drainage-tube. Two days later the patient had a slight convulsive attack beginning in the right leg, and involving only the muscles of the right side, that is, those of the face, arm, and leg. When I saw her the same day there was paralysis of the right leg, slight paralysis of the arm, and some difficulty in speech. There was no fever, and the abscesses on the head had stopped discharging. There was but little pus in the tube in the sinus. I gave an unfavorable prognosis and advised trephining, but further operative interference was refused.

The patient lived until May 9th, when she died very suddenly. During this time there had been but little change, except that the paralysis of the leg became absolute, and that of speech practically so, while there seemed to be a little improvement in the arm. She unquestionably suffered a great deal of pain, which she would indicate as being on the top of her head. There were no changes in the pupils and they reacted to light readily. She apparently was perfectly clear mentally. There was little or no fever, and a good pulse of about a hundred.

With the above history I think you would all agree that an abscess could have been found at the upper end of the fissure of Rolando, and another one, perhaps, over Broca's convolution. I was greatly disappointed in not being able to operate before death, and again in being unable to obtain an autopsy.

The two mistakes in the case, as you will readily see, were in not opening the sinus four weeks before it was done, and second, in not trephining for the abscess in the cranial cavity when there could have been no doubt of its presence in the location indicated above. In conclusion, then, gentlemen, permit me to say that if these few remarks and this unfortunate case have called your attention to the importance of suppuration of the frontal sinuses, I am amply repaid, and the object of this paper has been attained.

Park City, Utah, November 18, 1893.

Association of Military Surgeons of the United States.—The fourth annual meeting of this organization will be held in Washington, D. C., May 1st, 2d, and 3d, 1894. This national organization is composed of medical officers of the United States Army, United States Navy, National Guard of the United States, and the Hospital Marine Service—in whose service are many of the most celebrated and distinguished surgeons of our country. A brilliant and able literary programme will be presented. The afternoon of one day will be set apart for an object-lesson from the "Manual of Drill," by the Hospital Corps. The evening will be given up to social entertainments. There will be about five hundred delegates in attendance.

Progress of Medical Science.

Phonographic Otitis.—A new competitor for public patronage has made his appearance during the last year or so at the street corners and unoccupied shops. He is the proud possessor of a diminutive machine provided with octopus-like prolongations which hang down gracefully along its sides and ends, and its very appearance is calculated to rivet the attention of the passer-by. This is the latest form of Edison's wonderful phonograph, which, after having for years been seen little of outside scientific societies and evening parties, has now been popularized on a large scale. It cannot be denied that the entertainment is well worth the price charged per *séance*. One has only to push the xylonite extremities well into the ears, and then on touching a spring one is treated to band music, orations, humorous recitals, and the whole, or part, of a very extensive *répertoire*, as per contrast. As a means of educating and amusing the public nothing could be better, but every medal has its reverse, and the phonograph is not exempt from the common failing. Our attention was called to this "reverse" by several cases in which patients with catarrh and even suppuration of the external ear have dated the onset of the affection from their interview with the aforesaid phonograph. One hardly needs a medical education to appreciate at once the gravity of the risks incurred by pushing into one's ears a nozzle which has been used by a motley crowd, possibly only a few instants previously. When one reflects upon the very large proportion of people who suffer from one form or another of suppurative disease the danger, nay the certainty, of the transfer of the *materies morbi* is apparent. In many cases the matter thus introduced into so sensitive an organ as the ear is of such a virulent nature that no special predisposition is necessary on the part of the recipient to insure immediate irritation, followed in all probability by more or less serious local mischief. Every medical man is cognizant of the risks entailed by suppurative disease of the ear. So grave is it, even in comparatively mild cases, that life insurance companies usually hesitate to accept a proposal from anyone thus afflicted. Hence it is sufficient to call attention to the danger to insure that intelligent persons will think twice before listening to a public phonograph, though for the matter of that the risk is not materially less when the exhibition takes place in a drawing-room instead of at a street corner.—*Medical Press.*

Compression of the Phrenic Nerve.—Dr. Bidon, of Marseilles, had recourse recently to digital compression of the phrenic nerve in two cases of spasm of the glottis, imitating thus the treatment of Professor Leloir, of Lille, for obstinate hiccough. The first case observed by M. Bidon was that of a young, hysterical girl who, after a convulsive attack, was seized with spasm of the glottis so violent that her life was in danger. (*Medical Press.*) The practitioner buried his index-finger between the origins of the sterno mastoid muscle, by which means the phrenic nerve was compressed. Almost immediately the patient began to breathe, and continuing the digital pressure for the space of one minute, all symptoms had disappeared. The spasm returned at intervals subsequently, but the same treatment proved to be efficient. The second case was that of a man already suffering from ataxy. He was suddenly seized with a feeling of constriction of the larynx, and in a few seconds fell off into a semi-asphyxiated condition. The attacks occurred every ten minutes. Digital pressure of the phrenic nerve produced an immediate cessation of the spasm, but when the finger was removed it returned. However, by persisting in this treatment the man recovered completely. These cases would go to prove that the above treatment can be relied on in spasm of the glottis, but its action must be indirect, as the nerve pressed does not control the larynx.

Chloralose as an Hypnotic.—Dr. Rossi has tried the hypnotic effects of chloralose on forty patients of both sexes in the lunatic asylum of Reggio-Emilia, suffering from mental disease of the most varied forms, in all of which obstinate insomnia was present. The experiments in the forty cases make up a total of two hundred and fifty observations. (*The British Medical Journal.*) The drug was given in doses of 0.25 grain to 1 grain, sometimes in powder, sometimes in solution, and the efficacy of the remedy was tested by administration in the day-time as well as at night. Rossi's conclusions are as follows: Chloralose in the average doses indicated by Richet (0.30 to 0.40 grain) is not really useful in the case of lunatics suffering from true insomnia; in such cases doses of 0.70 to 0.80 grain and even more are generally required. Given in the daytime in the first-named doses, chloralose is not satisfactory, usually causing nothing more than drowsiness. Given at night it almost always induces sleep in from half an hour to an hour and a half, the sleep lasting a longer or shorter time, not only in proportion to the dose, but according to the idiosyncrasy of the individual. The drug is most active in forms of insanity attended with depression, and least so in those in which excitement is present, its action in the latter type of cases being inconstant and unreliable. Sleep induced by chloralose is quiet, but not generally very deep, the patients being aroused by the slightest noise, but immediately going to sleep again. The awakening does not seem to be accompanied by unpleasant sensations, but Rossi points out how difficult it is to get trustworthy information on this head from lunatics. No alterations of pulse or respiration were observed in patients under the influence of the drug; on the other hand, its action on the cerebral circulation appeared to be to increase tonicity.

Iodine and Iodide.—Dr. Mortimer Granville writes to *The Lancet*: "In an 'Analytical Record' in *The Lancet* of January 6th last, when expressing approval of a wine containing iodine, you say: 'Iodine has been sparingly employed hitherto on account of its irritant and other disagreeable properties.' If that be so, and the profession labors under the erroneous impression that iodine is productive of disagreeable or irritating results when taken in a free state, the sooner that groundless impression is removed the better. It can only have its basis in inexperience. Free iodine, as contained in the tinctures used in France, Austria, Belgium, the United States, Denmark, Norway, Sweden, Holland, Germany, Hungary, Russia, Portugal, Switzerland, and Spain, all of which are free from iodide of potassium, has, when properly diluted, no irritating or disagreeable effect, and from three to five grains can be taken, in doses of from one-half to a whole grain, daily without the slightest discomfort, by the most delicate stomach. It is the iodide of potassium that does the mischief, and why that salt was ever introduced into the 'tinctura iodi' of the British Pharmacopœia no one can divine, unless it be the sage counsellors who were responsible for rendering the present tincture perfectly useless by actually adding to the quantity of the poison with which the tincture had been previously adulterated. If only the autocrats of our medico-pharmaceutical science possessed the smallest acquaintance with practical pharmacy, or combined a smattering of therapeutical knowledge with their drug lore, it would not be necessary—as it now is—to write 'codex' after many of the commonest preparations in order that the drugs prescribed may, at least, be dispensed approximately pure. It is, however, probably hopeless to expect pharmaceutical reform while the profession of medicine in this country bows down to 'soda' and 'potass' as the two giants capable of conquering every foe they have to encounter. Perhaps the time may come when it will be 'discovered' that sodium and potassium are really the greatest enemies of health as employed by those who assume to be its preservers and restorers."

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street.

New York, March 31, 1894.

THE OWNERSHIP OF THE PRESCRIPTION.

THE question who owns the prescription has a periodical agitation. Sometimes it comes up in court, occasionally in a medical society, but oftener as one of issue between the physician and the druggist. We are reminded that there are some points connected with its solution that are not yet definitely settled, as every little while interrogatories reach us from widely different localities. This time a correspondent asks if a pharmacist should not be compelled to surrender the prescription to the physician writing it when the latter demands it; also whether the pharmacist has a right to repeat its administration in a given case against the wish of the writer of the same; and lastly, if it is not customary to respect the wishes of the physician under such circumstances.

The subject from these points of view is quite a complex one, when we take into account the number of conditions that obtain from the giving to the taking of the prescription. In a general way we may assume that there are three principal factors to be considered: the physician, the patient, and the pharmacist. In order that each should be suitably protected, a number of considerations should be taken into account. The prescription is an order on a pharmacist for drugs, which is given by the physician to a patient as part of the advice and treatment of the latter for a particular ailment at a particular time. So long as all the conditions are fulfilled in their natural sequence, with a perfect understanding of indications to be met, there never is trouble, and the entire transaction is a straightforward business one. In fact, the only interruption to the harmonious action is where a special claim is made of actual ownership of the prescription.

The question has been viewed from the respective standpoints of the physician, the pharmacist, and the patient, and much unnecessary confusion as to relative rights has thereby resulted.

If, however, we bear in mind why the prescription is written, we can the easier come to some conclusion as to the apparently mixed question of proprietorship when its real purposes are fulfilled. The physician who gives the prescription intends that it shall be used only in accordance with his directions. He is not responsible beyond this, and if the patient insists upon disobeying orders, the physician does not necessarily share the risk, or become accountable for any bad results. Hence the prudent patient follows directions as to whether or not the prescription shall be repeated. In an equitable sense, it is the patient's property only in so far as it can serve the specific purpose for which it was given. When such conditions have been met, the prescription ceases to be as such; and practically, as far as either prescriber or patient are concerned, it has no more existence than if it had never been written. When the patient is no longer in need of it medically, and persists on his own account in repeating the prescription, he is appropriating that which, professionally speaking, does not belong to him, and he does a still greater wrong when he gives it to another whom it may seriously harm, and then the new man who takes the medicine is the bigger fool of the two.

But just here the pharmacist is generally the culpable go-between. While there is no law to prevent a patient repeating a prescription as often as he pleases, it is ethically wrong for the compounder to allow him to do it. The prescription is not in any sense so much the property of the druggist that he can do what he pleases with it. It is simply a particular order for drugs, and can in no proper sense be used as a general one on demand by any would-be customer. The pharmacist places the prescription on file as a legal evidence that he has fulfilled a special contract. It is, in fact, his only protection against subsequent damages arising from alleged inaccuracy in compounding, or mistakes in the selection of ingredients. But he owns it as a voucher only, and cannot legitimately use it for any other purpose. Consequently, when he attempts to do otherwise he is in every way transcending his functions, and acting most unjustly to both physician and would-be patient. If such is granted, the questions arising in connection with the whole matter are simple enough, and appeal to the good sense of all parties concerned.

It has been legally held by several judges in this and other States, that the proper owner of the prescription is the pharmacist. He is responsible for its proper compounding and has a right to it as a voucher. There is no law to prevent his repeating it in any manner he chooses, and the patient, or anyone else, can buy the compound of which it is the order if the druggist chooses to sell the same.

If the mixture contains any poisonous ingredients, or the patient can claim to have been damaged by taking it, the compounder is liable for damages as a seller of poisons without license. The patient, however, is a free moral agent up to the point of attempting to commit suicide by taking a poisonous drug. In case of any serious perversion of the original intent of the prescription, both parties in the action are culpable and take any extra responsibility at their peril. In ordinary cases, however, no legal interference is contemplated. If a druggist recommends the prescription to a stranger, he virtually attempts to give him medical advice, which opens him to the charge of practising without legal authority.

Unfortunately, there is no remedy that will legally fit such unprofessional usages. The physician has no power to insist upon a return of his prescription or forbid its indiscriminate use, save on purely professional grounds of common courtesy. When the prescription is given to the patient it is virtually beyond the prescriber's reach. The patient having paid for it as part of the advice given, claims the right to use it for himself as often as he sees fit, and can with the druggist's consent secure a copy of it for such purposes. It is usual, however, for the pharmacist with a proper moral sense to respect the wishes of

the prescriber, and when he does not do so, it is also customary for the physician to obviate the necessity of having any difference of opinion upon the subject in future by advising the patient to patronize some other shop. Very often, too, the physician retaliates in kind by furnishing his own medicines whenever suitable opportunities offer.

THE ENGLISH OF THE CONGRESS.

An International Congress Bulletin, printed in the three or four official languages, is usually more or less amusing through the efforts of its editors to grapple with the intricacies of the English tongue, but the Rome Congress, determined to be outdone in no particular by its predecessors, has earned the palm for maltreatment of our poor speech. The preliminary documents were not so bad, but in the first issue of the Official Journal under date of March 10th, the editor has warmed up to his work, and handles the English column in a way that would bring a blush to the cheek of the author of "The English as She is Spoke." As a specimen of the many gems with which this learned publication sparkles, we take the order for one day. "Thursday, 29th March—10 hour: Inauguration of the Congress at the presence of their Majesty to the Costanzi Theatre.—General Assembly of the Congressist for the constitution of the Chairman definitive office.—15 hour: Adunance of the Sections for the definitive constitution of the offices.—21 hour: Illumination of the Platea Archeologica."

This is entertaining enough once in a way, but when it is repeated in nearly every line through four pages, it becomes wearisome. There is no excuse for such wholesale murder of English in these publications, especially in Rome where there are numbers of English and American students, and residents who would gladly see to it that the language of the bulletins was rendered intelligible to their medical compatriots. English is the leading language of the civilized world, and it is entitled to demand respectful treatment at the hands even of the editor of a Medical Congress Bulletin.

CHEAP INFANT FOODS.

The subject of infant foods is one of perennial interest; and it is one upon which much more work must be done before a satisfactory solution of the problem has been reached. There seems to be no doubt that the number of artificially reared infants is increasing. A large proportion of women of the wealthiest classes cannot or will not nurse their children. Good wet nurses are difficult to obtain, and are a nuisance at the best.

In the search for a perfect infant food one point has at least been gained. It is acknowledged that no single formula or compound will answer exactly the purposes of human milk: for this latter is a constantly varying secretion. Hence physicians recognize now that the food for every baby must be changed somewhat, according to its age, size, and digestive susceptibility. In a recent address before the Pan-American Congress. Dr. T. D. Rotch says:

"There is no mammal whose milk-production corresponds sufficiently to human milk to render a direct substitution safe or wise. If, therefore, milk is used, the problem demands for its solution a modified milk. The mammal whose product representing a carnivorous food has been proved from the earliest age to best satisfy this demand is the cow."

There is no doubt that several of the infant foods now on the market, if properly administered, can be substituted efficiently for human milk. But among the poorer classes, the expense attending the use of these foods is a great tax. Dr. H. D. Chapin, and Dr. S. Eiloart have undertaken a series of experiments for the purpose of obtaining a cheap substitute for human milk, using cow's milk as a basis. Dr. Chapin advises against the complete sterilization of city milk, but thinks that its partial sterilization or pasteurization is necessary in order to kill the microbe of lactic acid fermentation. The milk used is the ordinary cow's milk of the city, which is twenty-four to thirty-six hours old. This is allowed to stand, and the upper half only used. This contains, according to Drs. Chapin and Eiloart, 4.9 per cent. fat, as against 3.03 per cent. in the lower half. The object sought for by the investigators was to secure some diluent for the milk which would properly enrich it, and at the same time prevent its coagulation in large tough curds. For this purpose the milk is diluted with barley, oatmeal, or wheat flour gruel, and then diastase in the form of malt added. The results obtained from the use of this food on thirty seven cases were good. The special directions for making the food are as follows:

Recipe I.—*Materials.*—Wheat flour or barley meal, two ounces (two tablespoonfuls heaped as high as possible); water, fifty-six ounces (a quart and three-quarters); extract of malt, half a teaspoonful or a small teaspoonful.

Process.—With thirty ounces (a scant quart) of the water make the flour into a gruel, boiling ten minutes in a double boiler. Take out the inner vessel and add the rest of the water cold, the malt extract being dissolved in the last few ounces added. Let it stand fifteen minutes. Put back the inner vessel and heat again in the double boiler fifteen minutes. Strain through a coffee strainer of wire gauze.

If for any reason it is desirable, and in cases of diarrhœa, to give a smaller proportion of maltose, the following recipe is used, and we get a food containing only one-fourth of the solid matter in the form of maltose:

Recipe II.—*Materials* as in Recipe I. Proceed as before, but reserve only one pint of the water for adding cold. After adding the cold water with the malt extract dissolved in the last few ounces of it, let it stand only three minutes instead of fifteen minutes. Then heat ten minutes in a double boiler and strain.

To make the gruel well and quickly, beat the flour with very little water. A little beating with little water is better than much beating with much water. Beat smooth, therefore, while the paste is still almost a dough; then add cold water to make a thin paste, and to this add the rest of the first part of the water boiling hot, with stirring. If these directions are followed, very few lumps will remain on the strainer; in fact, only about five per cent. of the meal need be lost in this way. The water in the outer vessel of the double boiler must be kept boiling throughout. Whichever recipe is followed, the food should be taken mixed with milk.

The Bill of the Quarantine Committee of the Academy of Medicine is meeting general approval in both lay and medical journals.

OFFENDERS BROUGHT TO BAY.

New York should be proud of her distinctive freedom from charlatans in medicine, as compared with many quack-infested cities. The profession is proud of it, and it is just this commendable pride which causes us now to rejoice in the arrest and imprisonment of no less than sixteen individuals, ten being of the softer sex, who are charged with illegal practices having to do mostly with their efforts to keep down population. It may be true that we suffer from overcrowding, that there are too many unemployed starving mortals already here; but the performance of abortion without necessity for the act, has been made illegal, and so long as this view continues to be held by legislators, the glaring advertisements of these specialists in crime must disgust honest men and disgrace the community which tolerates them.

Superintendent Byrnes and the Society for the Enforcement of Criminal Law deserve all praise for their timely and fruitful activity and well-planned raid, and it is greatly to be desired that the courts do their part as well in putting a stop to this violation of the law. Four at least of the men arrested are registered practitioners, three being put down as graduates of eclectic schools, and therefore cannot be held for practising without diplomas, as it is probable most of the women can be; but it is to be hoped that Mrs. Fox, the agent of the Society, obtained sufficient evidence in the detective part played by her to secure conviction of all guilty persons.

MEDICAL BUCCANEERS.

If the *Medical and Surgical Reporter* has not overdrawn the picture, the medical profession is at present suffering from the depredations of "buccaneers" within its own ranks. Our contemporary is much exercised over this lamentable state of affairs. It asserts that to talk of amending codes, or instituting reforms, or improving the status of the profession while this insatiable gourmand is allowed unfettered liberty is a travesty on reason. He plays his part in manifold ways. He often roams in high places, and may even wear a professor's gown. He looms up at medical conventions, and, indeed, may be an author of no mean position. He is always clamoring for reform; he wants to reform the code, let down the bars and clear the way so that his pilfering career may be unhampered. His neighbor stands in mortal terror of him, because he well knows that should he be required to call him in consultation the new arrival would quickly oust him and coolly take possession himself. He performs impossible operations, and always cures every case, and the unsuspecting, simple minded, honest plodder, as he reads his statistics, is quite overcome with amazement and admiration. He has a sneaking way of advertising. To go into the regular column of the quacks would be to mix with the common herd; moreover, it is highly expensive; therefore he has himself interviewed, or one of his helpers will see to it that, while the great man speaks, full stenographic notes are taken, and the thing, highly colored, will be spread broadcast in the early morning press.

Continuing its diatribe the *Reporter* says that the dragnet of the pirate is so far spread out that he leaves almost nothing for the honest plodder. From year to year he becomes more and more bold, and finally having duped and bulldozed his professional brethren, he turns his attention to lay people, before whom his hideous hypocrisy is supported by consummate strategy. He wants to raise funds for a ward "for the poor, you know," run soirées, parties, etc., until a necessary sum is wrung out of the pockets of the unsuspecting. Then he suddenly blooms out a specialist, and now that he is safely entrenched behind his own walls, in his zeal for patients his audacity is villainous, for through the mails he is a constant intruder, incessantly appealing to practitioners to send to him that which they themselves depend upon for their living.

It is not for us to say that the medical buccaneer is a mere figment of an excited fancy. But the danger to the profession at large from his wholesale pillage is hardly as great as we are asked to believe. We are disposed to place credence in what may be termed "petty pilferings" by enterprising medical adventurers. But in New York, at least, the grand larceny of pay-patients is of rare occurrence. Medical men, even of the dangerous consultant type, who habitually appropriate the patients of others, soon get to the end of their tether. Buccaneering does not flourish here, if for no better reason, simply because it would not pay.

REGISTRATION OF THE TUBERCULOUS.

The action of various State and local Boards of Health in regard to the subject of tuberculosis is one of transcendent interest. It marks a new era in sanitation, and means that as years go by tuberculosis will gradually become less and less a scourge, if not actually extinct. A disease which kills twelve per cent. of the population is something that it is worth while to try and abolish.

The New York State Board compels the registration of all tuberculous persons, but does not attempt sanitary visitation and disinfection except under certain conditions. The Philadelphia Board does not require registration, but simply attempts an active educational campaign in the matter of preventing the disease.

MEDICAL WIVES FOR MISSIONARIES.

"Murdered Millions" is the attractive title of Dr. George D. Dowkoutt's book just published to demonstrate the lack of medical care in heathen lands, and to point out the necessity for medical missionaries.

The deplorable ignorance of those who attend the sick and injured in many portions of the globe, and the horrible barbarities inflicted under the name of medical practice, are almost past belief. The Church has already recognized the necessity for ministering to the bodily pains while it strives to heal the soul, and although much has been done already, it is as nothing when compared with the millions who know no scientific medicine. We have but one little suggestion to offer. The young man preparing himself for missionary work requires a long time in theological study. He should also secure a wife to share his lonely lot. Why not pick out his future companion when he enters the seminary, and let her begin a course at a medical school. While he studies to save a life for the hereafter, she will learn how to save it for the here; and then, without loss of time, but filled with knowledge and that contentment which can only come from a noble purpose, they will sail the seas

together in quest of barbarous tribes to teach the better way.

Then will come a time when calomel will reach the spot in the benighted Arab more quickly than the swallowed verse from the Koran. Then will the Korean maid know better than to let them cut off her good right hand to make a broth for her expiring sire.

SKILLED LABOR AND HIGH FEES.

It is quite gratifying to learn that Dr. Galesowski, an ophthalmologist of Paris, is to receive thirty-five thousand dollars and extra expenses for an operation to be performed on a member of the family of the Shah of Persia. We are not informed of the nature of the trouble requiring the skill, but anything from a truant and trickling tear to a ripe and full grown cataract is a good compass for such a fee. We congratulate the lucky ophthalmologist accordingly, and indirectly felicitate his numerous friendly, if not envious, *confrères* in this and other countries. We will not say that the service is not worth anything that can be obtained for it. In fact this rule applies to all skilled manœuvres, and is the proper equitable basis for the estimation of all first-class professional work. There should be no limit for maximum fees beyond the possibility of their being paid by persons abundantly able to do so. Otherwise, how is the operator to be repaid for the time, hard work, and ever-present anxiety as to results of his ventures, which form so much of his dearly bought experiences. His ultimate success is bought only at the expense of countless disasters, numerous mortifications, and silent worries, and yet a particular operation is too often regarded by the patient as having a standard marketable value which can be absolutely measured by the figures on a check. But every operator who has had the dreadful misgivings which come in the line of chances defiantly and desperately taken, knows full well that the real strain is more than the actual work, and that there are many things to the man who must do and dare, that cannot be paid by any amount of moneyed considerations.

CHLOROFORMING IN SLEEP.

It is becoming fashionable for burglars to chloroform their victims in the hope that their work will be the more easily and effectually done. As the plan is to administer the anæsthetic while the patient sleeps, it is no wonder that failure attends the effort. Happily it is one of the most difficult feats to accomplish, requiring the greatest care and the highest degree of skill. By many good observers it has been claimed to be impossible. The latter may be looked upon as the rule, especially with novices. Before primary insensibility is obtained the victim awakes from the irritation of the inhaled vapor when force is necessary for the completion of the purpose. In the meantime the alarm may be given and the assailant may be captured. Fortunately the chances are always against the latter, as his victim, facing the horror of strangulation, is instantly and almost instinctively roused to desperate resistance. Taking all the chances, however, chloroform in the hands of a burglar should be considered as dangerous to his victim as a club, an axe, or a bullet, and its administration should be punished to that extreme limit of penalty which is due to the employment of other murderous measures.

News of the Week.

Congress of American Physicians and Surgeons—Third Triennial Session.—The Congress meets in Washington, D. C., May 29th to June 1st, inclusive. It is composed of the members of those National Medical Societies whose names and Secretaries are given below, and of guests specially invited by the Executive Committee. To enable a physician residing in the United States to become a member of the Congress, with the right to participate in its proceedings, it is necessary that he be a member of one of these Constituent National Societies. A physician may be accredited as a visitor to the Congress by any one of the Constituent Societies. The certificate of the Secretary of one of these societies, to the effect that he is thus accredited, will enable him to register upon payment of the registration fee, which registration will entitle him to a card of admission to the Reception and to a copy of the Transactions of the Congress, but not to take part in the deliberations of the Congress. The following are the names of the Constituent Societies in the order of date of their organization, and the names and addresses of their respective secretaries, to whom inquiries, as to mode of obtaining membership, should be addressed: American Ophthalmological Society, Secretary, S. B. St. John, M.D., Hartford, Conn.; American Otological Society, Secretary, J. J. B. Vermyne, M.D., New Bedford, Mass.; American Neurological Association, Secretary, Græme M. Hammond, M.D., 58 W. Forty sixth Street, N. Y. City; American Gynecological Society, Secretary, H. C. Coe, M D., 27 E. Sixty-fourth Street, N. Y. City; American Dermatological Association, Secretary, Charles Warrenne Allen, M.D., 640 Madison Avenue, N. Y. City; American Laryngological Association, Secretary, Charles H. Knight, M.D., 20 W. Thirty-first Street, N. Y. City; American Surgical Association, Secretary, J. R. Weist, M.D., 118 N. Eighth Street, Richmond, Ind.; American Climatological Society, Secretary, J. B. Walker, M.D., 1617 Green Street, Philadelphia, Pa.; Association of American Physicians, Secretary, Henry Hun, M.D., 33 Elk Street, Albany, N. Y.; American Association of Genito-Urinary Surgeons, Secretary, J. A. Fordyce, M.D., 66 Park Avenue, N. Y. City; American Orthopedic Association, Secretary, John Ridlon, M.D., 103 State Street, Chicago, Ill.; American Physiological Society, Secretary, W. P. Lombard, M.D., Ann Arbor, Mich.; Association of American Anatomists, Secretary, D. S. Lamb, M.D., 800 Tenth Street, Washington, D. C.; American Pediatric Society, Secretary, Samuel S. Adams, M.D., 1632 K Street, Washington, D. C.

The New Medical Practice Law in Connecticut.—The first semi-annual examination under the provisions of the new medical practice law was held last week in New Haven. Eight candidates were examined by the committee appointed by the State Board of Health, and only five were given certificates.

The First and Most Noted and Most Approved institution for the applied therapeutics of crime, at the Elmira Reformatory, has been declared a failure, and its Board of Managers is requested to resign. The State Board of Charities has made its report, and recommend

that corporal punishment, as practised in the Reformatory, should be prohibited by law.

Utilizing High Animal Temperature.—A woman, in Ohio, utilized the high temperature of her phthisical husband for eight weeks before his death, by using him as an incubator for hen's eggs. She took a number of eggs and, wrapping each one in cotton batting, laid them alongside the body of her husband in the bed, he being unable to resist or move a limb. Fifty was the number of eggs first used as an experiment, and after three weeks she was rewarded with forty-six lively young chickens. The happy result of the first trial prompted her to try it again, and this time she doubled the quantity, and was again rewarded for her ingenuity with another brood of chickens. Another hundred eggs were placed in the bed, but this time her husband was so near the end that the necessary heat was lacking, and he passed away leaving behind one hundred half-hatched chicks. The scheming wife, not to be outdone in her plans by grim death, placed the eggs in the oven, thinking to finish the work her husband had failed to complete. During the bustle and excitement of the funeral, however, she allowed the fire to get too hot, and the eggs were all cooked. It is to be hoped that there is no incubator awaiting her in this world at least.

Death of Dr. John H. Rauch.—Dr. John H. Rauch, of Chicago, formerly president of the Illinois State Board of Health, was found dead in bed at the residence of his brother, Cyrus G. Rauch, of Lebanon, Pa., March 25th. Dr. Rauch was a prominent member of the Loyal Legion and of the American Medical Association, a recognized authority on medical education, and one of the most eminent sanitarians in this country. He organized the Board of Health in Chicago and was president and secretary of the Illinois State Board of Health from its organization up to 1891. He was a delegate to the International Medical Association at Berlin in 1890, and to the Pan-American Medical Congress in the City of Mexico. During the war he was brigade surgeon under General Augur, assistant medical director of the Army of the Potomac, and medical director of the Gulf Department of the Nineteenth Army Corps.

Death of Dr. Dwight Russell.—Dr. Dwight Russell died in Milford, Mass., March 25th. He was seventy-four years of age, was born in Madison, N. Y., and was graduated from the Central Medical College in Syracuse, where he was a member of the faculty from 1850 to 1854.

Hackensack Hospital, New Jersey.—The annual reception of the Board of Governors of the Hackensack Hospital was held at the Opera House, Monday evening, March 26th. Dr. David St. John, President of the Medical Board, received with the governors. There was a large attendance of representative citizens and medical men.

The National Health Bureau Bill.—The advocates for the establishment of a National Health Bureau were given a hearing on March 28th, at Washington, D.C., by the Committee on Interstate Commerce, to whom the bill was referred by the House early in the session. Short addresses in favor of the bill were made by Drs. T. Gaillard Thomas, Richard H. Derby, J. H. Girdner, George F. Shrady and T. Mitchell Prudden, of New York, Professor William H. Welch, and President Gilman, of Johns Hopkins University, and by Dr. Rohé, of Baltimore, representing the National Bureau of Health Committee of the Medico Chirurgical Faculty of Maryland. The speakers were most attentively heard by the Congressional Committee, and much interest was manifested in the purposes of the bill.

Fellow of the Edinburgh Obstetrical Society.—Dr. David D. Jennings, of this city, has been honored by election as a Fellow of the Edinburgh Obstetrical Society in recognition of valuable contributions to the pathological condition of the new-born.

Socialism and the Sale of Drugs in France.—M. Jules Guesde, the socialist deputy, intends bringing before the Chamber of Deputies the question of municipal dispensaries for the purpose of providing the poor population with medicine at cost price. The municipality of Roubaix has three times voted that such dispensaries should be organized, and each time the prefect has vetoed the vote. The municipality in question has appealed to the Conseil d'État, which declares that the Assistance Publique can distribute medical and pharmaceutical aid to any extent, and no one has a right to prevent it. The *Journal de Médicine* argues that on legal grounds municipal dispensaries cannot be opposed, if they are organized and directed according to the laws relating to them. The pharmaceutical profession is not the only one that is threatened by state socialism. The new law on medical practice which has been passed will soon be supplemented by another concerning rural medical help, which will place medical men in the position of government servants, like priests and schoolmasters.

St. Luke's Hospital, New York.—The competitive examination for positions on the house-staff of St. Luke's Hospital will be held at the hospital on Wednesday, April 18, 1894. Applications must be personally made to Rev. George S. Baker, D.D., Pastor and Superintendent, at the hospital at any time before April 14th.

The Genius of Billroth.—"Talent," according to a famous definition, "does what it can; genius does what it likes;" and the mighty surgeon, says *The Lancet*, whose loss the whole medical world is deploring was undoubtedly a genius. His mental vitality and energy were literally unbounded. The scientific and the artistic—the analytic and the creative—were faculties not only coexisting in him, but actually independent, owing their vigor and their outward expression or productiveness to the harmony with which they were kept in play. From the temporary exhaustion of one he would pass with renewed life to the exercise of the other, and be all the fresher for the alternation. After hours spent in the bacteriological laboratory he would sit down to the piano forte and dream over the keys for hours more, the intensity of his previous occupation seeming to lend a profounder sentiment or a more aërial spirituality to his interpretation of sonata or nocturne. "Billroth," his pupils have been heard to say, "was never better in the operating theatre or lecture room than after he had been assisting till the small hours at a dramatic representation or a concert in his own house." The severer the work awaiting him on the morrow the more deeply he would plunge into its emotional or intellectual opposite the night before, and *vice versâ*. Billroth was not only a musician, but an accomplished artist and litterateur.

Reviews and Notices of Books.

THE NARRATIVE OF A BUSY LIFE: AN AUTOBIOGRAPHY. By ARTHUR HALL HASSAL, M.D. Lond. Pp. 82. London and New York: Longmans, Green & Co. 1893.

THIS is a personal narrative of the work and experiences of the author during an eventful career as sanitarian, hygienist, and food analyst. A great deal of useful information is incidentally incorporated in the work, and leads the reader, insensibly perhaps, to combine amusement with scientific profit. The author thus cannot be grudged the pleasure he took in telling his short but simple story.

CHEMISTRY AND PHYSICS. THE STUDENT'S SERIES. By JOSEPH STRUTHERS, Ph B., Columbia College School of Mines, New York, and D. W. WARD, Columbia School of Mines, and CHARLES H. WILLMARTH, M.S., N. Y. 12mo, pp. 288. Philadelphia: Lea Brothers & Co.

THIS is uniform with the series edited by Dr. B. B. Gallaudet, and is upon the same general plan of questions and answers. It is well arranged, practical, and consequently useful.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Edited by DE FOREST WILLARD, M.D, Recorder. Vol. XI., pp. 372. Philadelphia. 1893.

THIS volume is full of material interesting to the practising surgeon, but does not present a variety equal to that which has appeared in the previous ones. The articles by Warren, Senn, Willard, Park, and White more than redeem the work.

OUTLINES OF OBSTETRICS. A Syllabus of Lectures delivered at the Long Island College Hospital. By CHARLES JEWETT, A.M., M D., Professor of Obstetrics in the College. 12mo, pp. 264.

THIS is a very practical little book for the student and practitioner, and extends over a reasonably wide field of obstetric work. It is written in a concise style, and its teachings are evidently founded on experience and are consequently useful and to the point.

THE UNIFORM SYSTEM OF ACCOUNTS, AUDIT, AND TENDERS, FOR HOSPITALS AND INSTITUTIONS. By HENRY C. BURDETT. pp. 76. London: The Scientific Press. 1893.

THIS volume is especially valuable for the use of those about to open a hospital, and gives full directions as to how accounts, etc., ought to be kept. Sample pages for the various necessary office books are given, and also from ward-books, diet-sheets, etc. Though everything is ruled to conform with English currency, the ideas are easily understood and the forms outlined could be adapted to American hospitals and asylums with very little trouble.

MANUAL OF PHYSICAL DIAGNOSIS FOR STUDENTS AND PHYSICIANS. By JAMES TYSON, M.D., Professor of Clinical Medicine, University of Pennsylvania. Pp. 241. Philadelphia: P. Blakiston, Son & Co. 1893.

THE present edition is the second of this manual, which contains certain additions and improvements. A valuable "Appendix" includes several subjects of great clinical value, as examination of blood, bacilli, stomach contents, directions for making autopsies, etc. The various instruments required for all these purposes are fully described. It is very complete, yet concise.

THE ART OF MASSAGE. By A. CREIGHTON HALE. Pp. 139. London: The Scientific Press. 1893.

THE author is a masseur, and like everyone of his craft has been impelled to write a book, dedicated to "my former pupils," etc. The pages abound in loose statements of all sorts. What they contain of real value has been printed twenty times before.

ESSENTIALS OF HOMŒOPATHIC MATERIA MEDICA. By W. A. DEWEY, M D., Late Professor of Materia Medica, Hahnemann Medical College, San Francisco. Pp. 269. Philadelphia: Boericke & Tafel. 1894.

THIS quiz compend is intended as a "guide to that grand edifice, now a century old, the homœopathic materia medica." We have read it with considerable interest, for if it is true the vast majority of medical men are still in the gall of bitterness and the bonds of iniquity. After reading that the "natrum mur. patient has a mild, tearful disposition, aggravated by consolation, while the pulsatilla patient seeks consolation," we unhesitatingly enroll ourselves under the banner of pulsatilla.

MORBID GROWTHS AND SPOROZOA. By J. JACKSON CLARKE, F.R.C.S., Curator and Pathologist to St. Mary's Hospital. London: Baillière, Tindall & Cox. 1893.

THESE essays have already appeared in the "Transactions of the London Pathological Society," but their great importance fully justifies their publication in a separate volume. It is not too much to say that they chronicle a new era in pathological research. Of course most of the information they convey is not as yet of practical value in the management of neoplasms, but they are the pioneer's axe clearing the forest, which broad roads will soon traverse. A large number of well-executed wood-cuts illustrate the text.

ATLAS OF HEAD SECTIONS. FIFTY-THREE COPPER PLATES OF FROZEN SECTIONS OF THE HEAD, AND FIFTY-THREE KEY PLATES WITH DESCRIPTIVE PLATES. By PROFESSOR WILLIAM MACEWEN, M.D., Glasgow. New York: Macmillan & Co. 1893.

THE increasing interest in brain surgery has made it incumbent upon anatomists and surgeons to study more carefully than before the mutual relations of the head and the brain. Within the past three years several valuable contributions to regional anatomy have appeared, those by Professor Albert Adamkiewicz, of Vienna, and Dr. Alexander Frazer, of Edinburgh, and by Professor Cunningham, of Dublin, being the most noteworthy.

The present volume just issued by Dr. Macewen surpasses all others, however, in perfection of its execution and in the completeness of the work. Other writers have contented themselves with representing diagrammatically, or by models, or by means of composite photographs in which successive series of dissections were displayed, the various relations which they desired to show. Dr. Macewen, however, has adopted what must be considered as the most perfect of all methods, that of a series of sections. In his introduction he says: "These sections have been made through the frozen head. The plates show the relation of the various parts of the brain to the exterior of the skull, thereby affording a great aid to cephalic topography. The form of the brain thus seen *in situ* differs in many respects from that presented by the brain removed from the skull and placed upon a flat surface. Even the processes of removal of the brain from its accurately fitting case, in which it is surrounded by a fluid medium, destroys its symmetry; and when, after removal, the soft cerebral substance is exposed unsupported, it sinks by its own weight and becomes flattened and distorted." The actual relations of the brain and skull are perfectly preserved in a frozen section, and thus these sections afford a most reliable guide to the surgeon in operations upon the brain. "The surgeon who is about to perform an operation on the brain has in these cephalic sections a means of refreshing his memory regarding the position of the various structures which he is about to encounter. At any spot which he may select for his operation he has the relations of the various parts of the brain to the outside of the

skull exposed in three different series of sections—coronal, sagittal and horizontal."

There are twenty-four coronal sections, eleven sagittal sections, and eighteen horizontal sections shown in the plates. The varying relations at different ages have been demonstrated in the coronal and horizontal sections, so that the differences in size of the brain in the child and adult have not been overlooked.

There are a number of facts of regional anatomy to which attention has been drawn in the brief introduction of the work, which may be mentioned. The way in which the frontal lobes dip downward near the mesial line in front, thus bringing them in close proximity to the ethmoidal cells and nasal cavity, is well shown in the coronal sections. The proximity of the nasal recess to the intra cranial structures suggests an easy access for erosive infective processes. The relations of the structures in and about the temporal bone to the temporo sphenoidal lobe are admirably shown, both in the coronal and horizontal sections. The difficulties of access to the brain through the mastoid region, and the comparative ease of reaching a temporo-sphenoidal abscess through the squamous portion of the temporal bone, becomes very evident on inspection of the drawings. The relations of the cranial nerves, especially the third and sixth nerves, to the base of the brain are most beautifully displayed. Another fact which is made clear is the great difficulty of reaching the cerebellum in any operation undertaken to remove from it tumors or abscesses.

This atlas should certainly be in the hands of every surgeon who aspires to enter the field of brain surgery, as a careful inspection of these plates will teach more than many volumes written upon the subject. The work has been issued as a sort of essential aid to the understanding of the author's recent work upon the "Surgery of the Brain and Cord," in which he discusses the pyogenic infective diseases of the brain, namely, meningitis, abscess of the brain, and thrombosis of the intra-cranial sinuses, and the surgical procedures for their relief. That volume will be reviewed elsewhere. The atlas presents a contribution to anatomy of even greater value than the volume mentioned. The plates themselves have been executed with the greatest care, the illustrations being very fine photogravures from photographic plates, about two thirds of the actual size of the head. The appearance of the book is a credit both to the author and to the publisher.

Abnormal Man. Essays on Education and Crime, and Related Subjects. By Arthur McDonald, Specialist in the Bureau of Education. Pp. 445. Washington: United States Printing Office. 1893.

This volume, while of interest only to a certain class of specialists of medicine, is to them of great value. The general subjects of criminology, and criminal sociology, are fully discussed, and then come chapters on Alcoholism, Insanity, and Genius, etc. Over half of the book is occupied with an elaborate bibliography of the topics treated. Many valuable statistics are also incorporated in the various sections. We have only praise for the careful industry with which the work has been compiled, and hope that the Government will give it a wide distribution.

Manual of Bacteriology for Practitioners and Students, with Especial Reference to Practical Methods. By Dr. S. L. Schenk, Professor Extraordinary in the University of Vienna. Translated from the German (by the author's permission). With an Appendix by W. R. Dawson, B.A, M.D., University, Dublin, Late University Travelling Prizeman in Medicine. With 100 Illustrations, partly colored. Longmans, Green & Co., London and New York. 1893.

Professor Schenk's excellent handbook of practical work in bacteriology has been creditably translated, and an appendix has been added in which are discussed "Vaccination against Asiatic Cholera," "Parasitic Protozoa" (in carcinoma, Darier's and Paget's diseases, mycosis fungoïdes, etc.), "The action of light upon micro organisms," and some additional methods and formulæ. The time is so short, however, since the original appeared that there has been little to add in the way of confirmed discoveries. In this work elementary technique receives special attention, and in it the student entering upon the study of bacteriology has a faithful guide. Bibliographical references are avoided, and their space is taken up with as ample details of practical points as may be. Many of the illustrations are excellent, but some could be improved upon.

A Handbook of Ophthalmic Science and Practice. By Henry E. Juler, F.R.C.S., Ophthalmic Surgeon to St. Mary's Hospital, etc. Second Edition. 8vo, pp. 549. Philadelphia: Lea Brothers & Co. 1893.

This admirable work comes to us in a second edition, improved in many details and well abreast with the advances made in ophthalmology. The general plan of the work remains the same as that of the first edition, the different ocular diseases being treated in the natural order of affections of the lids, lachrymal apparatus, conjunctiva, cornea, sclerotic, iris, ciliary body, choroid, optic nerve, retina, lens and visual field, amblyopia and errors of refraction. The errors of refraction are treated with exhaustive thoroughness, and leave nothing to be desired by the advanced student of ophthalmology. The illustrations are admirably presented, are in good number, and are well selected.

Physiology Practicums: Explicit Directions for Examining Portions of the Cat, and the Heart, Eye, and Brain of the Sheep, as an Aid in the Study of Elementary Physiology. By Burt G. Wilder, B.S., M.D., Professor of Physiology, Vertebrate Zoölogy, and Neurology in Cornell University; formerly Professor of Physiology in the Medical School of Maine; President (1885) of the American Neurological Association and of the Biological Section of the American Association for the Advancement of Science, etc. Roy. 8vo, 70 pages of Text, with Twenty seven Plates. In a Portfolio. Ithaca, N. Y.: Published by the Author. 1893.

Dr. Wilder's simple and direct method of instructing students is well displayed in this portfolio of practicums, which is the outcome of several years of development of plans for teaching large classes of general students. About ten years ago the members of the general class in physiology at Cornell University, were taught from alcoholic specimens, while brief directions in explanation were drawn upon the blackboard and orally amplified. A little later these directions were written upon cloth sheets that were suspended before the class while specimens were being studied. The directions, together with drawings of specimens, are now comprised in the present series of pamphlets and plates, which are published in portfolio form. The directions are simple, yet very complete. The use of the text is facilitated by the large size of the type and by an excellent method of spacing paragraphs. The printing of the plates on separate manilla cards enables the student to arrange two or more at a time for inspection without turning leaves—the utility of the plan being apparent. As much information as is contained in Dr. Wilder's portfolio of practicums should be required for admission to universities, and this would allow instruction to begin upon a foundation both higher and more substantial than at present. Some of the elementary text-books already embrace "practical work" covering nearly the same general ground as the "Practicums," but with less detail and commonly without figures, which in this portfolio are almost as good as object-lessons.

The real bars to the personal examination of the heart, eye, brain, etc., in the schools, are the scarcity of competent teachers and the imaginary difficulty of providing the requisite material; but Dr Wilder's forthcoming work on directions for preparing specimens for the "Physiology Practicums," will probably do away

with the latter difficulty. Many of his students become teachers, but while the supervision of an instructor may be necessary to enable the beginner to advance with a feeling of confidence, the directions contained in the portfolio of text and plates are so full, and the terms are so free from ambiguity, that any ordinary student can easily understand and follow them.

An Outline of the Embryology of the Eye. With illustrations from the original pen drawings by the author. By Ward A. Holden, A.M., M.D. The Cartwright prize essay for 1893. New York: G. P. Putnam's Sons.

In this little book is condensed a very lucid statement of the development of the eye, admirably illustrated by the author's drawings. It is an account of original research and full of interest. If any portion should be signalized as specially satisfactory, it is the description of the vitreous body. Less complete is the account of the retina, as would be expected from the inherent difficulty of the subject. Quotation or condensation cannot give a suitable account of the work, because only a careful perusal would satisfy one who takes an interest in the subject. The book is a worthy piece of original American work. Its get-up is very commendable.

The Health-Resorts of Europe. A Medical Guide to the Mineral Springs, Climatic, Mountain, and Seaside Health-Resorts; Milk, Whey, Grape, Earth, Mud, Land, and Air Cures of Europe. By Thomas Linn, M.D., with an introduction by Titus Munson Coan, M.D. New York: D. Appleton & Co. 1893.

The comprehensive title of this volume leads one to expect a rather complete work on European health resorts. As a matter of fact, the information given by the author is often so meagre as to be misleading. To write for medical men and the lay public at one and the same time is always difficult, and can in the nature of things be rarely satisfactory. The author's mastery of English is no more complete than his mastery of the subject matter with which he deals. As a fair specimen of the author's style, we quote the following description of Italian resorts (p. 270):

"They one and all lack in attractions such as the French are clever enough to provide for visitors. This may be owing to the Italian character, and the other defects may be owing to want of sanitary science; while the language is perhaps also a reason. In any case, none of these places are resorted to as much as those on the French coast; and just as soon as Alassio is past the climate is no longer suitable for winter residence. Genoa is not possible as a winter resort."

The medical directory appended to the volume is about as needless an infliction on physicians and lay readers as it is possible to contrive. If a second edition of the work should ever be called for, we advise that it be made fairly representative, or what would be much better, that it be altogether omitted.

Transactions of the Medical Association of Georgia for 1893.

A well-prepared volume containing thirty-seven papers on a wide variety of topics, besides matter of local interest.

Transactions of the Association of American Physicians. Eighth Session, held at Washington, D.C., 1893. Pp. 398. Philadelphia: Published by the Association. 1893.

This volume contains thirty papers, all of the highest value and attractively presented. Many of them have been published in the journals and have been carefully read by thousands. The present compilation is one which worthily represents the best scientific thought of American physicians, and will do much for their reputation among their foreign confrères. It is noteworthy that almost no space at all is required for the recording of merely executive business. All the time at the meetings seems to be devoted to scientific work. This example might well be followed by several medical bodies we might name.

A Manual of Practical Hygiene, Designed for Sanitary and Health Officers, Practitioners, and Students of Medicine. By W. M. L. Coplin, M.D., Adjunct Professor of Hygiene, Jefferson Medical College, and D. Bevan, M.D., Instructor in Hygiene in the same Institution. 140 Illustrations, partly in colors. Pp. 456. Philadelphia: P. Blakiston, Son & Co. 1893.

This work is perhaps the most satisfactory one we have yet had on the most important topic of hygiene. This satisfaction arises from its completeness, and from the condensation which has been practised in setting forth various details. "Prevention of Disease" is the implied text of every chapter, and the clearness of the authors will bring home hygienic truths to the mind of the non-medical man fully as forcibly as to that of the physician. Titles of chapters are: Individual Hygiene, Clothing, Food, Air, Water, Climate, Soil, Sewage, Habitations, and Disposal of the Dead. A section on technique is added, with full directions for laboratory work. While the volume contains very little essentially new, it is a commendable setting forth of a subject of paramount importance.

Mental Nursing. A Text-book for Asylum Attendants and Nurses. By William Harding, M.B. Pp. 131. London: The Scientific Press. 1893.

The object of this manual is implied in the sub-title. To the wording of the main title objection can, in a scholastic sense, be taken. Chapters treat of the outlines of anatomy, first aid to the injured, ventilation, and hygiene, etc., with special reference to the insane. We find much common sense in this work and unhesitatingly commend it.

A Theory of Development and Heredity. By Henry B. Orr, Ph.D., Professor at Tulane University of Louisiana. Pp. 255. New York: Macmillan & Co. 1893.

The scope of this work is well expressed in the author's preface, in the statement that he believes that, "by a critical review of the facts of biology in the light of the great conclusions derived from the allied sciences of physics and psychology, we may obtain a view of the great phenomena of life which shall bring into harmony a more extensive range of facts, and explain intelligibly relations which have hitherto been hidden." The facts are presented in an attractive manner, and the work is a valuable contribution to a most attractive and growing line of thought.

Seventy-fifth Anniversary of the Medical Society, District of Columbia.—In an address delivered at this anniversary by President Dr. Samuel C. Busey, he recalled the fact that the charter of the society was granted and approved by President Monroe, February 16, 1819. The Medical Society of the District of Columbia is the youngest of twelve medical societies in this country now in existence, which have reached and passed the seventy-fifth year of continuous active life, and is the oldest, if not the first, scientific body chartered by an act of the Congress of the United States. Ten of its founders were natives of Maryland, four of Virginia, two of Massachusetts, two were born within the present limits of the District of Columbia, and of three the nativities are unknown. In personal lineage it is confined to three of the original thirteen States, but as a scientific body it claims ancestral descent from eleven progenitors, who are present by representation. It is, however, the natural and direct heir of the Medical and Chirurgical Faculty of Maryland.

Society Reports.

LONDON CLINICAL SOCIETY.

Inhalation of Carbolic Acid in Phthisis.—Dr. Smith showed a case of phthisis which had recovered in eighteen months under the influence of change of climate and inhalations of carbolic acid. The inhaler used was an ordinary hat-box in which flannel charged with carbolic acid was suspended.

Dr. Davies showed a patient with myxœdema whom he had presented to the Society two years previously. Thyroid treatment, which had been persevered with since that time was beneficial, but whenever it had been discontinued a relapse occurred. The first indication of a relapse was an increase of weight.

ROYAL MEDICO-CHIRURGICAL SOCIETY (LONDON).

Pleurisy Caused by the Pneumococcus.—Dr. Washbourn described three cases in which all the symptoms indicated pneumonia, but the physical signs were not characteristic. On the tenth day the temperature dropped, the constitutional symptoms disappeared, but the physical signs did not disappear. After a few days the temperature went up and exploration of the chest revealed pus, which on examination was found to contain pneumococci. The pleural cavity was drained and the patient made a good recovery. In another case where the symptoms were of the same class as the first, but much more severe, the patient died after a few days' illness. The autopsy showed the lungs to be in a healthy condition, but the right pleural cavity contained fifty-four ounces of pus, in which were found pneumococci. In the third case, occurring in a child, there was double pleurisy with an effusion which, on being examined, showed pneumococci. Dr. Washbourn emphasized his belief that the pneumococcus might produce the same constitutional symptoms when invading the pleura as it did when invading the lungs. He believed that many cases diagnosed as pneumonia, but with equivocal signs, were really cases of pleurisy caused by the pneumococcus.

(This case is further discussed by our London correspondent on page 413.)

HARVEIAN SOCIETY (LONDON).

Tuberculous Iritis.—Mr. Silcock presented a phthisical patient, a boy twelve years of age, who had well-marked tuberculous iritis. Situated at the inner end of the horizontal diameter of the right cornea was a mass of vascularized exudation about the size of half a pea; this covered the anterior surface of the iris and filled up the corresponding part of the angle of the anterior chamber. There was slight ciliary injection and numerous posterior synechiæ.

PATHOLOGICAL SOCIETY (LONDON).

Rodent Ulcer.—Mr. Bowlby read a paper on rodent ulcer based on a study of sixty-six cases, and reached the following conclusions: 1. That rodent ulcer was more common in males than in females. 2. That it was not usually a disease of old age, but commenced most frequently between the ages of thirty and fifty, and might begin in youth. 3. That the growth might develop for several years before ulceration began. 4. That it very rarely occurred except on the face and adjacent parts. 5. That in the majority of cases where ulceration had commenced, the edges of the ulcer were raised and thickened, and there was good evidence of tumor growth, but that other cases did not differ structurally from others where the edges were flat and sharply cut. 6. That the cell masses and the cells themselves were distinguishable from those of other tumors, and possessed characteristics of their own. 7. That the epithelial nature of the cells and their enclosure in alveoli justified the inclusion of the growth among the carcinomata. 8. That there were good reasons for believing that the growth commenced in the derma, and that it might originate in the hair follicles

LONDON MEDICAL SOCIETY.

Treatment of Peritonitis.—Mr. Treeves, in speaking of the treatment of peritonitis in his third Lettsomian Lecture, said that absolute rest in the recumbent posture was the first indication. As little food as possible should be given by the mouth, rectal injections of peptonized meat extract being the best method of administering nourishment. As little opium as possible should be administered. Aperients can never be adopted as routine treatment. Blood letting may be advantageously employed in the robust forms of localized peritonitis. The operative treatment of purulent peritonitis, especially when the suppuration is localized, has been remarkably successful.

Administration of Anæsthetics Clinically Considered.—Mr. Joseph White related the results of forty years' experience in the administration of anæsthetics. He said that the effects produced by chloroform inhalation might, for practical purposes, be divided into four stages: The first a period of continued consciousness, the second a period of semi-unconsciousness, the third a period of sleep, and the fourth one of coma and threatened death. In most of the early cases of recorded death from chloroform, the patients died in the first stage. He said that he could not agree with the conclusions of the Hyderhabad Commission, that the only point of importance was to watch the respiration, for he held that the pulse was an equally valuable indication, and he watched both jealously. As a preliminary step, the patient should be encouraged as to the prospects of the operation. A few spoonfuls of liquid nourishment may be given three or four hours before the anæsthetic, but no solid food. The anæsthetist should give his undivided attention to the patient. The anæsthetic should be given gradually. When the patient struggles the inhaler should be removed. The operation should never be commenced till the stage of sleep was reached. If the eyeball became fixed and the respiration stertorous, the administration should be stopped. The patient should not be suddenly aroused, but fresh air and ammonia should be used as restoratives. If the pulse or respiration failed, an immediate recourse should be had to artificial respiration. He used the A. C. E. mixture almost exclusively, and found it to be less depressing and irritating, and freer from dangers, than chloroform alone.

MEDICAL SOCIETY OF THE HOSPITALS (PARIS).

Tuberculous Ascites Cured by Puncture Followed by an Injection of Camphor-Naphthol.—A year previously Dr. Rendu had presented to the society a patient cured of tuberculous ascites by puncture and the intraperitoneal injection of camphor napthol. He now presented an analogous case occurring in a girl seven years of age. The ascites had all the appearance of an essential ascites, and on puncture six quarts of a perfectly transparent fluid were withdrawn. Then about three and a half scruples of camphor-napthol was injected; this caused neither pain nor burning sensation. Recovery was quite complete in five weeks.

Hysterical Paroxysms in the Form of Facial Neuralgia.—Dr. Gilles de la Tourette said that hysteria might really be considered as a disease constituted by a collection of permanent stigmata, such as sensory and vasomotor troubles, contractures, amyosthenia, etc., which evolved in paroxysms. He related the case of a laborer fifty four years old, who, when he was thirty-eight years old, had an attack in which he lost consciousness, bit the tongue, and foamed, so that his attack resembled some-

what an epileptic; but was clearly an attack of what has been described as hysterical apoplexy.

After three weeks the patient, who was hemi-anæsthetic on the right side, was taken, without attributable cause, with a right side sciatica. Concurrently with the sciatica he developed right side tic douloureux. These attacks have become paroxysmal, and their cessation often coincides with the emission of a large amount of clear, light-colored urine. Other stigmata of hysteria, such as hysterogenous zones, are present.

Nature of Exophthalmic Goitre.—Dr. P. Marie said that the phenomena observed while applying the thyroid treatment for myxœdema, had led him to believe that the view advocated by Gauthier and Möbius, who state that the thyroid gland is the direct cause of Basedow's disease, is untenable. He said that, although some of the pathognomonic symptoms of Basedow's disease may be caused by a functional disturbance of the thyroid gland, he did not believe that the origin of the disease could be found in that gland. He based his conclusions on the fact, 1, that in no case of myxœdema in which the thyroid had been administered had exophthalmia or Von Graefe's symptom developed; 2, that the theory of the thyroid origin of Basedow's disease does not accord with our present knowledge concerning the etiology of the disease.

It is impossible to reconcile the sudden advent of the symptoms in Basedow's disease, such as frequently occur after fright, with any explanation other than causative factors arising through the intervention of the nervous system, particularly the sympathetic system. From this disorder of the nervous system results exaggerated activity of the thyroid gland, which in turn causes hyperthyroidation of the system, and as a consequence symptoms develop which are common to thyroid feeding and Basedow's disease.

Regarding treatment, the speaker is heartily in favor of the operative in preference to the medical. The results of thyroidectomy, he thinks, are indisputable; and likewise he is inclined to look with favor on the method known as esothyropexia recently described by Poncet.[1]

SURGICAL SOCIETY (PARIS).

Pregnancy Mistaken for a Cyst.—Dr. Monod related the case of a young woman, twenty-four years of age, who was operated on by Dr. Reverdin for an enormous cyst of the ovary. After the operation she recovered very quickly. Nineteen months later she again presented herself on account of a rapidly increasing enlargement of the abdomen. On examination there was a globular tumor reaching nearly to the umbilicus. The cervix was mobile and not altered. Fluctuation was easily obtained on palpation. It was supposed that a new cyst was forming, and an operation was decided on. The abdomen was opened, and old adhesions, the result of the previous operation, were broken up, the tumor was pulled forward, and was thought to be a cyst of the parovarium. A little incision was made into the tumor, which was followed by an escape of fluid and then a mass which was recognized as the umbilical cord. It was not until then that it was recognized that the tumor was a gravid uterus, and that it contained a four months' fœtus with its placenta. The adhesions, the result of the previous operation, had so displaced the uterus and compromised its nutrition that hysterectomy was decided on and done. The patient made an excellent recovery.

THERAPEUTIC SOCIETY (PARIS).

Digestibility of Cod-liver Oil.—Dr. Patein made a report on cod-liver oil. He said it was easily digestible on account of the biliary principles which it contained. It had important excitant and thermogenic properties, due to the phosphorus and the iodide which it contained in organic combination, and to the numerous alkaloids which have been isolated by different investigators. These alkaloids exist more abundantly in the pale oil, and are the result of auto digestion of the livers after three or four days of maceration. It is a process of auto digestion and not putrefaction, because the livers have during this time an acid reaction, whereas if putrefaction were going on, the reaction would be alkaline. In speaking of its therapeutic application he mentioned its value in pulmonary tuberculosis, rachismus, and as an external application in some dermatoses. Its value in rheumatism is doubtful. He advised its administration in small doses, and that it should be stopped altogether if it caused disturbance of the gastro intestinal tract.

Treatment of Pseudo-membranous Angina.—Dr. Piedalu said that in the treatment of that form of angina in which the false membrane contained the bacilli of Klebs-Lœffler he had obtained excellent results from a mixture of biniodide of mercury, 0 50; iodide of potassium, 30.00; simple syrup, 1,000.00. Administer in doses varying from one to two teaspoonfuls every two hours, according to the age of the patient. After several hours the signs of hydrargyrism manifest themselves, and it is then necessary to diminish the amount of the medicine. Two or three times a day he lifts the false membrane with forceps and gently detaches it. As a rule, recovery begins to set in in about forty eight hours.

Accidents with Chloralose.—Dr. Bardet said that chloralose produces an excito motor action on the spinal cord, which should inspire a certain reserve in its administration. Richet has recommended that the beginning dose be about 0.10 gm., and Landouzy has counselled beginning with 0.20 to 0.30 gm. In reality, however, it is often necessary to give not less than 0.50 to 0.60 gm. Poisonous symptoms have been noticed in two cases by Morel Lavalle and in one case by Talamon following the administration of the drug in 0.75 gm. dose. The writer has himself observed two cases of poisoning following the administration of the drug. In one case an old lady, after taking 0.75 gm., developed trembling of the arms and hands, great agitation, dyspnœa, and incoherent delirium. The second case, an infant, was given 20 ctgr., which at first produced sleep, but in two to three hours he began to grind the teeth, kick off the clothing, then had spasms, tetanic contractions, and trembling of the extremities. The speaker concluded that it had no advantages over sulfonal, and he gives his preference to the latter.

ACADEMY OF MEDICINE (PARIS).

Stomach and Cardiac Trouble Produced by the Habitual Posture of School Children.—Dr. Motais, of Angiers, pointed out that the habitual posture of school children is an important cause of myopia and of curvature of the spinal column. It is the cause of dyspepsia, because the bending forward causes constriction of the stomach. The faulty position impairs the current of blood through the vessels of the neck, and the result of this is cardiac palpitation. Most of the cardiac and stomach troubles of students and clerks he believes can be caused to disappear by correcting the faulty posture.

CHIRURGICAL SOCIETY (PARIS).

Trephining in Gun shot Wounds of the Cranium.—Dr. Quenu, in discussing this subject, said that he thought the surgeon should trephine in these accidents before the appearance of meningo-encephalitis. Septic manifestations may come on at any time from the presence of the ball or from foreign substances carried in with the ball, and it is contrary to the first principles of the antiseptic treatment of wounds not to remove the *materies morbi* and cleanse the wound. He is of the opinion that an early operation in perforating wounds of the skin is of great advantage in all cases except where the projectile has sunken to a considerable depth.

Dr. Despres said that he did not believe a surgical

[1] Medical Record, March 3d.

operation was indicated in fractures of the cranial bones where the bullet penetrates the substance of the brain.

Dr. Delorme said that from experiments and practical observation he was convinced that in perforating gun-shot wounds of the cranial bones, where the missile has projected to any depth, operation is not only useless but dangerous.

Dr. Monod thought that in perforating gun-shot wounds of the head a surgical operation when skilfully performed added nothing to the gravity of the patient's condition.

BERLIN MEDICAL SOCIETY.

Syphilis and Aneurism.—Dr. Fraenkel said that some writers have stated that syphilis can be traced as a preceding factor in the causation of aneurism in from sixty to eighty per cent. He found fifty per cent. of his cases suffering from aneurism to have had syphilis. He then demonstrated a specimen of arterio-sclerosis with syphilis of the heart. The patient had had aortic insufficiency, severe headaches, and attacks of vertigo. He also showed a second specimen of aneurism with perforations into the œsophagus.

Vaginal Laparotomy.—Dr. Duhrssess exhibited several photographs illustrating his new method of vaginal laparotomy. The method comprises: 1, opening the anterior wall of the vagina; 2, section of the plica vesica uterina; 3, extraction of the uterus with its adnexas, with vertical incision of the anterior vaginal wall until they are visible in the vulva and can be operated on. He considers the procedure especially indicated in cases of retroflexion and small myomata.

SOCIETY FOR PSYCHIATRY AND NEUROLOGY (VIENNA).

Peculiar Form of Bulbar Paralysis.—Dr. Pineles showed a woman, twenty-five years old, who presented peculiar symptoms of complex bulbar paralysis. The disease began suddenly, without apparent cause, in January, 1892. The first symptoms were headache, dizziness, diplopia, and right-sided ptosis. After a few weeks' duration of these symptoms there was a remission of symptoms for one year. In July, 1893, she had an attack accompanied with difficulty in swallowing and chewing, thick and unintelligible speech, palpitation, great weakness of arms and legs, and, finally, attacks of smothering. All these symptoms developed within a week. There was a remarkable exacerbation of symptoms in the evening and remission in the morning. The patient has recently so far recovered that there is now only a slight nasal twang to the voice, slight ptosis of right lid, and slight paresis of the mouth. The patient has no psychical or sensorial defect. The electrical reactions are normal, and there is no muscular atrophy. The patellar and palate reflex are preserved. The speaker said he had observed two similar cases of respectively one and one-half and two years' duration, which, without any severe symptoms preceding, died suddenly in an attack of dyspnœa. He thinks these cases can be entirely differentiated from other bulbar affections, such as progressive bulbar paralysis, apoplectiform bulbar paralysis, pseudo-bulbar palsy, tumor in the medulla, etc. He said that in similar cases where autopsy has been made no lesion could be demonstrated to account for the symptoms.

MEDICAL CLUB (VIENNA).

Thrombosis of the Portal Vein and Acute Yellow Atrophy of the Liver.—Dr. Foges related the case of a man, twenty five years of age, who a few weeks previously developed an œdema beginning over the lower part of the sternum and gradually involving the scrotum, the lower extremities, and the hands. Associated with this development were severe pain in the back and epigastrium, bloody expectoration, jaundice, dyspnœa, and finally collapse. The autopsy revealed chronic interstitial nephritis, cardiac hypertrophy, and chronic myocarditis, infarction of the lungs, spleen, and supra-renal capsules, thrombosis of the portal vein, and acute yellow and red atrophy of the liver. Dr. Foges thought the kidneys and heart were the starting-point of the other manifestations.

CONGRESS OF RUSSIAN PHYSICIANS.

The Use of Pilocarpin in Disease of the Middle Ear and Labyrinth.—Dr. Jirmunski said that his experience with the use of pilocarpin in acute disease of the middle ear and labyrinth had been a satisfactory one. In old cases it was quite useless, both when used subcutaneously and by direct instillation. He related two cases of deafness due to acute disease of the labyrinth, which were rapidly cured by the use of pilocarpin. The first case was a young man, aged nineteen, who fell down some steps, was unconscious for upward of two hours, and had quite an extensive hemorrhage from the left ear. Thirteen days after there was found complete deafness to both bone and air conduction in the left ear. The diagnosis was traumatic labyrinthitis with hemorrhage. Pilocarpin 0.004 gm. dose was injected subcutaneously, and this amount increased daily one milligram till 0.02 gm. was reached. At the same time, every second day, four to ten drops of a two per cent. solution of iodide of potassium was dropped in the ear. After the fifth injection, hearing in the left ear began to be present, and after nineteen injections hearing was quite restored.

The second case was one of syphilitic labyrinthitis with sudden advent of deafness, which was handled in a similar manner. After twenty-four injections the patient's hearing was entirely restored.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Stated Meeting, February 12, 1894.

Charles A. Powers, M.D., Chairman.

Chronic Unilateral Œdema of the Lower Extremity.—Dr. Robert Abbe presented a young woman who had, according to his experience, a rather rare condition, namely, chronic œdema or hypertrophy of the right leg, of four years' standing, slowly increasing, the left leg being normal. It was not like an ordinary œdema, there was no pitting on pressure, there were no varicose veins; no apparent cause. The enlargement was chiefly below the knee, scarcely at all of the upper thigh. There had been no improvement under the elastic bandage or other treatment until electricity was used twice a day, beginning a month ago, since when there had been considerable diminution in size. It was probably a lymphatic disturbance.

Dr. Abbe showed the photograph of another case, under Dr. Weir's care a year and a half, during which time there had been considerable increase in the right leg, commencing in the thigh and extending down. In neither of these cases had there been a history of appendicitis, although this, by giving rise to pressure, had been considered the cause in certain cases on record. Unilateral œdema also affected the left leg occasionally. Dr. Abbe could recall one other case which he had seen.

Dr. Reginald H. Sayre presented drawings of a case found in his father's record books to which his attention had been called by Dr. Yale. The patient was a girl of fourteen years, was seen in 1871, had had increasing enlargement of the right leg since 1868. Dr. Sayre applied pressure, and after a few months the limb was reduced to its normal size. Dr. Reginald Sayre thought failure with pressure treatment might have been due sometimes to want of proper application of it.

Neuropathic Inflammation of the Shoulder joint.—Dr. Willy Meyer presented the patient, a man, thirty-

seven years of age, well nourished, who was first seen by him two months ago, when he complained of inability to use the left arm properly, and also showed a recent swelling in the region of the left breast. The head of the humerus was dislocated into the axilla. The history was that last summer, when the man wished to lie down on the floor, something gave way as he placed his weight upon the left arm. He felt no pain then and had felt none since. Crepitation was distinct. The arm could be moved freely. The swelling in the left chest was evidently due to synovial fluid which had escaped from the ruptured synovial sac. The diagnosis lay between a neuropathic inflammation secondary to tabes or to syringo-myelia, as there were no symptoms of tabes this was excluded. Dr. G. W. Jacoby confirmed the diagnosis of syringomyelia.

Tabes and Neuropathic Inflammation of the Finger-joint.—Dr. Meyer also presented a man whom he had been requested to see in consultation. He had struck a boy and immediately afterward the left index-finger was found to be swollen. After twelve days he saw a physician, who diagnosed fracture at the base of the finger and put on a splint. Dr. Meyer noticed at once that the man's walk was peculiar, found the knee-jerk gone, inability to stand with the eyes closed, and other evidence of tabes, secondary to which was neuropathic inflammation of the index finger. There was a history of syphilis.

In discussing Dr. Abbe's case, Dr. Bryant said he had seen a similar one.

Dr. Kammerer had also seen one and had amputated the enormously enlarged leg as it interfered with getting about. The condition had lasted fifteen years.

Dr. R. H. Sayre had seen a case of swelling of the foot and ankle in a man supposed to have tabes, the swelling was supposed to be neuropathic inflammation, but it disappeared under pressure and quiet. He thought the destruction of the joint in similar cases would not progress so rapidly if protection were given.

Further Observations on Relapsing Appendicitis.—Dr. William T. Bull read the paper (see p. 385).

Dr. Robert Abbe thought it must be apparent to all that a great many persons who had been regarded as hopeless invalids in the past were, by operations upon the appendix, being put upon their feet and restored to their usefulness in the community. The most persistent and annoying symptoms present before the operation disappeared after it, notably dyspeptic symptoms. He mentioned the case of a man who had been a chronic invalid, scarcely able to eat anything, who after removal of the appendix began to eat ravenously. The low grade of inflammation, irritation, and inflammatory adhesions about the appendix had been the cause of the chronic invalidism. If the clinical features were at all strikingly those of appendicitis and there was a previous history an operation should be done at once.

Dr. Bryant had been somewhat surprised at the number of cases in which the secondary operation had been performed, and at the low mortality attending it. Was it possible that experience in this class of cases would come to be so favorable as to lead the profession to the unscientific position of advising removal of all appendices?

Dr. Kammerer said his experience with relapsing appendicitis had led him to advocate the operation whenever there had been two or three relapses.

Dr. Willy Meyer related a case which showed the value of palpation in diagnosis of diseased states of the appendix, and also of operation between attacks, since the abscess found in this case pointed to the danger of procrastination.

The Patient's Story not the best Guide to Operation.—Dr. G. M. Edebohls thought the time had come when, like in other diseases, we were not to depend for guidance in operating upon what the patient could tell us, but upon physical examination.

In acute appendicitis one could feel within twenty-four hours some tumor which, with the symptoms, gave indication for an operation; in some cases there would be a large mass, in others only a thickened, sensitive appendix. Chronic appendicitis, with more or less acute exacerbations, also gave rise to pathological changes which were recognizable by touch. There were some cases, also, in which, after removal of the appendix, no changes were apparent in it, yet the patients were free thereafter from further trouble. Dr. Edebohls then described his method of palpating the appendix, whether healthy or diseased.

Acute Attack Set up by Palpating the Appendix.—Dr. R. T. Morris referred to one case in which he had palpated the appendix, an acute attack of inflammation followed, but fortunately he was able to save the man's life by an operation. Palpation, therefore, was not without some danger. He believed in operating between attacks, and had removed the appendix in some very mild cases where operation had been refused by some most enthusiastic surgeons. A chronic inflammation of the appendix, although of mild grade, might, through long-continued irritation, have grafted upon it carcinoma, or other form of inflammation. He had seen several cases of tuberculosis which developed after appendicitis had lasted some time. He combated the long incision, recommending the inch and a half one, without gauze packing, or drainage-tube; lamp-wick was better, as it was small and caused no pressure.

Dr. Bull closed the discussion. He thought we were indebted to Dr. Edebohls for perfecting the method of palpation. He had failed to feel the appendix so distinctly as Dr. Edebohls had done, and thought the latter might find it less easy in males than in females, since in the former the abdominal muscles were apt to be more rigid. Regarding gauze packing, he had also felt that some of his colleagues used it in excess; that quite as good capillary traction could be secured by a small amount, and if it were properly sterilized the simple gauze was preferable to the iodoformized.

Sarcoma of the Tongue—Dr. Bryant presented some specimens. The first was a round-celled sarcoma of the anterior third of the right side of the tongue, which had followed irritation by a rough tooth. The condition had existed over six months when he saw the patient, and at that time the tumor was round, smooth, hard, sessile. He removed it, with some healthy tissue, under cocaine anæsthesia. Dr. Dunham examined the specimen microscopically. Record was found of only fourteen cases of sarcoma of the tongue. Lipoma was about equally rare.

Sarcoma Developed on Adeno-fibroma.—Dr. Bryant's second specimens consisted of the right and left breasts of a maiden lady, of forty-nine years of age, who had noticed a tumor in each breast since she was sixteen, but which had remained quiescent until three years ago, when that in the right breast began to undergo change which microscopical examination showed to be sarcomatous. Doubtless the original tumor in this breast was, like that in the left breast, adeno-fibroma. The case showed the importance of early removal of tumors, and the relation between sarcomatous growths and adenoid growths.

The third case was one of fibro-sarcoma of the left breast. The right breast also contained some enlargements, which the patient would allow to be removed should they begin to grow.

Dr. Abbe said he had removed a sarcoma of the tongue eight or nine years ago. There had been no recurrence.

Dr. Dowd referred to a paper read by him, in which he described some cases of change from simple to malignant tumors.

Dr. J. P. Tuttle saw a patient, not long ago, who had a tumor of the rectum, pronounced by Dr. Beach, after microscopical examination of part of it, to be adenoma. Three weeks ago Dr. Tuttle operated, removed the tumor, and found distinct evidence of sarcoma, not carcinoma.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, December 13, 1893.

H. P. LOOMIS, M.D., PRESIDENT, IN THE CHAIR.

Endothelioma of the Tonsil.—DR. WARREN COLEMAN presented, through the kindness of Dr. Asch, a specimen of endothelioma of the tonsil. Dr. Asch presented it before the Laryngological Section of the Academy of Medicine on November 22d. The patient, a lady, thirty-five years of age, consulted Dr. Asch on October 12th, because her dentist had told her on the preceding day that there was something wrong with her throat. She said that when the same dentist saw her two weeks before, there was nothing abnormal visible in the throat. Examination revealed a tumor of the right tonsil, completely filling the right half arch. It extended to the vomer in the middle line, and downward below the base of the tongue. It was flattened on the anterior surface, slightly nodular, red, and bleeding easily when touched. At one point it reached to the anterior pillar. There was no pain whatever, no interference with respiration or deglutition, and the patient had been up to this time absolutely unconscious of its presence. On the same side was an enlarged submaxillary gland, which was said to have been there since childhood. The growth was removed on October 14th, with Knight's galvanic tonsillotome. On October 26th, a small outgrowth from the tonsil was noticed, which increased until November 15th, when it projected beyond the pillars internally, and well down the pharynx posteriorly. This was removed by a second operation.

The tumor after hardening measured 2.85 ctm. in its antero-posterior diameter, 1.58 ctm. in its vertical diameter, 6.35 mm. through the centre, and 9.5 mm. in its thickest portion. The free surface was irregular, and presented nodular elevations at different points. None of these nodules were large. Its attached portion was rough and ragged. Under a low power of the microscope a vertical transverse section through the entire specimen showed the proper substance of the tonsil to be replaced by a tissue consisting of cells larger than lymph-cells, and which contained a large number of blood-vessels. The remains of the tonsillar structure could be seen in places under the mucous membrane in the form of lymph nodules. The new tissue occupied almost the whole gland. In many parts of the section, the cells were arranged in distinct groups, which were only incompletely marked off from each other by small bands of connective tissue containing blood-vessels. The vessels were more numerous than in a normal gland, and were in intimate relation with the cells. Unfortunately the tissue was immersed too long in weak alcohol, and, as a result, the protoplasm of the cells was largely broken down into granular detritus, but those which retained their protoplasm were seen to be irregularly oval and of large size. The cells were distinctly of the flat variety, and both cells and nuclei varied in size; the latter generally showed karyo-kinetic figures, thus giving evidence of rapid subdivision. The section was stained particularly with a view to bringing out any fibres that might penetrate between the individual cells, but in no part of it could they be demonstrated.

The stratified epithelium covering the free surface of the tonsil showed signs of irritation in the vacuolation of the cells of the superficial layers, and the presence of small round cells infiltrating the lower layers.[1] These latter were quite marked, and in places had extended far up into the epithelium.

The recurring portion of the growth presented essentially the same appearance, except that the cells were as a rule somewhat smaller. The section was almost completely surrounded by stratified epithelium, and under this a relatively large amount of lymphatic tissue remained. At the junction of the neoplasm with the lymphatic tissue, fibres could be seen between the cells, but they appeared to be the remains of the retiform tissue, disappearing as one passed into the substance of the neoplasm.

The malignancy of the growth was recognized immediately on examining the section, but its real nature was not apparent without close study. It had to be differentiated from carcinoma on the one hand, and from alveolar and lympho sarcoma on the other. The size, shape, and characters of the cells, and their intimate relation with the blood vessels, distinguished it from carcinoma. It could not be an alveolar sarcoma because the small amount of connective tissue which marked off the cell-groups did not send in prolongations between the individual cells, and because of the variety to which the cells belonged. Nor was it lympho sarcoma, though it had its origin in a lymphatic gland, because of the absence of retiform tissue. The cells were held together by cement substance, the most careful examination having failed to demonstrate fibres between them.

Dr. Coleman said that the literature contained only a very limited number of reports of endotheliomata occurring in any part of the body, and not one in this region. According to the "American Text-book of Surgery" (page 200), when endotheliomata "arise in the pia mater, structurally and from their mode of origin many of them are alveolar sarcomata, while those originating in the pleura or peritoneum are carcinomatous, consisting of nests and clusters of epithelial cells presenting at their periphery a columnar appearance, these cells being surrounded by a dense fibrous stroma." In Delafield and Prudden's book, it is stated that the cells making up an endothelioma may vary from the flat to the spherical variety. In the latter case it seemed to him that a diagnosis would be particularly difficult. Were it not for the special characters of the cells in this tumor of the tonsil, he would unhesitatingly class it as an alveolar sarcoma, despite the absence of fibres between the cells. As before mentioned, the intimate relation of the blood-vessels to the cells excluded carcinoma.

Infantile Cerebral Spastic Diplegia.—DR. FREDERICK PETERSON presented the fresh brain of a case of infantile cerebral spastic diplegia. The case was that of a female infant, aged twenty months, which had congenital diplegia, that is, spastic paralysis of all four extremities. He had frequently observed the child during his rounds at the Randall's Island institutions. It was subject to convulsions, had enormously exaggerated knee jerks, ankle clonus, and the like, and its head was exceedingly small. The head measurements were: circumference, 32.5 ctm.; antero-posterior diameter, 11.5; greatest transverse diameter, 9.5 ctm.; naso-occipital arc, 18; binauricular arc, 19. At the autopsy the skull bones were found to be considerably thickened, and all the sutures and fontanelles closed and united. The dura was very thick. There was an increased amount of subdural fluid. Over each hemisphere, as shown in the specimen, a large group of convolutions, including especially the motor area, was found wanting. The vacuum caused by this atrophy was filled partly by subdural fluid, and partly by the bulging of each ventricle, for there was also internal hydrocephalus. There was no communication between the ventricles and the exterior of the hemisphere, and the roofs were formed by a membranous sclerotic tissue. On microscopic examination of the spinal cord, degeneration and atrophy were found in the lateral columns. The condition seemed undoubtedly to be due to a double meningeal hemorrhage, of which there was now no trace except the atrophied convolutions on both sides.

Chronic Hydrocephalus without a Cerebrum.—DR. PETERSON then presented the skull and brain of a remarkable case of chronic hydrocephalus without a cerebrum. The case was one of a female infant of eighteen months. Little could be learned of its early history. It had a large head with widely gaping fontanelles. The circumference of the head was 51.5 ctm.; antero-posterior diameter, 18; greatest transverse diameter, 15; naso-

[1] D'Arcy Power: British Medical Journal, October 14, 1893.

occipital arc, 32; binauricular arc, 34. The child was blind, and had nystagmus. There was rigidity of all four extremities, occasional convulsions, and toward the last, opisthotonos. The child often cried out at night. It rested easier on either side than on the back. Speaking to or moving the child caused it to cry out. The circulation was poor; the pulse rapid and feeble. The lungs were normal. The urine contained a slight trace of albumin; there was no trouble with the bladder or rectal sphincters. The child could not nurse and was fed with a dropper. It died suddenly in a convulsion. The temperature never rose above 98° F. during its month's stay in the Infants' Hospital. Toward the last it vomited occasionally after feeding. At the autopsy sixty-four ounces of reddish serum were first removed by tapping through the anterior fontanelle. The skull was exceedingly thin; the dura was thin; the falx cerebri had disappeared: at the base of the brain the basal ganglia stood out prominently, and the floors of the lateral ventricles were widely open. On removing the tentorium, the cerebrum was found to be of about the normal size. There was a mere vestige of each hemisphere, in a small part, some three inches long, at the base of each occipital lobe, lying on the floor of the skull. Microscopical examination showed degeneration and atrophy of the lateral columns of the cord.

Dr. S. T. Armstrong said that the condition of the basal ganglia and of the remaining lobes of the brain suggested that this might have been a partial anencephalic monster rather than a case of hydrocephalus with absorption of so large a part of the brain, for such extensive absorption seemed almost incredible.

Dr. Peterson said that he had seen an illustration of another case of hydrocephalus in which there had been almost as much wasting as in the specimen just presented. The fact that it was not a lack of development was proven by an examination of the spinal cord, which showed descending degeneration of the pyramidal tracts. If the case had been one of arrest of development, one would probably not find any trace of the pyramidal tracts.

Dr. Armstrong asked if this would not be a violation of the law that lesions of the cortex could have no effect on producing lesions of the peripheral nerves; in other words, were it not a fact that the evolution of the pyramidal tract was independent of the cortex.

Dr. Peterson replied that any lesion of any part of the fibres would result in degeneration.

Dr. Coleman said he had seen quite often a condition similar to that shown in the specimen, in dogs, monkeys, and pigeons where a portion of the brain had been purposely injured or removed in experiments. Almost an entire cerebral hemisphere had been absorbed in these instances, leaving only a large sac filled with fluid.

Dr. Peterson said that the most remarkable feature connected with this case was that the child was reported to have had convulsions. If this were true, it was very remarkable, because it was now believed that convulsions do not occur except from some cortical disturbance.

Extensive Cystoid Degeneration in the Adult Kidney.—The President presented two kidneys showing extensive cystic degeneration, occurring in the adult. Although this condition was quite common in children, in his experience it was rare in adult life. The patient was forty-three years of age, and was admitted to the alcoholic wards of Bellevue Hospital, suffering from acute alcoholism. He improved for a few days, and then became so lethargic that he was aroused with difficulty. He gradually grew weaker, and finally became comatose, and died in this condition on the twentieth day after admission. Only a chemical examination of the urine was made, but this showed a small quantity of albumin, and a specific gravity of 1.014. The autopsy was made thirty-two hours after death. Physical development was excellent; the brain, heart, lungs, and spleen were normal; the liver was slightly enlarged and fatty. Both kidneys were enlarged, and weighed nine ounces each. The whole surface of both kidneys was studded with small cysts varying in size from a pea to a cherry. Similar cysts were found throughout the substance of the organ. Microscopical examination of the fluid contents of the cysts showed crystals of uric acid, blood corpuscles, granular matter, and some acicular crystals of undetermined composition. The cysts were lined with flat cells. The kidney structure between the cysts showed quite extensive chronic parenchymatous nephritis; hence, the condition of the kidneys, in the absence of other causes, must be looked upon as responsible for the death.

The speaker was of the opinion that adults with cystic kidneys usually died of intercurrent renal disease, the symptoms ordinarily being those of Bright's disease. He was not aware that the condition had ever been diagnosticated during life. Two explanations had been given for this pathological condition: One, that it was an excessive development of the small microscopical cysts seen in the cirrhotic kidney; the other, offered by Virchow, that these cysts represent the low degree of the fœtal cystic kidney.

The speaker said that cysts of the kidney were divided into: 1, Fœtal cystic kidneys; 2, kidneys containing one or two cysts, and having no pathological significance; 3, the cysts found in the small cirrhotic kidney; and 4, extensive cystic degeneration in the adult.

Abscess of the Liver.—Dr. E. K. Dunham presented some specimens for Dr. McAlpin. The first were from a man, twenty-three years of age, of rather intemperate habits, whose last illness extended from October 9th to December 4th. Physical examination showed consolidation of the lung with some exudation into the right pleural cavity, which was diagnosticated as empyema. About half a pint of purulent matter was withdrawn by the aspirator. The patient died a few days later. At the autopsy, it was found that the liver was the seat of two or three large abscess cavities. The upper surface was adherent to the lower surface of the diaphragm, and there were adhesions between the upper surface of the diaphragm and the right lung. The lung appeared to be the seat of a lobular pneumonia, and it appeared also as though the aspirating needle had penetrated the liver, and that the pus was withdrawn from here. Bacteriological examination of the pus taken from the liver at autopsy revealed the presence of a variety of microorganisms, chiefly the colon bacillus and the streptococcus.

Amœboid Dysentery.—The other specimens were taken from a patient who was ill only about four days. The temperature was 104° F., the pulse and respiration rapid, and these were associated with abdominal pains and bloody stools. The case was treated for typhoid fever. At the autopsy the colon was found to be the seat of dysenteric ulceration; the liver contained a number of abscess cavities, and the pus in these was rather thick. Bacteriological examination of the pus from an unopened abscess failed to reveal micro organisms, but microscopical examination of the colon showed bodies of proper dimensions, and containing vacuoles and indistinct nucleus, thus corresponding in appearance to the amœba coli. The amount of suppuration was quite remarkable considering the short duration of the disease.

Dr. Armstrong remarked that studies at the Johns Hopkins University would lead us to believe that amœboid abscesses of the liver from the transmigration of the amœba coli, were more frequent than was usually supposed.

The Society then went into executive session.

The Souls of Animals.—Canon Wilberforce, in a recent interview published in the *Westminster Gazette*, contends that the lower animals are immortal, and uses his belief as an argument against the establishment of a Pasteur Institute in England. For all that, he doubtless takes his roast beef with as much satisfaction as if it had not been necessary to set free an immortal soul in order to procure it for his table.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

ANNUAL MEETINGS OF SOCIETIES—OBITUARIES—INFANTILE PARALYSIS—TUBERCULAR MENINGITIS HEALED BY DRAINAGE—THE PNEUMOCOCCUS—MYXŒDEMA—CARBOLIC INHALATIONS—DIPHTHERITIC PARALYSIS—DROWNED IN TEA—THE IRISH CORPORATIONS—DR. HUGHLINGS JACKSON—THE ROYAL SOCIETY'S CROONIAN LECTURE—PROFESSOR RAMÓN Y CAJAL IN ENGLAND—SIR W. BROADBENT'S RECOVERY FROM INFLUENZA.

LONDON, March 10, 1894.

THERE are already foreshadowings of the close of the session. Two of our societies have held their annual meetings, and although these functions do not conclude the work of the year they mark the approach of the end. In both cases the formal business and the election of officers for the ensuing year were completed as usual. At the Medico-Chirurgical, Dr. Church, Vice President, delivered the annual address, which he naturally opened with a reference to the death of the President (Sir Andrew Clark) and a correction of some erroneous statements about him. Brief mention was also made of other deceased fellows of the Society, but the Vice President doubted the utility of the old custom of commemorating every fellow who had died during the year, and thought that the journals usually gave all necessary particulars. This innovation does not, however, commend itself to all the fellows, some considering that an obituary notice in the address affords an opportunity of commemorating the best qualities of colleagues and stimulating survivors to emulate their virtues. The other annual meeting was that of the Medical Society of London, held on the 5th inst. The report of the council shows that the average attendance at the meetings has increased, that the clinical evenings continue to be very popular, and that the financial condition of the society is satisfactory. There are seven hundred and sixty fellows of this society. At the ordinary meeting which immediately followed the annual one, a paper was read by Dr. Lewis Jones on the electrical treatment of infantile paralysis. He held that good could be done to cases of not more than three years' duration if the children were young. He repudiated the notion that if the ganglion-cells in the cord were destroyed, recovery must be impossible, for some cells might escape, and it has been shown that the nuclei of origin of muscles may occupy considerable extent vertically. He thought the form of electricity applied of secondary importance—the great thing being that it must be prolonged—in fact it had to be continued for months or even years, and must therefore be intrusted to unskilled persons. This was a reason for employing electric baths. Massage and gymnastics were useful but inferior.

A case was then communicated which had been diagnosed as tubercular meningitis and which had recovered after treatment by drainage of the subarachnoid space. Cases in which drainage had been tried were mentioned by several speakers, and it was suggested that there would be better chances of success if the operation were not delayed until after coma had set in.

The pneumococcus took up a good deal of the attention of the Medico-Chirurgical Society on the 27th ult., *apropos* of some cases of pleurisy related by Dr. Washbourn. The constitutional symptoms pointed to pneumonia, but the sputum was not rusty, and the physical signs were not characteristic. The autopsy of the fatal cases discovered pus in the chest, and in the non fatal cases in which the diagnosis was made out and the chest explored, pus was found. In both the pus contained the pneumococcus. I suppose no one doubts that in most cases of pneumonia the coccus is present, but there are certainly some cases in which it cannot be detected, even by skilled bacteriologists. Again, it is found in other cases, *e.g.*, Dr. Kanthack said he had met with it in the pus of purulent meningitis, ulcerative endocarditis, peritonitis, pericarditis, otitis, and empyema of the frontal sinus. A further and more closely associated case is that of simple empyema in typical cases, of which I believe I am correct in saying the pneumococcus has been found in the pus. Are we then to revise our notions of the part played by this parasite, or to seek some other explanation of the facts? One course of variation is probably due to the stage at which investigation is made, for animals injected with the sputum before the crisis has occurred die of pneumococcus septicæmia, but if the sputum after the crisis be employed, they are rendered immune. Such facts suggest that the pneumococcus may, perhaps, set up a general disease of which pneumonia is the most common accompaniment, but which may manifest itself in the pleura, pericardium, or other serous membrane instead of the lung. In these cases some of the symptoms of pneumonia will be present, and this especially if the pleura is affected. Most physicians can recall cases in which they felt some doubt, and some have spoken of equivocal pneumonia. In pleuritic cases the temperature does not fall so rapidly, and after it has declined there is a second rise. When this is the case, if careful auscultation and percussion leave doubts it may be well to resort to the exploring needles, and if pus be found it can be examined bacteriologically. But even if found, we must remember that the pneumococcus has been met with in simple empyema. There is consequently abundant scope for further investigations. It was, of course, suggested at the meeting that influenza may have something to do with the cases in question. Neurasthenia then invaded the meeting in reference to its relationship to disorders of digestion. One member proposed to substitute the term "encephalasthenia" considering the exclusive seat of the troubles to be the brain.

There were some interesting cases exhibited at the Clinical Society on the 23d ult. Among them was a patient of Dr. Arthur Davies, formerly exhibited February, 1892—a case of myxœdema treated by thyroid gland. A relapse occurs whenever the treatment is discontinued. There was also a case said to have recovered from phthisis, under the use of carbolic-acid inhalations from a large inhaler made out of a hat-box, with flannel charged with the medicament suspended in it. The man, aged twenty-five, had used this for eighteen months.

A case of diphtherial paralysis was related by Dr. White, which proved suddenly fatal when the patient was drinking a cup of tea. He began to cough while drinking, extreme dyspnœa ensued, and he was dead within ten minutes. At the autopsy an ounce and a half of tea in the bronchial tubes was the only thing found to account for the death. How much more might have passed the glottis? Dr. White attributed the result to spasm set up by the liquid. Sensational newspapers have missed an opportunity. Drowned in a cup of tea would have been a fetching head-line. It was remarked by subsequent speakers that diphtherial paralysis is a peripheral neuritis, or rather a nerve degeneration—a point made clear by Dr. Sidney Martin's researches, and that it is caused by the diphtheria toxine. Cases of choking by solids were mentioned, but no one else had met with this effect of liquids. The practical remark was made that nasal feeding should be employed whenever there is dysphagia.

The Irish corporations seem on the verge of a truly national dispute. The general medical council is not satisfied with the curriculum of the conjoint board of the College of Surgeons and Apothecaries Society. The College of Physicians is accused of stirring up the mud in its own interest. The "loaves and fishes" again! That is usually the case with all our medical corporations. The vested interests of these bodies make up a formidable incubus for the profession to carry. No doubt in this case the "very pretty quarrel" will be made up, each of the parties preserving inalienable rights to qualify at a price as to which the student has no vote.

Dr. Hughlings Jackson's time of service at the London

Hospital has expired, and he has been appointed consulting physician. Twenty years is the term which may be held as full physician or surgeon at this hospital. Dr. Jackson had been eleven years assistant physician before his promotion occurred, so he has served the hospital for thirty one years, and well has he served it, too, as he has also served clinical and scientific medicine.

Professor Ramón y Cajal, of Madrid, has been here this week, and the University of Cambridge has conferred on him an honorary doctorship of science. On Thursday he delivered the Croonian Lecture before the Royal Society, in which he gave an outline of the results of his researches during the last five years into the structures of the nervous centres. The subject required close attention, as the learned lecturer spoke in French, which rendered it more difficult for an English audience to follow him; for a good colloquial knowledge of a foreign language, even with much reading, scarcely gives practice enough to enable an auditor to appreciate fully the fine points of a rather abstruse lecture.

Sir W. Broadbent, who has had influenza, is recovering, and expects to be able shortly to go out of town for change.

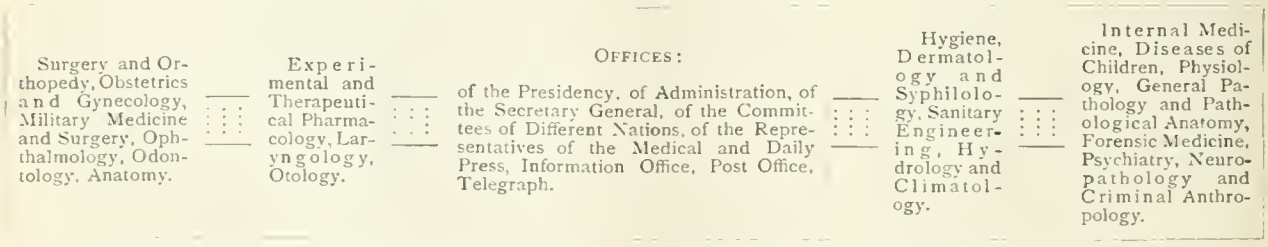
LETTER FROM ROME.

(From our Special Coespondent.)

THE OFFICE OF THE SECRETARY GENERAL OF THE CONGRESS—THE GENERAL SESSIONS AND THE SECTION MEETINGS—THE POLICLINIC—PROFESSOR BACCELLI—ARCHÆOLOGICAL INVESTIGATIONS — EDUCATION IN ITALY — PROFESSOR PAGLIANI—THE BUREAU OF PUBLIC HEALTH —VANDALISM IN ROME—PREPARING FOR A CROWD.

ROME, March 10, 1894.

THE office of the Secretary-General of the Congress was removed on March 2d from Genoa to Rome. On the same day the office of registration was opened in the Eldorado, in the Via Genova. The general sessions of the Congress will be held in the same building, a not very large wooden structure known as the Eldorado amphitheatre. There is little that is attractive in its present appearance, but doubtless the bare walls will be made less ugly by the decorations with which the committee has in mind to embellish them. The chief objection to the building is the small size of the auditorium, which does not look as if it could possibly accommodate the crowd that is always present in the first two or three public sessions. There will be five of these general sessions, at which twelve addresses will be delivered, in addition to the opening and closing meetings of the Congress. The nineteen sections will hold their meetings each day of the Congress, except the first and last, from eight to three o'clock, in the pavilion of the new Policlinic, outside of the walls of the city, near the Porta Pia. The buildings which will be occupied by the administration and sections of the Congress are placed as follows:



The Policlinic is a large building devoid of any architectural merit, but excellently adapted to the purpose for which it is intended, and also to its temporary use as a home for the sections. Each section will have a large hall for its meetings, and also smaller rooms for the use of the president and secretaries, and for the storage of instruments, pathological specimens, microscopes, and other scientific apparatus. The structure is not yet entirely completed, but it will be ready in ample time for the opening of the Congress.

Professor Baccelli, the President of the Congress, is an accomplished Latin scholar and archæologist, as well as a learned physician. Much of the excavation and identification of the ruins of the Forum and elsewhere has been carried out through his incentive. He is also Minister of Public Instruction under the present government, and the cause of primary education in Italy finds in him a zealous advocate. Professor Pagliani, the Treasurer of the Congress, is the Director General of Public Health at Rome. The International Exhibition of Medicine and Hygiene, to be held during the Congress week in the new and handsome Palace of Fine Arts, in the Via Nazionale, is a special object of his solicitude, and he has assumed the chairmanship of the special committee having this exposition in charge. The Exhibition will be opened on March 28th, the day preceding the inaugural session of the Congress, and on that evening the committee will give a reception to the members of the Congress and their wives, in the Fine Arts Palace. The Bureau of Public Health, under the able administration of Dr. Pagliani, has done, and is still doing, much to better the sanitary condition of the poorer quarters of Rome.

These works and those of the archæologists are, no doubt, useful and in accordance with the spirit of the times, but they are fatal to the beauty of Rome. Wide and well paved streets, and new, light, and well-ventilated buildings are demanded by hygienists, and physicians, of all others, should not complain of them—but they are not picturesque and, in Rome at least, not beautiful. All of the new buildings, indeed, are not even to be commended from a hygienic point of view, for many of them are so high as to shut off from their neighbors the sunlight which is here so peculiarly essential to the preservation of health. But the spoliation of the ruins of Rome is an artistic crime which finds no excuse on the score of hygienic necessity, and which no one but the most cobwebby and short-sighted archæologist can help execrating. The Thermæ of Caracalla and the Colosseum, which were once such marvels of beauty, with the climbing plants and brilliant flowering shrubs on their old walls, and the ilexes and almond trees in their open places, are now as cold and bare as the fire eaten remains of a Broadway dry-goods store. There was once a book written on the "Flora of the Colosseum," but now a day's hunt wouldn't reveal the presence of a blade of grass on those grim old walls. The same wanton destruction of all verdure has been going on all over the city, and even on its outskirts, and everywhere magnificent trees of a century's growth have been chopped down and cut up for fire-wood. The sight of modern Rome is a pain to those who knew the city but a quarter of a century since. Still Rome was not built in a day, and it is not to be destroyed in a day, and despite the vandalism of the past two decades the city is yet a delight to the painter and the poet, to the student of mediæval and ancient history, to the pagan and the Christian archæologist, to the lover of warm sunshine and brilliant skies, to the Catholic and to the non-Christian, to all who love whatever makes for beauty or suggestion in nature, in art, in the story of mankind.

The city promises to be more than crowded during the Congress week, in spite of the committee's optimistic assertion that there will be room for all who come. It is true that many of the non medical visitors will leave after Easter, yet there will be many here all through the month of April. Even now it is almost impossible to secure a

room at any of the leading hotels, and some of the boarding-house proprietors, with that happy insouciance or reckless greed that characterizes their class, have promised every hole and corner in their not too spacious apartments twice over. There are plenty of furnished apartments in different parts of the city still to be had, but it is not easy for strangers to find good ones at short notice, and they are, moreover, not very convenient for those who intend making only a brief stay. Nevertheless, as an indication of the pressure that there is already for room, the Secretary-General has an advertisement in to-day's paper calling on all those who have rooms to let in any part of the city to give notice at the office of the Congress, as there have already been many requests for them from members, and a special committee is scouring the city engaging whatever rooms are to be had for the Congress week. The attendance promises to be made up chiefly of Italians and Germans, though not a few French and English have signified their intention to be present.

LEPROSY AND VACCINATION — A LETTER FROM CALCUTTA, INDIA.

To the Editor of the Medical Record.

Sir: *Audi alteram partem* is a seldom practised adage when the mother country deals with the Western Atlantic tracts, and everything American is dubbed "That's Yankee, you know," and more or less pitched aside.

On page 708 of your December 2d issue, Dr. Beaven Rake says that I published a long series of cases (of leprosy) in which the data are too scanty to prove their connection with vaccination. I did nothing of the sort, and the facts are: Mr. W. Tebb published a pamphlet ("Public Health") wherein he made certain statements that I took exception to, and replied to in pamphlet form in 1891. This opened up a correspondence which resulted in my sending Mr. Tebb full medical histories of several lepers who were at that time under the observation of a fully competent committee of qualified medical men. From these histories Mr. Tebb (not I) published extracts which he embodied in pp. 191–9 of his "Recrudescence of Leprosy," which it is apparent Dr. Rake did not peruse carefully: else he would not have drawn the conclusions he now publishes in your columns.

When Dr. Rake was taken to task for the neglect displayed by the Leprosy Commissioners, he replied that he never heard of Dr. Chew's cases or he would have impartially (?) considered them (*British Medical Journal*, April, 1892); but he forgot to add "Mr. Wilson of the I. D. N. and the editor of the *Mohammedan Observer*, repeatedly called my attention to those very cases, but I ignored them" (vide *Indian Daily News*, June 11, 1891).

Now, sir, I am not ashamed of being a "Yankee," but knowing from experience the bitter criticisms I would be subjected to I made a point of thoroughly mastering Hindustani, and as I did not, like Dr. Rake, have to depend on "dubious" interpretation I was in a position to glean more definite information than he could. Before I attempted to write *causa morborum* against any patient I spent four or five hours in cross-examining each of my patients, even to the third and fourth generation of their antecedents, and demanding proofs of the statements made me. Consequently the conclusions arrived at by me are not so faulty as Dr. Rake, who knows practically nothing of India, pretends they are. (I have been out here for twenty-seven years.)

Dr. Rake repudiates vaccination as a factor in leprosy, but at the same time quotes instances where leprous infiltration has been proven to be consequent on vaccination. He ought also to remember that as termites change their form in accordance with the nutriment they receive even though they are the offspring of the same parent, so, also, do the bacilli lepra manifest differences in size, thickness, and activity, in compliance with the conditions of their surroundings.

The endemic theory does not hold when brought to bear on my cases, as not a single one of those that Dr. Rake holds up to ridicule belongs to a district where lepra is endemic; and, as a matter of fact, the majority of them were vaccinated when they came to Calcutta, and it was only on their return to their several districts (where the maps published by the Leprosy Commissioners show the least indications of lepra) that the disease manifested itself.

Lastly, as to the census returns for India, I am in a position to point out in Calcutta alone no less than fifty genuine lepers who were not included in that enumeration, and while Mr. J. A. Baines shows 127,056 lepers in the whole of India, and submits that only 173 of these were in Calcutta, the *Medical Reporter* of September 1, 1892, points out that at that very time there were, in and about Calcutta, the small number of 2,518 lepers; and Mr. H. F. T. Maguire, the Census Commissioner, complains in Sections 125 and 128 of his 1891 Report: "I do not pretend that the census for 1891 is a perfectly accurate one. Considering the difficulties in the way, and the men with whom I had to work, it has sometimes been a matter of surprise that any census was taken at all, or any returns prepared that could be accepted [Mind! not proven] as accurate." I therefore fail to see the grounds for Dr. Rake's deduction "There is thus an absolute 'decrease' of 4,604" (page 710 of your issue).

In conclusion, I trust you will do me the justice of publishing this letter, and thus disabuse the public mind of errors that are calculated to do much harm to the world at large if they be allowed to pass unchallenged.

I am, sir, yours truly,

Roger S. Chew, M.D., M S.C.
Late Analyst Calcutta Municipal Corporation.
The Setonnell Laboratory, 49 Dharamtala Street, Calcutta.

CHLOROFORM NARCOSIS — SHOULD IT BE TREATED BY THE APPLICATION OF ELECTRICITY TO THE PNEUMOGASTRIC?

To the Editor of the Medical Record.

I notice in the issue of the Medical Record, of February 24th, an article on "The Action of Electricity on the Pneumogastric—Is it of Value in Chloroform Narcosis?" by A. D. Rockwell, M.D., New York, which seems to invite a reply, and I venture some remarks.

The case which Dr. Rockwell reports was a child, aged six, on whom he was in the act of operating for nævus materni. He says: "She was chloroformed and needles introduced into the enlargement preparatory to the electrolytic action of the current, when suddenly the respiration ceased, the pulse became imperceptible, and the only evidences of life were very faint and convulsive heart-beats. A faradic apparatus was at hand, and one pole was immediately placed at the junction of the clavicle and the outer border of the sternocleido mastoid muscle, and a vigorous current applied. Evidences of returning vitality were seen almost immediately, and in a few moments the heart was again beating regularly. Did the electricity accomplish the good in this case, or, as some might claim, did the heart unaided resume its normal action?"

I am decidedly of the opinion that the heart unaided would have resumed its normal action, provided the respiration had been looked after. I am also decidedly of the opinion that a strong current applied to the pneumogastric during chloroform narcosis is dangerous. Why? It has been shown by physiologists that the pneumogastric is the cardiac inhibitory, and that a moderate faradic current applied to it slows the heart, a strong one stops it. It is true there are a few filaments of the sympathetic—cardiac motors—that join the pneumogastric, but the pneumogastric proper predominates. So, if the faradic current had been applied strong enough to have affected the pneumogastric, the heart would have been stopped rather than stimulated to better action.

Now, in this particular case before us, we have a patient under the influence of chloroform in whom respiration has ceased. Now let us look at the phenomena which present themselves when respiration ceases. When the oxygen is cut off, the exosmosis and endosmosis, by which there is an interchange of oxygen and carbonic-acid gases, cease. Consequently the blood is not relieved of its impurities, and becomes dark and thick. When it gets in this condition the circulation is very much impeded in the capillary system. The consequence is the capillaries first become engorged, then the arteries become engorged and distended, the blood dammed back to the heart, and its cavities rapidly distend. At first the heart beats regularly and is capable of emptying itself, but if respiration is not resumed again, in the course of a minute or two the heart becomes unable to empty itself, and the contractions become less and less frequent, and after a little cease altogether.

Now, in this case before us, we see the respiration ceased, and on account of the engorgement the heart was put to the convulsive movements referred to. So we claim that the application of the electricity did no good in this case, so far as the stimulation of the heart was concerned, but it may have stimulated the centre of respiration and caused a gasp of breath, as perchance a slap on the chest and abdomen with a cold wet towel would have done. Thus the respiration again started and relieved the engorged and distended heart. I also think that this case confirms the report of the "Hyderabad Commission."

On October 18, 1892, I was called to a boy, aged sixteen, whose foot had been run over by a large wheel of some kind, mashing the great toe almost off, and splitting the space between the metatarsal bones of the first and second toes back almost to the tarsal bones. He was at once chloroformed preparatory to amputation of the great toe and cleansing and stitching up the wounds. He seemed to be taking chloroform admirably, his heart was beating regularly at the rate of about 80 or 90 per minute, when all at once the pulsations became so rapid that I could not distinguish them apart at the wrist, and upon placing my ear to the chest I could just hear a flutter, such a noise as a partridge makes when flying up. I don't know, but I think his heart must have been going at the rate of about 250 or 300 per minute. I at once threw off the cone from which I was administering the anæsthetic, and in about thirty seconds the pulsations jumped down in a twinkle to about 90 per minute. I waited for some time, then cautiously began the chloroform again, but pretty soon had the same result. We then finished the operation without any more chloroform at all.

Now, what was the condition of this patient's heart, and what ought to have been done for him?

I compare his condition to that of an engine whose speed is regulated by a governor. As long as the governor is in good condition the engine runs smoothly and regularly, but if the governor belt runs off the engine "runs away." So in this case, I take it that the pneumogastric nerve is the governor of the heart, and when it became paralyzed from over-stimulation with the anæsthetic, the heart "ran away," as it were.

Now, if this be true, what good would a faradic current applied to the pneumogastric have done? It was paralyzed from over-stimulation, and we know that a nerve will not respond even to electricity when it has been already over-stimulated.

So I, like Dr. H. A. Hare (in his "Address on Medicine," before the Mississippi Valley Medical Association which met in Cincinnati, October, 1892), believe that the indiscriminate application of the faradic current to the pneumogastric in such cases is dangerous.

I think that in such cases, especially where respiratory failure is imminent, the best treatment is (although not new) to slap the chest and abdomen with a cold wet towel. If this does not cause the patient to gasp, then if a battery is at hand, attach a wire brush to the positive pole and sweep it across the chest and abdomen as you would in treating a case of opium poisoning. If this does not excite the respiratory organs to action, then commence vigorously to produce artificial respiration. By this means you can force enough air into the lungs to partially aërate the blood, so as to help its circulation through the capillaries, and furnish a stimulant (aërated blood) to the heart, lungs, and brain, which will bring about reaction.

Another remedy that is of very great value in the treatment of chloroform narcosis, or shock, is the hypodermic injection of large doses of strychnia; but don't fool with small doses, give decided doses, not less than one-twentieth grain, and if it is a desperate case one tenth, or even one-fifth grain may be given with impunity.

J. H. Blanks, Jr., M.D.

Meridian, Miss.

PURGATIVE TREATMENT OF TYPHOID FEVER.

To the Editor of the Medical Record.

Sir: Not having had any experience with the eliminative treatment in typhoid fever, I am not prepared to express an opinion on its advantages or disadvantages, but I would like to call the attention of my countryman, Dr. Thistle, whose article on the subject appears in your recent issue, to the fact that he must not claim to be the introducer of it to the profession. If he will turn to the pages of the *British and Foreign Medical Review* for October, 1841, he will find, at page 297, the notice of a work by Dr. De Laroque, Physician to the Necker Hospital, Paris, who announces in purgatives a panacea for typhoid fever, which he believes is the "mere product of the action of decomposing fluids in the alimentary canal." The reviewer states that M. De Laroque had gained a certain Parisian notoriety by treating "typhoid fever with purgatives in the morning, purgatives at noon, purgatives in the evening, and purgatives in the morning again."

Very truly yours,

William Osler, M.D.

1 West Franklin Street, Baltimore, Md.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 24, 1894.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	5	6
Scarlet fever	169	18
Cerebro-spinal meningitis	0	5
Measles	375	29
Diphtheria	280	53
Small-pox	21	7
Cholera	0	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0

Cost of Food in Different Countries.—According to some recent statistics on the cost of living, an Englishman spends on an average $48 a year for food; a Frenchman, $47; a German, $42; a Spaniard, $33; an Italian, $24; and a Russian, $23. Of meat the Englishman eats 109 pounds a year; the Frenchman, 87; the German, 64; the Italian, 26; and the Russian, 51. Of bread the Englishman consumes 380 pounds; the Frenchman, 540; the German, 560; the Spaniard, 480; the Italian, 400; and the Russian, 635.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 45, No. 14.
Whole No. 1222.

NEW YORK, APRIL 7, 1894.

$5.00 Per Annum.
Single Copies, 10c.

Original Lectures.

DIGESTIVE PROTEOLYSIS.

THE CARTWRIGHT LECTURES FOR 1894.

BY R. H. CHITTENDEN, PH.D.,

PROFESSOR OF PHYSIOLOGICAL CHEMISTRY IN YALE UNIVERSITY.

LECTURE I.

PART I.—THE GENERAL NATURE OF PROTEOLYTIC ENZYMES AND OF PROTEIDS. INTRODUCTORY.

IN digestive proteolysis we have a branch of physiological study which of late years has made much progress. Chemistry has come to the aid of physiology and by the combined efforts of the two our knowledge of the digestive processes of the alimentary tract has been gradually broadened and deepened. That which at one time appeared simple has become complex, but increasing knowledge has brought not only recognition of existing complexity, but has enabled us, in part at least, to unravel it.

By digestive proteolysis is to be understood the transformation of the proteid food-stuffs into more or less soluble and diffusible products through the agency of the digestive juices, or more especially through the activity of the so called proteolytic ferments or enzymes contained therein; changes which plainly have for their object a readier and more complete utilization of the proteid foods by the system.

In selecting this topic as the subject for this series of Cartwright Lectures I have been influenced especially by the opinion that both for the physiologist and the physician there are few processes going on in the animal body of greater importance than those classed under the head of digestion. Further, few processes are less understood than those concerned in this broad question of digestive proteolysis, especially those which relate specifically to the digestion of the various classes of proteid food-stuffs, and to the absorption and utilization of the several products formed. Moreover, the subject has ever had for me a strong attraction as presenting a field of investigation where chemical work can advantageously aid in the advance of sound physiological knowledge; and certainly every line of advance in our understanding of the normal processes of the body paves the way for a better and clearer comprehension of the pathological or abnormal processes to which the human body is subject.

You will pardon me if I specially emphasize in this connection the fact that advance along the present lines was not rapid until physiologists began to appreciate the importance of investigating the chemico physiological problems of digestion by accurate chemical methods. Something more than simple test-tube study, or even experimental work on animals, is required in dealing with the changes which complex proteids undergo in gastric and pancreatic digestion. The nature and chemical composition of the proteids undergoing digestion, as well as of the resultant products, are necessary preliminaries to any rightful interpretation of the changes accompanying digestive proteolysis; but physiology has been slow to appreciate the significance of this fact, and, until recently, has done very little to remedy the noticeable lack of accurate knowledge regarding the composition and nature of the proteid and albuminoid substances which play such an important part in the life history of the human organism, either as food or as vital constituents of the physiologically active and inactive tissues. This is to be greatly deprecated, since our understanding of the nature of proteolysis, of the mode of action of the enzymes or ferments involved, and of the relationships of the products formed, is dependent mainly upon an accurate determination of the exact changes in chemical composition which accompany each step in the proteolytic process. How otherwise can we hope to attain a proper appreciation of the real points of difference between bodies so closely related as those composing the large group of proteids and albuminoids? Surely, in no other way can we measure the nature or extent of the changes involved in the various phases of proteolysis than by a thorough study of chemical composition and constitution, as well as of chemical reactions and general properties.

In the early history of physiology there was, quite naturally, little or no thought given to the nature of proteolytic changes. The gastric juice, as one of the first digestive fluids to be studied, was recognized as a kind of universal solvent for all varieties of food-stuffs, and this even long before anything was known regarding its composition, but beyond this point knowledge did not extend. Active study of the gastric juice, as you well know, dates from 1783, when the brilliant Italian investigator Spallanzani commenced his work on digestion. The names of Carminati, Werner, and Montégre[1] are also associated with various phases of work and speculation in this early history of the subject, especially those which pertained to the possible presence of acid in the stomach juices. In 1824, however, Prout showed conclusively that gastric juice was truly acid, and, moreover, that the acidity was due to the presence of free hydrochloric acid, and not to an organic acid. Still, many observations failed to show the presence of an acid fluid in the stomach, and it was not until Tiedemann and Gmelin's[2] masterly researches were published that the cause of this discrepancy was made clear. It was then seen that the secretion of an acid gastric juice was dependent upon stimulation or irritation of the mucous membrane of the stomach, and that so long as the stomach was free from food or other matter capable of stimulating the mucosa, it contained very little fluid, and that neutral or very slightly acid in reaction. These early observers also recorded the fact that the amount or strength of acid increased with the outpouring of the secretion, incidental to natural or artificial stimulation, thus giving a hint of the now well-known fact that any and every secretion may show variations in composition incidental to the character and extent of the stimulation which calls it forth.

The period between 1825 and 1833 was characterized especially by the presentation of the many results bearing on gastric digestion obtained by Dr. Beaumont on Alexis St. Martin, followed a little later, in 1842, by a long period of experimentation by many physiologists, as Blondlot,[3] Bassow,[4] Bardeleben,[5] Bernard,[6] Bidder and Schmidt,[7] and many others on methods of establishing

[1] See Berzelius's Lehrbuch der Chemie. Band 9, p. 205, 4te Auflage, for an account of these early discoveries.

[2] Tiedemann und Gmelin: Die Verdauung nach Versuchen. Heidelberg und Leipzig. 1826.

[3] Traité analytique de la Digestion. Paris, 1842.

[4] Bulletin de la Société des Naturalistes de Moscou, vol. 16. 1842.

[5] Archiv für physiol. Heilkunde, vol. 8. 1849.

[6] Leçons de Physiologie de la Digestion. Paris, 1867.

[7] Die Verdauungssäfte.

gastric fistulæ on animals, by which many interesting results were accumulated regarding the physiology of gastric digestion. Up to 1834, however, there was no adequate explanation offered of the solvent power of the stomach juice; aside from the presence of hydrochloric acid, nothing could be discovered by the earlier chemists to account for the remarkable digestive action. Eberle,[1] however, attributed to the mucous membrane of the stomach a catalytic action, and claimed that it only needed the presence of a small piece of the stomach mucosa with weak hydrochloric acid for the manifestation of solvent or digestive power. It remained for Schwann[2] to show the true explanation of this phenomenon, and although he was unable to make a complete separation of the active principle which he plainly believed existed, he gave to it the name of pepsin. Wassmann, Pappenheim,[3] Valentin, and later Elsässer,[4] all endeavored to obtain the substance in a pure form, and Wassmann,[5] in 1839, surely succeeded in obtaining a very active preparation of the ferment—one capable of exerting marked digestive action when mixed with a little dilute acid. Thus a true understanding of the general nature of gastric juice was finally arrived at, and the cause of its digestive power was rightfully attributed to the presence of the ferment pepsin and the dilute acid. Further, the analysis of human gastric juice made by Berzelius,[6] in 1834, showed that the secretion contains very little solid matter (1.26 per cent.), thus calling attention to the fact that the digestive power of this fluid is out of all proportion to the amount of pepsin, or even to the amount of total solid matter present, and consequently paving the way for a general appreciation of the peculiar nature of the dominant body, *i.e.*, the pepsin.

The original conception regarding the manner in which gastric juice exerts its solvent power on proteid foods was apparently limited to simple solution; chemical solution if you choose, brought about by catalytic action, but without any hint as to the possible nature of the soluble products formed. Mialhe,[7] however, recognized the fact that this transformation, by which insoluble and non diffusible proteid matter was converted into a soluble and diffusible product, was a form of hydration, comparable to the change of insoluble starch into soluble sugar, and he named the hypothetical product albuminose. Mialhe's study of the matter in 1846 was followed by Lehmann's[8] investigation of the subject, and the coining of the word peptones as an appropriate name for the soluble products of gastric digestion. The peptones isolated by Lehmann were described as amorphous, tasteless substances, soluble in water in all proportions and insoluble in alcohol. They were likewise precipitated by tannic acid, mercuric chloride, and lead acetate, and were considered as weak acid bodies, having the power of combining with bases to form salts of a more or less indefinite character. Twelve years later, in 1858, Mulder[9] gave a more complete description of peptones, but his study of the subject failed to advance materially our knowledge of the broader questions regarding the nature of the process, or processes, by which the so-called peptones were formed. A year later, in 1859, Meissner[10] brought forward the first of his contributions, and during the following three or four years several communications were made representing the work of himself and pupils upon the question of gastric digestion, or more especially upon the character of the products resulting from the digestive action of pepsin-hydrochloric acid

The general tenor of Meissner's results is shown in the description of a row of products as characteristic of the proteolytic action of pepsin-acid on proteid matter. In other words, there was a clear recognition of the fact that proteid digestion in the stomach, through the agency of the ferment pepsin, is something more than a simple conversion of the proteid into one or two soluble products. The several bodies then isolated were named parapeptone, metapeptone, dyspeptone, α, β, and γ peptone; names now seldom used, but significant as showing that at this early date there was a full appreciation of the fact that digestive proteolysis as accomplished by the ferment pepsin is an intricate process, accompanied by the formation of a series of products which vary more or less with the conditions under which the digestion is conducted.

This was the commencement of our more modern ideas regarding digestive proteolysis, but only the commencement, for it ushered in an era of unparalleled activity, in which Brücke, Schützenberger, and Kühne each contributed a large share toward the successful interpretation of the results obtained. Further, knowledge regarding the proteid-digesting power of the pancreatic juice was rapidly accumulating, thus broadening our ideas regarding digestive proteolysis in general. Corvisart[1] had called attention to the proteolytic power of the pancreatic juice in 1857, and although his observations were more or less generally discredited for a time, they were eventually confirmed by Meissner,[2] Schiff, Danilewsky,[3] and Kühne,[4] the latter particularly contributing greatly to the development of our knowledge concerning this phase of digestive proteolysis The proteolytic power was proved to be due to a specific ferment or enzyme, now universally called trypsin, which digests proteid foods to the best advantage in the presence of sodium carbonate. Digestive proteolysis in the human body was thus shown to be due mainly to the presence of two distinct enzymes, the one active in an acid fluid, the gastric juice, the other in an alkaline reacting fluid, the pancreatic juice, but both endowed with the power of digesting all varieties of proteid foods, with the formation of a large number of more or less closely related products.

So much for the early history of our subject, and now, without attempting any exhaustive sketch of its gradual development during the last decade and a half, allow me to present to you digestive proteolysis as it stands to-day, developed somewhat, I trust, by the results I have been able to contribute to it during the last twelve years.

General Nature of the Proteolytic Enzymes.—These peculiar bodies owe their origin to the constructive power of the gland-cells from which the respective secretions are derived. During fasting, the epithelial cells of the gastric glands and of the pancreas manufacture from the cell-protoplasm a specific zymogen or ferment antecedent, which is stored up in the cell in the form of granules. These granules of either pepsinogen or trypsinogen, as the case may be, are during secretion apparently drawn upon for the production of the ferment, and it is an easy matter to verify Langley's[5] observation that the amount of pepsin, for example, obtainable from a definite weight of the gland-bearing mucous membrane is proportionate to the amount of granules contained in the gland-cells. During ordinary secretion, however, these granules of zymogen do not entirely disappear from the cell. When secretion commences and the granules are drawn upon for the production of ferment, fresh granules are formed, and inasmuch as these latter are produced through the katabolism of the cell-protoplasm it follows that anabolic processes must be simultaneously going on in the cell, by which new cell protoplasm is constructed Hence,

[1] Physiologie der Verdauung. Würzburg, 1834.
[2] Ueber das Wesen der Verdauungsprocesse. Müller's Archiv, 1836, p. 90.
[3] Zur Kenntniss d. Verdauung. Breslau, 1839.
[4] Magenerweichung der Säuglinge. Stuttgart und Tübingen, 1846.
[5] Lehmann's Lehrbuch d. physiol. Chem. Band 2, p. 41, 2te Auflage.
[6] Lehrbuch der Chemie, Band 9, p. 209.
[7] Canstatt's Jahresbericht d. Pharm., 1846, p. 163.
[8] Lehmann's Physiologische Chemie, Band 2, p. 318.
[9] Archiv. f. d. Holl nd., Beitr. 2, 1858.
[10] Zeitschr. f. rat. Med., vols. 7, 8, 10, and 14.

[1] Sur une Fonction peu connue du Pancréas: La digestion des aliments azotés. Paris, 1857–58.
[2] Verdauung der Eiweisskörper durch den pankreatischen Saft. Zeitschr. f. rat. Med., 3d ser., Band 7, p. 17. 1859.
[3] Virchow's Archiv, Band 25, p. 267. 1862.
[4] Ibid. Band 39, p. 130. 1867.
[5] Proceedings of the Royal Society, vol 32, p. 20; On the Histology and Physiology of the Pepsin-forming Glands.

as Heidenhain, Langley, and others have pointed out, during digestion there are at least three distinct processes going on side by side in the gland-cell, viz., the conversion of the zymogen stored up in the cell into the active ferment, or other secretory products, the growth of new cell protoplasm, and the attendant formation of fresh zymogen to replace, or partially replace, that used up in the production of the ferment. Consequently, we are to understand that in the living mucous membrane of the stomach there is little or no preformed pepsin present. Similarly, the cells of the pancreatic gland are practically free from the ferment trypsin. In both cases the cell-protoplasm stores up zymogen and not the active ferment, but at the moment of secretion the zymogen is transformed into ferment and possibly other organic substances characteristic of the fluid secreted. Absorption of the products of digestion tends to increase the activity of the secreting cells, but we have no tangible proof that any particular kinds of food are directly peptogenous, *i.e.*, that they lead to a storing up in the gastric cells, for example, of pepsinogen, although it may be that the so-called peptogenous foods give rise to a more active conversion of pepsinogen into pepsin.[1] As already stated, the zymogen is manufactured directly from the cell-protoplasm, and the constructive power is certainly not directly controlled by the character of the food ingested.

All this in one sense is to day ancient history, but I recall it to your minds in order to emphasize the fact that these two energetic ferments or enzymes stand in close relation to the protoplasm of the cell from which they originate. So far as we can measure the transformations involved, there are only two distinct steps in the process, viz., the formation of the inactive zymogen stored up in the cell, and the conversion of the antecedent body into the soluble and active ferment. In this connection Podwyssozki[2] has reported that the mucous membrane of the stomach exposed to the action of oxygen gas shows a marked increase in the amount of pepsin, from which he infers that the natural conversion of pepsinogen into pepsin is an oxidation process. Further, he claims the existence of at least two forms of pepsinogen in the stomach mucosa, one closely akin to the ferment itself and very easily soluble in glycerin, while the other is more insoluble in this menstruum. Langley and Edkins,[3] however, find that oxygen has no effect whatever on the pepsinogen of the frog's mucous membrane, thus throwing doubt on the above conclusion. Still, Podolinski[4] claims that trypsin originates from its particular zymogen through a process of oxidation, and Herzen[5] has proved that the ferment can be reconverted into trypsinogen under the influence of carbon monoxide and again transformed into the ferment by contact with oxygen gas. This latter observer[6] has also noticed a connection between the amount of trypsin obtainable from the pancreas and the dilatation of the spleen, from which he was eventually led to conclude that the spleen during its dilatation gives birth to a zymogen-transforming ferment which thus leads to the production of trypsin, presumably from the already manufactured zymogen. In any event, their peculiar origin lends favor to the view that these two enzymes are closely allied to proteid bodies, and that they are directly derived from the albuminous portion of the cell-protoplasm. Analysis shows that they always contain nitrogen in fairly large amount, although the percentage is sometimes less than that found in a typical proteid body.

It must be remembered, however, that in spite of oft-repeated attempts to obtain more definite knowledge regarding the composition of these proteolytic enzymes our efforts have been more or less baffled. We are confronted at the outset with the fact that no criterion of chemical purity exists, either in the way of chemical composition or of chemical reactions. The only standard of purity available is the intensity of proteolytic action, but this is so dependent upon attendant circumstances that it is only partially helpful in forming an estimate of chemical purity. My own experiments in this direction, and they have been quite numerous, have convinced me that it is practically impossible to obtain a preparation of either pepsin or trypsin at all active which does not show at least some proteid reactions. Furthermore, such samples of these two enzymes as I have analyzed have shown a composition closely akin to that of proteid bodies. I will not take time to go into all the details of my work in this direction, contenting myself here with the statement that the purest specimens of pepsin and trypsin I have been able to prepare have always shown their relationship to the proteid bodies by responding to many of the typical proteid reactions, and their composition, though somewhat variable, has in the main substantiated this evident relationship.

The most satisfactory method I have found for obtaining a comparatively pure preparation of pepsin, and one at the same time strongly active, is a modification of the method published some years ago by Kühne and myself.[1] The mucous membrane from the cardiac portion of a pig's stomach is dissected off and washed with water. The upper surface of the mucosa is then scraped with a knife until at least half of the membrane is removed. These scrapings, containing the fragments of the peptic glands, are warmed at 40° C. with an abundance of 0.2 per cent. hydrochloric acid for ten to twelve days in order to transform all of the convertible albuminous matter into peptone. The solution is then freed from insoluble matter by filtration and immediately saturated with ammonium sulphate, by which the pepsin, with some albumose, is precipitated in the form of a more or less gummy, or semi-adherent mass. This is filtered off, washed with a saturated solution of ammonium sulphate and then dissolved in 0.2 per cent. hydrochloric acid. The resultant solution is next dialyzed in running water until the ammonium salt is entirely removed, thymol being added to prevent putrefaction, after which the fluid is mixed with an equal volume of 0.4 per cent. hydrochloric acid and again warmed at 40° C. for several days. The ferment is then once more precipitated by saturation of the fluid with ammonium sulphate, the precipitate strained off, dissolved in 0.2 per cent. acid and again dialyzed in running water until the solution is entirely free from sulphate. The clear solution of the ferment obtained in this manner can then be concentrated at 40° C. in shallow dishes, and if desired the ferment obtained as a scaly residue. So prepared, the pepsin is certainly quite pure, that is comparatively, and although it may contain some albumose, the latter must be very resistant to the action of the ferment; indeed, pepsin is in many respects an albumose-like body itself.

In any event, the enzyme prepared in this manner shows decided proteid reactions, and contains nitrogen corresponding more or less closely to the recognized composition of an albumose. My own belief, therefore, is that these enzymes, both pepsin and trypsin, are proteid bodies closely related to the albumoses. They are soluble in water and more or less soluble in glycerin; at least glycerin will dissolve them from moist tissues, or from moist precipitates containing them. Langley,[2] however, states, and perhaps justly, that we have no positive proof that either ferments or zymogens are soluble in pure strong glycerin, and that if they are soluble, it is extremely slowly. In dilute glycerin, however, these ferments dissolve readily, as we very well know. Furthermore, they are practically non-diffusible, and, like many albumoses, are precipitated in part

[1] Langley and Edkins: Pepsinogen and Pepsin. Journal of Physiology, vol. 7, p. 394.
[2] Pflüger's Archiv f. Physiol. Band 39, p. 68.
[3] Journal of Physiol., vol. 7, p. 400.
[4] Pflüger's Archiv f. Physiol. Band 13, p. 422.
[5] Ueber den Rückschlag des Trypsins zu zymogen unter dem einfluss der Kohlenoxydvergiftungen. Pflüger's Archiv f. Physiol. Band 30, p. 308.
[6] Ueber den Einfluss der Milz auf die Bildung des Trypsins. Pflüger's Archiv f. Physiol. Band 30, p. 295.

[1] Zeitschr. f. Biol. Band 22, p. 428.
[2] Gamgee's Physiological Chemistry of the Animal Body, vol. 2, p. 4. 1893.

by saturation with sodium chloride and completely on saturation with ammonium sulphate.

When dissolved in water and heated above 80° C. these enzymes are decomposed to such an extent that their proteolytic power is totally destroyed. The amount of coagulum produced by heat, however, is comparatively small, though variable with different preparations. Thus with trypsin, Kühne originally considered that boiling an aqueous solution of the ferment would give rise to about twenty per cent. of coagulated proteid and eighty per cent. of peptone-like matter. With the purer preparations now obtainable there is apparently less coagulable matter present, and Loew[1] has succeeded in preparing from the pancreas of the ox a sample of trypsin containing 52.75 per cent. of carbon and 16.55 per cent. of nitrogen, and yielding only a small coagulum by heat. Loew considered the ferment to be a true peptone, but in view of our present knowledge regarding the albumoses, I think we are justified in assuming it to be an albumose-l ke body rather than a true peptone. At the same time it may be well to again emphasize the fact that our only "means of determining the presence of an enzyme is that of ascertaining the change which it is able to bring about in other substances, and since the activity of the enzymes is extraordinarily great, a minute trace suffices to produce a marked effect. From this it follows that the purified enzymes which give distinct proteid reactions might merely consist of very small quantities of a true non-proteid enzyme, adherent to or mixed with a residue of inert proteid material."[2] This quotation gives expression to a possibility which we certainly cannot ignore, but my own experiments lead me to believe firmly in the proteid nature of these two enzymes. Further, we find partial substantiation of this view in the results obtained by Wurtz[3] in his study of the vegetable proteolytic ferment papain, and in my own results from the study of the proteolytic ferment of pineapple juice.[4] Thus, Wurtz prepared from the juice of Carica papaya an active sample of papain, and found it to contain on analysis about 16.7 per cent. of nitrogen and 52. 5 per cent. of carbon, while the reactions of the product likewise testified to the proteid nature of the enzyme. Martin, too, has concluded from his study of papain that the ferment is at least associated with an albumose.[5]

With the proteolytic ferment of pineapple juice my observations have led me to the following conclusions, viz., that the ferment is at least associated with a proteid body, more or less completely precipitable from a neutral solution by saturation with ammonium sulphate, sodium chloride, and magnesium sulphate. This body is soluble in water, and consequently is not precipitated by dialysis. It is further non-coagulable by long contact with strong alcohol, and its aqueous solution is very incompletely precipitated by heat. Placing it in line with the known forms of albuminous bodies it is not far removed from protoalbumose or heteroalbumose, differing, however, from the latter in that it is soluble in water without the addition of sodium chloride. At the same time, it fails to show some of the typical albumose reactions, and verges toward the group of globulins. In any event, it shows many characteristic proteid reactions, and contains considerable nitrogen, viz., 10.46 per cent., with 50.7 per cent. of carbon. Consequently, we may conclude that the chemical reactions and composition of the more typical proteolytic enzymes, both of animal and vegetable origin, all favor the view that they are proteid bodies not far removed from the albuminous matter of the cell-protoplasm.

Further, the very nature of these substances and their mode of action strengthen the idea that they are not only derived from the albumin of the cell-protoplasm, but that they are closely related to it. One cannot fail to be impressed with the resemblance in functional power between the unformed ferments as a class and cell-protoplasm. To what can we ascribe the particular functional power of each individual ferment? Why, for example, does pepsin act on proteid matter only in the presence of acid, and trypsin to advantage only in the presence of alkalies? Why does pepsin act only on proteid matter, and ptyalin only on starch and dextrins? Why does trypsin produce a different set of soluble products in the digestion of albumin than pepsin does? Similarly, why is it that the cell-protoplasm of one class of cells gives rise to one variety of katabolic products, while the protoplasm of another class of cells, as in a different tissue or organ, manifests its activity along totally different lines? The answer to both sets of questions is, I think, to be found in the chemical constitution of the cell-protoplasm on the one hand, and in the constitution of the individual enzymes on the other. The varied functional power of the ferment is a heritage from the cell protoplasm, and, as I have said, is suggestive of a close relationship between the enzymes and the living protoplasm from which they originate. We might, on purely theoretical grounds, consider that these unformed ferments are isomeric bodies all derived from different modifications of albumin and with a common general structure, but with individual differences due to the extent of the hypothetical polymerization which attends their formation.

Whenever, owing to any cause, the activity of the ferment is destroyed, as when it is altered by heat, strong acids, or alkalies, then the death of the ferment is to be attributed to a change in its constitution; the atoms in the molecule are rearranged, and as a result the peculiar ferment power is lost forever. The proteolytic power of these enzymes is therefore bound up in the chemical constitution of the bodies, and anything which tends to alter the latter immediately interferes with their proteolytic action. But how shall we explain the normal action of these peculiar bodies? Intensely active, capable in themselves of producing changes in large quantities of material without being destroyed, their mere presence under suitable conditions being all powerful to produce profound alterations, these enzymes play a peculiar part. Present in mere traces, they are able to transform many thousand times their weight of proteid matter into soluble and diffusible products. All that is essential is their mere presence under suitable conditions, and strangely enough the causative agent itself appears to suffer no marked change from the reactions set up between the other substances.

There are many theories extant to explain this peculiar method of chemical change, but few of them help us to any real understanding of the matter. These enzymes are typical catalytic or contact agents, and by their presence render possible marked changes in the character of the proteid or albuminoid matter with which they happen to be in contact. But the conditions under which the contact takes place exercise an important control over the activity of the ferment. Temperature, reaction, concentration of the fluid, presence or absence of various foreign substances, etc., all play a very important part in regulating and controlling the activity of these two proteolytic enzymes. In fact, as one looks over the large number of data which have gradually accumulated bearing upon this point, one is impressed with the great sensitiveness of these ferments toward even so-called indifferent substances. Their specific activity appears to hinge primarily upon the existence of a certain special environment, alterations of which may be attended with an utter loss of proteolytic power, or, in some less common cases, with a decided increase in the rate of digestive action. This constitutes one of the peculiar features of these proteolytic enzymes; powerful to produce great changes, they are nevertheless subject to the influence of their surroundings in a way which testifies to their utter lack of stability. Furthermore, as you well know, conditions favorable for

[1] Ueber die chemische Natur der ungeformten Fermente. Pflüger's Archiv f. Physiol. Band 27, p. 203.
[2] Sheridan Lea: Chemical Basis of the Animal Body, p. 55.
[3] Sur la papaine: Contribution à l'histoire des ferments solubles, Comptes Rendus, Tome 90, p. 1379. Ibid., Tome 91, p. 787.
[4] On the Proteolytic Action of Bromelin, the Ferment of Pineapple Juice. Journal of Physiol., vol. 15, p. 249.
[5] The Nature of Papain, etc. Journal of Physiol., vol. 6, p. 336.

the action of the one ferment are absolutely unfavorable for the activity of the other, and indeed may even lead to its destruction. Thus, while pepsin requires for its activity the presence of an acid, as 0.2 per cent. HCl, trypsin is completely destroyed in such a medium. Again, trypsin exhibits its peculiar proteolytic power in the presence of sodium carbonate, a salt which has an immediate destructive action upon pepsin. Hence, a medium which is favorable for the action of the one ferment may be directly antagonistic to the action of the other.

Another factor of great moment in determining the activity of these two enzymes is temperature. That which is most favorable for their action is 38 to 40° C., and any marked deviation from this temperature is attended by an immediate effect upon the proteolysis. Exposure to a low temperature simply retards proteolytic action, doubtless in the same manner that cold checks or retards other chemical changes. There is no destruction of the ferment, even on exposure to extreme cold, the enzyme being simply inactive for the time being. Exposure of either pepsin or trypsin to a high temperature, say 80° C., is quickly followed by a complete loss of proteolytic power, *i.e.*, the ferment is destroyed. It is to be noticed, however, that the destructive action of heat is greatly modified by the attendant circumstances. Thus, fairly pure trypsin, dissolved in 0.3 per cent. sodium carbonate, is completely destroyed on exposure to a temperature of 50° C. for five to six minutes, while a neutral or slightly acid solution of the pure enzyme is destroyed in five minutes by exposure to a temperature of 45° C. On the other hand, the presence of inorganic salts and the products of digestion, such as albumoses, amphopeptone, and antipeptone, all tend to protect the trypsin somewhat from the destructive effects of high temperatures, so that in their presence the enzyme may be warmed to 60° C. before it shows any diminution in proteolytic power. Alkaline reaction, combined with the presence of salts and proteid, viz., just the conditions existent in the natural pancreatic secretion, constitute the best safeguard against the destructive action of heat, and under such conditions trypsin may be warmed to about 60° C. before it begins to suffer harm. But all this testifies in no uncertain way to the extreme sensitiveness of the ferment to changes in temperature; a sensitiveness which manifests itself, not only in diminished or retarded proteolytic action, but terminates in destruction of the ferment when the temperature rises beyond a certain point.

Similarly, pepsin dissolved in 0.2 per cent. hydrochloric acid feels the destructive effect of heat when a temperature of 60° C. is reached. In a neutral solution, on the other hand. destruction of the ferment may be complete at 55° C. Here, too, peptone retards very noticeably the destructive action of heat, especially in an acid solution of pepsin, so that under such circumstances the ferment may not be affected until the temperature reaches 70° C. I have tried many experiments along this line, not only with pepsin and trypsin, but also with many other ferments. We may briefly summarize, however, all that is necessary for us to consider here in the statement that the pure isolated ferments are far more sensitive to the destructive action of heat than when they are present in their natural secretions. This, as stated, is due not only to the reaction of the respective fluids but also to the protective or inhibitory action of the inorganic salts and various proteids naturally present. We may thus say with Biernacki[1] that the purer the ferment the less resistant it is to the effects of heat.

It is thus plain that these enzymes, capable though they are of accomplishing great tasks, are nevertheless exceedingly unstable and prone to lose their proteolytic power under the slightest provocation. When, however, they are surrounded by their natural environment, the acid or alkali of the respective secretion, together with salts and proteids, they then appear more stable; their natural lability becomes for the time being transformed into semi-stability, and the temperature, for example, at which they lose their peculiar power, is raised ten degrees or more. I have also found the same to be true of the vegetable proteolytic ferments, and also of the amylolytic ferment of saliva.

The above facts furnish us, I think, a good illustration of how dependent these proteolytic enzymes are upon the proper conditions of temperature, to say nothing of other conditions, for the full exercise of their peculiar power. Toward acids, alkalies, metallic salts, and many other compounds they are even more sensitive than toward heat, and much might be said regarding the effects, inhibitory or otherwise, produced by a large number of common drugs or medicinal agents on these two ferments. Any lengthy discussion of this matter, however, would be foreign to our subject, and I will only call your attention in passing to one or two points which have a special bearing upon the general nature of the enzymes. Take, for example, the influence of such substances as urethan, paraldehyde, and thallin sulphate on the proteolytic action of pepsin-hydrochloric acid[2] and we find that small quantities, 0.1 to 0.3 per cent., tend to increase the rate of proteolysis, while larger amounts, say one per cent., decidedly check proteolysis. Similarly, among inorganic compounds, arsenious oxide, arsenic oxide, boracic acid, and potassium bromide[3] in small amounts increase the proteolytic power of pepsin in hydrochloric acid solution, while larger quantities check the action of the ferment in proportion to the amounts added. Again, with the enzyme trypsin, similar results with such salts as potassium cyanide, sodium tetraborate, potassium bromide and iodide[3] may be quoted as showing not only the sensitiveness of the ferment toward foreign substances, but likewise its peculiar behavior, viz., stimulation in the presence of small amounts and inhibition in the presence of larger quantities.

Furthermore, we have found that even gases, as carbonic acid and hydrogen sulphide, exert a marked retarding influence on the proteid-digesting power of trypsin. Moreover, while it is generally stated that proteolytic and other enzymes are practically indifferent to the presence of chloroform, thymol, and other like substances that quickly interfere with the processes of the so-called organized ferments, pepsin and trypsin certainly do show a certain degree of sensitiveness to chloroform, and indeed even to a current of air passed through their solutions. Thus, very recently. Bertels[4] and Dubs,[5] working under Salkowski's direction, have called attention to the peculiar behavior of pepsin to chloroform; their results showing, first, that small amounts of this agent tend to increase the proteolytic power of the enzyme, while larger amounts decrease its digestive power. Another interesting point brought out especially by Dubs's experiments is the fact that an impure solution of the ferment. viz., an acid extract, for example, of the mucous membrane of the stomach containing more or less albuminous matter, is far less sensitive to chloroform than an acid solution of the purified ferment, thus showing again the protective influence of proteids and other extraneous matters, guarding the enzyme to a certain extent from both the stimulating and inhibitory action of various agents.

Another point to be emphasized just here is that any chemical substance, such as a metallic salt, having a specific action upon proteid matter, will almost invariably interfere more or less with the proteolytic action of these enzymes, both through a direct action upon the soluble ferment itself, and also through an indirect action in modifying or inhibiting the digestibility of the proteid exposed to proteolysis. All of these facts emphasize more or less the proteid-like nature of the enzymes, or at least the carriers of the ferments. It is further very suggestive that the destruction of these enzymes by heat hap

[1] Das Verhalten der Verdauungsenzyme bei Temperaturerhöhungen. Zeitschr. f. Biol., Band 28, p. 49.

[1] Chittenden and Stewart: Studies in Physiol. Chem., Yale University. Vol. 3, p. 64.

[2] Chittenden and Allen. Ibid., vol. 1, p. 76.

[3] Chittenden and Cummins. Ibid., vol. 1, p. 112.

[4] Ueber den Einfluss des Chloroforms auf die Pepsinverdauung. Virchow's Archiv, Band 130, p. 497.

[5] Der Einfluss des Chloroforms auf die künstliche Pepsinverdauung. Ibid., Band 134, p. 519.

pens to occur at approximately those temperatures which are generally recognized as the coagulation points of ordinary proteids. Moreover, the apparent lack of stability so characteristic of these ferments, their inherent proneness to alteration, their marked susceptibility to every change in environment, all point to large complex molecules, such as we have in proteids and are familiar with in living protoplasm.

Whatever the exact nature of these proteolytic enzymes, they are certainly endowed with the power of transforming relatively large amounts of proteid matter into soluble products, even though they themselves are present in very small quantity. They are derived, as we have seen, from living protoplasmic cells, and we might perhaps, with v. Nageli[1] and Mayer,[2] consider them as retaining a portion of that molecular motion so characteristic of living protoplasm, by which the equilibrium of the dead food proteid may be disturbed and thus changes started which result in what we call proteolysis. However this may be, we must look to some phase of catalytic or contact action as the true explanation of this power of proteolysis. At first glance, any explanation or theory involving the use of catalysis seems exceedingly vague and indefinite, and yet many illustrations can be given of chemical reactions where the dominating agent evidently acts in this manner. "We call a force catalytic," says the philosopher of Heilbron, "when it holds no communicable proportion to the assumed results of its action. An avalanche is hurled into the valley. . . . A puff of wind or the fluttering of a bird's wings is the catalytic force which has given the signal for, and which is the cause of the wide spread disaster."[3] In the older theories of catalytic action, the catalytic agent was supposed to remain passive, but not so in the more modern conception of catalysis. The ferment by its presence makes possible certain changes and combinations which could not occur in its absence, at least under the existing circumstances, although all the other conditions might be favorable. The proteids, for example, have a natural tendency to undergo hydration; thus simple boiling with dilute acid or exposure to the action of superheated water alone,[4] will produce many if not all of the products formed in natural digestive proteolysis. To be sure, they are not formed as readily as in artificial or natural digestion, and there may be some minor points of difference, but still proteolysis can be imitated in this manner. The proteolytic enzymes simply help on this natural tendency of proteid bodies to undergo hydration, and by their presence and action enable it to occur at lower temperatures than it otherwise could, and at the same time render it more rapid and complete. This is not accomplished, however, by simple contact. The enzymes, we may assume, combine in some manner with the proteid undergoing digestion, starting thereby a train of reactions in which the proteid and the water present are the main actors, they being, however, perfectly passive in the absence of the inciting agent, the enzyme. As expressed by Gamgee, "the ferment phenomena resemble those in which there is apparently a periodic synthesis and dissociation of the catalyzing agent, which acts in a similar manner to the agent which explodes a train of gunpowder."

We can find many illustrations among chemical phenomena where one body, even though present in small quantity, acts as a go-between and makes possible an almost indefinite exchange of matter and energy. Take as an illustration, the part played by water in determining the explosion of oxygen and carbon monoxide gas. Some years ago, Dixon[5] called attention to the fact that a mixture of these two gases when perfectly dry would not explode even by contact with red hot platinum wire. The presence, however, of a small amount of aqueous vapor would at once cause an explosion to occur. In confirmation of this observation, Traube[1] has reported that a flame of carbon-monoxide gas introduced into a perfectly dry atmosphere is at once extinguished. In a moist atmosphere, on the other hand, the flame will continue to burn indefinitely, that is as long as the CO gas is supplied. In these cases, the water, which is so necessary for the appearance of the reaction, and which furnishes a striking illustration of the action of a contact or catalytic substance is not purely passive. To be sure, only a minimal amount is necessary for the combustion of an indefinite amount of carbonic oxide, but the water enters into the reaction itself. It is to be noticed that carbonic oxide and water alone, even at high temperatures, will not react, but in the presence of oxygen the water is decomposed with formation of hydrogen peroxide, thus:

$$CO + 2\,H_2O + O_2 = CO(OH)_2 + H_2O_2.$$

The hydrogen peroxide thus formed combines with carbonic oxide to form carbonic acid, which in turn is decomposed into the anhydride CO_2, with regeneration of water, the latter being available for further action of the same order:

$$H_2O_2 + CO = CO(OH)_2$$
$$2\,CO(OH)_2 = 2\,CO_2 + 2\,H_2O.$$

Indeed, as can be readily seen from the equations, this may be kept up indefinitely, a small amount of water, *i.e.*, the go between, the catalytic agent, sufficing to accomplish the transformation of almost any amount of carbon monoxide. This, I think, furnishes an excellent illustration of the way in which catalytic agents, such as the proteolytic enzymes, may be supposed to act. It is truly contact action, but the agent is not purely passive; the enzyme combines with the substance undergoing proteolysis, and the resultant compound thus formed is enabled now to combine with water and undergo hydrolysis, something which could not be accomplished by the proteid and water alone, that is at body temperature. This new and more complex compound is naturally less stable and soon undergoes dissociation or cleavage with a splitting off of the original enzyme for one product, which is thus available for further action of the same order; while, as other products, we find the hydrated and otherwise altered substances coming from the proteid, and whose formation is the ultimate object of the whole process.

The parallelism between this hypothetical action of the proteolytic enzymes and the known reactions in the above combustion of carbonic oxide is certainly very close and leaves little doubt that this explanation of enzyme action is, in a general way at least, correct. Thus the carbonic oxide, CO, brought in contact with pure, dry oxygen gas (apparently all this is necessary for its direct oxidation into carbonic acid, CO_2), undergoes no change; the burning CO gas is at once extinguished. Evidently, something more is necessary in order to start the process of oxidation. So, too, in proteolysis; the process, as we shall see later on, is essentially one of hydration, but bring the proteid and the water, or acid-water, together and although all the conditions are apparently favorable for hydration there is, as you know, little or no change. But introduce the catalytic agent and immediately the reaction commences. In the case of the burning CO gas in contact with oxygen, the water acting as contact agent makes oxidation possible, enabling the main actors in the transformation to react upon each other. But, as we have seen, the contact agent is something more than a mere looker-on, it becomes for the time being an integral part of the molecule, undergoing change, combining with it and thus making possible the subsequent alterations characteristic of the specific transformation, in which, however, the regeneration of the contact agent is a prominent feature.

[1] Theorie der Gährung München, 1879.
[2] Die Lehre von den chem. Fermenten. Heidelberg, 1882.
[3] Quoted from Gamgee's Physiological Chemistry of the Animal Body, vol. 2, p. 7.
[4] Chittenden and Meara. A study of the primary products resulting from the action of superheated water on coagulated egg-albumin. Journal of Physiol., vol. 15 p. 501.
[5] Chemical News, vol. 46, p. 151.

[1] Bericht. d. deutsch. chem. Gesellsch., Band 18, p. 1890.

So, too, with the proteolytic enzymes, pepsin and trypsin, they are the go-betweens, making possible the union of the proteids with water by combining with the proteid molecule and thus paving the way for both hydration and cleavage. In the cleavage of the complex molecule, we have the regeneration of the ferment as a prominent feature, and in proteolysis we understand that the regenerated ferment may act not only upon more of the original proteid, but likewise upon the primary products of its action, thus giving rise eventually to a row of more or less closely related cleavage products. Finally, we can conceive that the enzyme may gradually be affected by the process, that its regeneration may become less complete, and thus digestive power be eventually diminished.

Much more might be said in support of the above hypothesis. On the other hand, some objections might be raised against it, but I know of no more reasonable explanation of enzyme action than that here presented, or one which so well accords with all of the known facts concerning the conditions which modify proteolytic action.[1] Thus the influence of heat, of the products of proteolysis, of acids, alkalies, and various organic and inorganic salts on the action of these digestives enzymes is such as lends favor to the above view rather than opposes it.

(To be continued.)

The Chloroform of To-day.—In his last *Ephemeris* Dr. E. R. Squibb says: The same three prominent anæsthetics have maintained their standing throughout the entire forty odd years of the writer's experience, and have so far outlived the many substitutes that have been offered and used, that to-day ether, chloroform, and nitrous oxide are the anæsthetics of general use, as they were forty years ago. Neither have their relations to each other appeared to change very much. The use of all three agents has increased year by year, so that now each numbers its cases by tens of thousands.

In another most important respect their relative standing does not seem to have changed materially. Notwithstanding the increased care and skill that years of experience bring in the use of all agents, the fatalities from chloroform may still be estimated as about twenty to five from ether and to one from nitrous oxide, and the physician or surgeon who uses chloroform in cases where either of the other agents would be applicable has the same grave responsibility. This is a very singular condition of the usage, but it exists and persists, and seems to be generally accepted. About twenty years ago ether seemed to increase in use more rapidly than chloroform, and there seemed a chance that it would supplant the less safe agent, and confine it to special cases and uses, but during the last ten years chloroform seems to have recovered its prominence without sensible effect on its death-rate. Ether is certainly more used in this country, and its almost exclusive use in the general practice of hospitals shows that the enormous quantities of chloroform made and sold must be used in private practice.

In the *British Medical Journal* of July 29, 1893, p. 277, is found a "Preliminary Report of the Anæsthetics Committee," of the British Medical Association. This committee have records of 26,086 administrations of anæsthetics. Of these there were:

By chloroform	13,999
By ether	4,571
By gas and ether	2,001
By A. C. E. (alcohol, chloroform, and ether)	691
By gas and various mixtures and combinations	4,824
Total	26,086

Yeast Destroys the Typhoid Bacillus, or at least takes away its power for evil, so says Dr. Springthorpe, by means of an acid which it secretes.

[1] Compare L. de Jager, Erklärungsversuch über die Wirkungsart der ungeformten Fermente, Virchow's Archiv, Band 121, p. 182. Also Chandelon: Bulletin de l'Academie Royale de Méd. de Belgique, 1887, 1, p. 289.

Original Articles.

FURTHER OBSERVATIONS ON THE PHYSIOLOGICAL OCCURRENCE OF CONICAL STUMP AFTER AMPUTATION IN CHILDREN.[1]

By CHARLES A. POWERS, M.D.,

SURGEON TO ST. LUKE'S HOSPITAL AND TO THE CANCER HOSPITAL, NEW YORK.

In March, 1890, I presented before this Section a number of children whom I had seen in the hospital wards of Dr. Bull, and one boy who had been under my own observation. Each of these had suffered amputation of the arm above its middle, and each had developed a conical condition of the stump. Reference to the histories of these patients did not reveal a faulty technique at the time of the original operation, which could account for this condition, and I was forced to accept a physiological cause, namely, natural growth of the bone by elongation.

This conclusion was not original on my part. It had already been made by Verneuil, Bull, and others; but that it was generally understood or accepted would seem improbable, from the complete absence of reference to it in surgical text books or in special works on amputations.

At that time I made the following summary:[2]

1. Amputation through the arm or leg in children may be followed by a conical condition of the stump, and this sequel is a probability rather than an improbability.

2. This conicity may be physiological, and independent of inflammation or retraction in the soft parts, or of osteophytic deposit at the end of the bone.

3. The younger the child and the nearer the seat of the amputation to the upper epiphysis of the limb, the greater the probability of early conicity. These factors should be considered when making prognosis.

4. The weight of extant authority favors flaps of excessive length, but this measure may not prevent development of the conical condition.

5. When the conical condition is present, the only suitable treatment consists in the resection of a sufficient portion of bone.

6. Successive re-amputations may be required.

7. The above considerations may apply, but with very much less of force, to amputations through the forearm or thigh.

I have here an amendment to make to the above. Inflammatory deposit may take place at the end of the bone, this being due to pressure of this end against the tightly stretched skin. This deposit contributes but slightly, however, to the growth of the bone in length, the main part of which is due to the growth at the epiphyseal cartilage. Further, flaps of excessive length will very probably fail to prevent the conical condition.

A brief narration of the following cases may serve to strengthen the above conclusions.

Case I.—In January, 1892, I saw in the wards of Dr. R. F. Weir, at the New York Hospital, a boy,[3] six years of age, whose right arm had been amputated at the junction of its upper and middle thirds a year and a half before. The bone had grown down, the skin was adherent to its end and ulcerated (Fig. 1). An inch and a half of bone sawn off.

Under date of February 8, 1892, Dr. F. Ferguson, pathologist to the New York Hospital, writes me as follows regarding the pathological condition: "The material is a piece of the humerus of a child, measuring 4½ ctm. in length, and 1¾ ctm. in diameter, at one end, while the other end gradually tapers to a point. The medullary canal is present throughout, excepting a little less than the last 1 ctm. It is covered in places by soft tissues, but the bone very generally is devoid of periosteum; section through the small end shows, where it is covered by periosteum, that the periosteum is very greatly thickened

[1] Read before the Surgical Section of the New York Academy of Medicine, January 8, 1894.

[2] New York Medical Record, June 7, 1890.

[3] Case presented before this Section, February 8, 1892, unpublished.

and very dense in the arrangement of its fibrous tissue, but presents no evidence of recent inflammation. In the interior of the bone, at the end of the stump, there is considerable fibrous tissue, in the meshes of which there are many small round cells of inflammation. The stroma



FIG. 1.—Dr. Weir's Case.

of the medulla is also infiltrated with similar cells. The changes in the end of the stump are regarded as the result of the development of the bone, probably occurring in a physiological way, and pressure upon the soft parts."

CASE II.—Timmer[1] relates the case of a boy, aged fifteen, whose arm was amputated in its lower half eleven years previously; the bone gradually grew down, and produced a typical conical stump. Resection of bone.

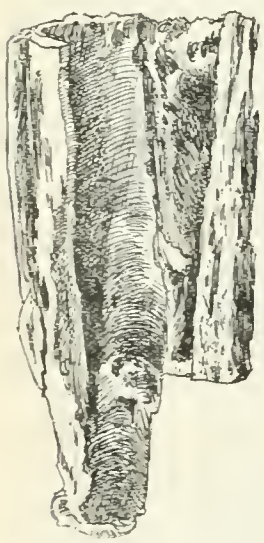


FIG. 2.—Cut Section of Bone from Dr. Weir's Case. The medullary canal is seen to extend to the end.

CASE III., by Mr. Owen,[2] of London.—"A boy, five years of age, put his right arm and forearm into a sausage-machine in March, 1884, with the result that amputation had to be performed just above the elbow. The ample flaps promptly united, and the boy went home. In October, 1889, he was readmitted because the stump had become conical and painful, and the bone was close against the scar. Chloroform being administered, the house surgeon, Mr. Hanson, removed about one inch and a half of the humerus from beneath the periosteum. The wound healed rapidly, and the boy returned home within a week. In a little more than a year he was again admitted, because the bone had grown too long for the stump. This time the house surgeon, Mr. Winter, removed two inches of the end of the humerus. And it is by no means unlikely that the boy will ere long be again admitted for a repetition of the operation.

[1] Nederl. Tijsch. für Genesk Anat., 1891, No. xxvii., p. 567.
[2] Lancet, October 3, 1891.

"Unless the fact be generally recognized that a conical stump is very apt to follow certain amputations in childhood, parents may be dissatisfied and the surgeon disappointed when a sawn humerus or tibia is found pressing against a tender and threadbare scar. Still, the occurrence is almost as physiological as that of the growing schoolboy's sleeves and trousers 'getting too short.' When amputation is done in the diaphysis the bone keeps on growing from its upper epiphysis, regardless of the fact that the skin and subjacent tissues have no provision for keeping pace with it."

CASE IV., by Dr. Lediard.[1]—"G. M——, a schoolboy aged fourteen, was admitted into the hospital on September 23, 1891. He had the left upper arm crushed seven years ago, and it was amputated some distance above the elbow. A conical stump resulted some years later, and three years ago Dr. Lediard resected the humerus, leaving ample flaps. On admission, the patient complained of the stump, which on examination proved to be conical, the bone protruding at the apex and causing pain. The skin was adherent to the bone. The bone protruded about half an inch. There was some pus. Over two inches of the humerus removed.

"The above account shows how active the upper epiphysis of this humerus has been, and it bears out the fact that conical stump is very apt to result in the arm after amputation in boys. It is curious that the bone seems to have grown more rapidly during the last three years than it did during the seven years previously. Unfortunately, it is not known how much bone was removed in the first instance, in proportion to the length of the flaps."

CASE V., by Dr. Bland Sutton.[2]—"Mary——, aged thirteen, came under my care suffering from a painful stump. When two years of age she underwent amputation of the leg at the junction of its upper and middle thirds, for injury. As she grew older the stump became painful, and at last so distressed her that she sought relief. I found the skin over the end of the stump red, tender, excessively thin, and the end of the tibia, which was pointed, nearly through the cicatrix. Amputation was performed at the knee-joint by the method known as Stephen Smith's.

"The cause of the stump becoming conical in this case is obvious; growth had continued at the epiphyseal lines, and gradually pushed the sharp ends of the bones through the thin tissue of the cicatrix. Most surgeons can recall similar conditions. Mr. Bryant mentions the case of a boy aged seven years, whose leg was amputated. Subsequently, on two occasions, at intervals of three years, it became necessary to remove a piece of the tibia an inch long; the tibia grew faster than the fibula, so that at the second operation the fibula required no shortening. So troublesome is this condition after amputation through the tibia in children, that I think it better practice to remove the leg at the knee."

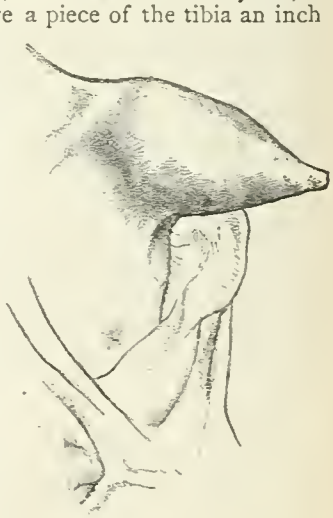


FIG. 3.

CASE VI.—Dr. J. A. Elliford, of Laurel, Del., writes me as follows: "I send you a tintype of a typical case of conical stump. Amputation through the upper third of the humerus for gunshot injury, when boy was twelve years old; operation by a competent surgeon; four years later, condition as seen in picture." (Fig. 3.)

CASE VII.—Dr. J. H. Finfrock, of Laramie, Wyo. Ter., writes me under date of June 22, 1890: "J. A——, aged eleven, had right arm crushed by a car-wheel July 19, 1892 (I copy notes made at the time). Amputation between

[1] Lancet, January 9, 1892. [2] Lancet, December 8, 1888.

upper and middle thirds. Liberal anterior and posterior flaps; one year later the stump was slightly conical, and continued to become more so for the following three years, at the end of which time he removed to Kentucky. I



Fig. 4.—Dr. McCosh's Case at Time of Original Amputation.

attributed the condition to a growth of the bone, and proposed to operate, but was refused an opportunity, as another physician had told the parents that I had cut the flaps too short at first."

Case VIII. is exhibited before you this evening by Dr.



Fig. 5.—Dr. McCosh's Case Three Years Later.

H. L. Shively. It is that of a little girl aged five, whose arm was amputated by Dr. Shively, three years ago, in the service of Dr. McCosh, at the Presbyterian Hospital.

In Fig. 4 the stump is shown directly after amputation. Fig. 5 shows the conical condition three years later, or at the present day. No comment on these pictures is necessary, the condition is a typical one. At the time of amputation, Dr. McCosh and Dr. Shively were good enough to speak to me of the case, and we watched the course with interest. We expected a development of the conical stump. Indeed, one may expect it in all similar cases.

Case IX.—Dr. L. J. Ladinski, of this city, writes under date of January 18, 1890, of a little girl, eight years of age, who was seen by him while on the house staff at the Mount Sinai Hospital, in 1889. The arm had been amputated at the middle, three years previously. When seen the stump was typically conical, and two inches of bone were resected.

Bruyelle, in a Thèse de Paris, 1887, relates histories of



Fig. 6.—Bruyelle Leg.

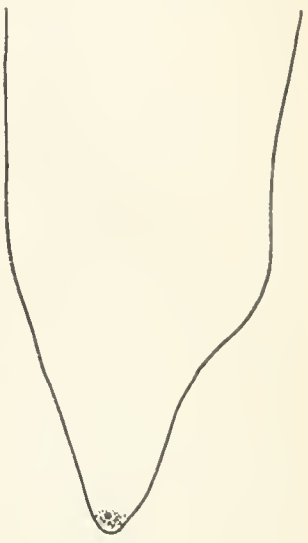


Fig. 7.—Bruyelle Arm.

four cases. The condition in two of these is shown by the reproduced tracings. Figs. 6 and 7.

I do not know that I have anything to add, by way of comment, to the narration of the foregoing cases. They would seem to strengthen, amply, the contention made in a previous discussion, namely, that after amputation through the upper part of the arm or leg in a young child, the slow development of a conical stump is to be expected.

35 West Thirty-fifth Street.

The Proper Care of the Sleeping-room should have a prominent place in the hygiene of the home. Every morning the windows should be opened, not a few inches, but wide, that the room may be filled with good, sweet air. Meanwhile the bed should be open, the clothes exposed to the air, and fortunate it is if the morning sunshine can lend its aid in purifying and revivifying. In the well-ordered house, where intelligent heed is given to healthfulness, the beds are not made early in the morning. The folding bed is undesirable for the reason that it is closed in the morning before the bedclothing has a chance to be aired. Day after day the bed-clothes, with their accumulated exhalations from skin and lungs, are packed tightly away, and when opened each evening at bedtime have a smell and feel not pleasant to one who is accustomed to a clean and well aired bed. Someone made the pertinent remark about beds, that people are afraid of clean damp, but not of dirty damp. The meaning is that they insist upon having everything from the laundry thoroughly aired before it goes upon the bed, but that after it is in use on the bed they fail to understand why the dampness and the foul exhalations should be dissipated every morning before the bed is made.—*The Sanitary Inspector.*

THE BARBER-SHOP AS A SOURCE OF CONTAGION.[1]

By GEORGE THOMAS JACKSON, M.D.,

INSTRUCTOR IN DERMATOLOGY, AND CHIEF OF CLINIC, COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK; PROFESSOR OF DERMATOLOGY, WOMAN'S MEDICAL COLLEGE, NEW YORK INFIRMARY.

"NEXT!" How familiar the sound! How it brings up visions of past and present tonsorial artists who have tweaked our noses, cut our faces, and run the sharp point of their shears into the most tender parts of our necks. These same artists may have been black, with woolly hair; or brunette, with dark eyes and curly black hair; or large and blond, with flaxen locks; or short and thick, with high cheek bones and shocky hair; no matter whether he was negro, or Italian, or German, or Irish, or whatever his nationality, there was one common bond that bound them all, and that was a want of observation of the rules of personal hygiene.

As there are different nationalities among the barbers, so are there different grades of barber-shops, from the very cheap one in the cellar of the Bowery, where one towel is used for all customers, through that more pretentious one that displays a sign telling the passer by that every customer is entitled to a clean towel, and that a shave costs ten cents—with bay rum fifteen cents—up to such showy ones as that in Chicago, that boasts of being paved with silver dollars. Here, again, there is one common bond that binds them all, and that is, a want of observation of the rules of hygiene.

How often have you seen a barber with absolutely clean finger-nails? How often have you seen one that was particular in washing his hands after attending to one customer before going to the next? How often, in even the best of shops, have you found perfectly dry towels? How often has a feeling of disgust come upon you when you have had your hair brushed by a barber, and thought of what the conditions of the heads of the previous customers may have been upon whom the same brush had been used since last it was thoroughly washed and disinfected? If you have allowed the barber to use his hair-clipping machine upon you, have you ever thought how difficult it would be to disinfect that machine, and how very unlikely it was that such an idea as disinfecting it would enter the barber's head? What better means of infection could you invent than first to soften the epidermis with soap and water, then to scrape off some of the protecting cells with a razor held in hands whose nails harbor many a micro-organism, then to pat the tender, perhaps denuded, surface with a moist towel, and last of all, powder it with a powder-puff that has been in contact with unnumbered scores of faces?

And yet we, who are educated men, many of whom would perhaps hesitate to use the brush, comb, or other toilet utensil of a friend, submit to these things without a murmur, and even without a thought!

Most of you, perhaps, think of only one disease as contagious through the medium of the barber, that being ringworm of the beard and scalp. But, alas! that is but one of many. In the same list belong impetigo contagiosa, syphilis, sycosis, various forms of dermatitis, erysipelas, alopecia, alopecia areata, pediculosis, and perhaps acne frontalis, tuberculosis, and some others. Cases of all of these dermatoses have been reported by competent men as having their origin in all probability in the barber's shop. And as micro-organisms have been demonstrated in connection with all of them, why should they not be so communicated?

The agents of contagion are dirty finger-nails, the head-rest of the chair, damp towels, the shaving-brush, the razor, the powder-puff, comb, brush, sponges, and the hair-clipper. The most active carriers of contagion are, probably, the finger-nails, the towels, powder-puff, brush, and clipper. As the razor and the shaving-brush are dipped in boiling water from time to time, perhaps their dangers are somewhat lessened. We all know how hard it is to render the hands aseptic. We all remember Mr. Tait's historic remark in regard to the finger-nails and aseptic abdominal surgery. We all have noticed that the barber's finger-nails are often far from clean. As to towels, it is said, and doubtless with truth, that they are seldom boiled and washed after being used, but most usually simply put through the mangle, and then returned damp to the warm barber-shop to form most excellent culture media. And as to the clipper, we have already sufficiently remarked upon it as an instrument hard to disinfect.

Perhaps you are sceptical about the dangers that lurk in the barbers' shops, because you have not seen instances of contagion arising from them. I do not wish to pose as an alarmist, but I assure you that I am fully convinced of them, and if you are conversant with German and French literature, you must have noticed how our foreign confrères are fully awake to them. So much is this the case that in certain parts of Germany rigorous rules have been promulgated by the Government regulating the hygiene of the barber shops. In France epidemics of alopecia areata in regiments have been traced to the use of that infernal machine called the hair-clipper. Surely if there is any better instrument for spreading contagious disease of the scalp than this machine I do not know it. Do you?

This age takes just pride in its preventive medicine. Cholera, small-pox, typhus fever, and other contagious diseases have been greatly lessened and controlled by active preventive measures. The Board of Health in the city of New York, thanks to Dr. H. M. Biggs, has taken a long stride forward on this path in its recent resolutions as to the segregation of tuberculous patients. It is true that the diseases that may be spread by barber-shops may seem trivial when compared with the diseases just mentioned. But it is no small damage that is done to the child when he contracts ringworm of the scalp; or to the man when he loses all the hair from off the top of his head, or gets a chancre on his cheek.

It is useless to make laws unless public opinion is behind them. It seems to me that it is our duty as physicians and sanitarians to at once begin to educate public opinion in relation to the dangers that the barber-shops foster. When the people are aroused to a sense of their dangers it will be easy to formulate laws that can be enforced to mitigate and remove the evils to which I have had the honor to call your attention. There is one thing that can and ought at once to be done, and that is, to make it an offence punishable by fine to use the hair-clipper. Quite frequently do I see a patient with ringworm of the scalp in full bloom, whose hair has been clipped with a hair-clipper in the hands of a barber. Just think what mischief that barber may do in his ignorance!

I shall not attempt even to outline a system of rules for the hygiene of the barber-shops. I only hope that I have been able to sow the seed here that before long will bear fruit in correcting evils that have been allowed to exist too long, because public attention has not been drawn to them.

14 EAST THIRTY-FIRST STREET.

[1] Read before the Medical Society of the State of New York, February, 1894.

The First Chinese Medical College.—The first medical college worthy the name established by the Chinese Government was recently opened with formal ceremony at Tientsin. The project owes its origin to the intelligence and energy of the Viceroy of China and his wife, who constructed the necessary buildings and placed the direction in the hands of a distinguished graduate of the University of Dublin, selected by the late Sir Andrew Clark. The establishment of the college is attributed to the efforts of the Viceroy's medical attendant, Dr. Irwin, and to the influence of a Canadian woman, Dr. King. Some twenty well-educated English-speaking Chinamen have enrolled themselves as students, and the work of instruction has already been begun.—*Medical News.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM WOOD & CO., 43, 45, & 47 East Tenth Street.

New York, April 7, 1894.

THE INTERNATIONAL CONGRESS AT ROME.

THE International Medical Congress at Rome, of which we publish full cabled reports in our present issue, was in many respects a remarkable success. The attendance was large and reasonably representative, while the subjects discussed possessed in the main an interest commensurate with the wide scope of purpose and the high aims of such an august body. It was an imposing spectacle to witnesss thousands of medical men gather in the Eternal City, amid classical surroundings and mementos of ages long gone by, to renew history, to note progress, and to compare the civilization of the past with what it is at present. Science, strong with her centuries of training, bristling with brilliant discoveries, armed with demonstrated facts, widened with the broader views of humanity, came with its messages of peace and goodwill to men, with its assurance that the world is growing wiser and better, and with that helpful aid of wise counsel to state and king, to prove its right to command in the grandest and oldest of forums the best attention and highest respect of a listening world.

As each delegate felt a pride in bringing his best work it would not be surprising to learn that the presentation of the hundreds of original papers would aggregate a degree of excellence, finish, and worth which would be in ample keeping with the deep interests involved and the widespread influence at stake. Thus it was eminently becoming that the addresses before the general session should be of a character that appealed to the greatest number of thinkers, should touch largely on broad and comprehensive topics, and should more especially appeal to the necessity of focalizing dispersed efforts in the direction of proper organization and consequently more effective results. Consequently some of the addresses were quite suggestive of increased possibilities of advancement, especially in the direction of advocating governmental aid in scientific research and in the dissemination of useful knowledge thereby obtained. The opportunities offered for an interchange of views on matters of international import were also abundantly productive.

It is too soon to judge now of the lasting value of the scientific accomplishments of this Congress as compared with its predecessors. But in any event it is safe to say that many contributions of real importance to the medical world were made in the crowded section meetings and general assemblies.

In regard to the social features of this Congress, it was noted that they were arranged and carried out on a scale of unusual magnificence, all the more surprising in a country at present in the throes of acute financial distress. America was very meagrely represented, but in view of the great distance of Rome from the United States, and the perhaps rather unfortunate postponement of the original date for the Congress, this is only what might have been expected. Altogether the Eleventh International Medical Congress is likely to go down to history as a distinctly creditable and successful meeting.

AN ATTEMPTED LEGISLATIVE OUTRAGE ON THE ARMY MEDICAL CORPS.

IT is with indignation that all lovers of justice will look upon the latest endeavor of certain members of Congress to injure the efficiency of the Medical Corps of the United States Army by reducing its numbers thirty-five men.

This measure, now pending, is a pretentious attempt to gain credit for economy with political constituents; and the medical men are selected for attack because they, and more is the pity, do not combine politically for self-defence and are therefore a safe mark. In this case the bill is a most insulting one to these honorable physicians, implying, as it plainly does, that thirty-five of their number draw pay without earning it.

It is well that the facts of the case should be clearly formulated.

The Army Medical Corps consists of 193 members, attending to various hospital routine work, drilling the Hospital Corps detachment in field and in other duties, and ministering to the medical and surgical needs of the 28,000 soldiers constituting the present United States Army: and also attending their wives and families; the total of soldiers and adult male civilians at United States Army posts being to-day 43,431.

These 193 doctors are scattered over an area greater than all Europe, and divided among the one hundred and twenty military posts.

In event of field duty at any time, it is plain that one surgeon, at least, must accompany the troops from each post, and another should stay behind to take medical supervision of the hospital, and of the women and children. It will thus be seen how small—even too small—is the present corps.

Moreover, it occasionally happens that a doctor (being human) falls ill; and thereby reduces the effective list. Several are thus incapacitated at this time. And again, the law permits officers to take a month's vacation in each year without loss of pay. Therefore this reduces by one twelfth the list actively on duty; and about sixteen medical officers are thereby relieved for a time. As a matter of fact, such is the pressure of duty that the Surgeon-General must often refuse this well-earned vacation, compelling continual duty.

A simple calculation will suffice to show that these various factors, and the present five vacancies, reduce the number of the active medical corps much below its nominal strength of one hundred and ninety-three members; and should the present bill, removing thirty-five more, become a law, a grievous injury will be inflicted not only on the efficiency of the corps, but also on the soldiers and their families, who must look to the United States Medical Corps for attendance in sickness.

If it be alleged that contract surgeons—civilians—might be appointed to fill these vacancies at a lower cost, the reply is obvious; that there is now no appropriation made for contract doctors, though formerly this was the case; and even if there were, there is no provision of law whereby they can be placed in charge of the medical department at a military post.

Therefore they cannot take charge of the discipline and field drill of the Hospital Corps detachment, nor be responsible for the post hospital with its supplies.

To effect economy as far as practicable, the Surgeon-General has long employed only private physicians at all the arsenal posts in the country; these being small ones.

A further grinding down of medical estimates is worthy of the hearts and intellects from which the thought emanates.

Should this bill pass, it will of course stop the operation of the new Army Medical School, which is doing such good work, and which employs itself with the special education in sanitation of hospitals and troops, commissary knowledge, bacteriology, military surgery, and other subjects urgently needed by the new men among the assistant surgeons.

No further comment is needed, save the statement that upon March 15th the Commanding General of the United States Army, General J. M. Schofield, addressed a letter to the Secretary of War, stating that this bill would be "seriously injurious to the military service;" also, "the Medical Corps of the Army is none too large for the necessities of the service."

And yet it is considered likely that this measure will pass the House!

THE TREATMENT OF EPILEPSY BY GLASSES.

English ophthalmologists are slowly taking up the subject of the relation of eye-strain to epilepsy. In the last issue of *Brain* (Winter, 1893), Mr. H. Work Dodd publishes the results of the study and treatment of one hundred cases, with special reference to the ocular conditions. Examination of the eyes was made in one hundred normal and one hundred epileptic patients. Among the former were seventy cases of simple hypermetropia, while among the epileptics there were forty-two. On the other hand, he found some form of astigmatism among forty-two per cent. of epileptics, and only sixteen per cent. among the normal cases. He thinks, therefore, that in epilepsy there is an excess of astigmatism at the expense of simple hypermetropia. There were six cases of myopia in the epileptics, and only two per cent. in the normal, which is certainly a very low rate. The amount of emmetropia and metropia was about equal in the two classes. About two-thirds of the abnormal cases had dilated and sluggish pupils.

Of the two hundred cases, twenty-five did not need glasses, and twenty-three were lost sight of. Among the remaining fifty-two there were thirteen who had no fits, after wearing glasses, for periods varying from one year to four months; three were unimproved, and thirty-six were improved.

These results are rather striking, but do not bear close analysis. Many patients go for four months or a year without fits, yet are far from being cured. Mr. Dodd's cases continued to take bromide, and according to the text of some of his reports, attacks of *petit mal* occurred, although there were no "fits." In fact, the reports given are very much like those which are obtained whenever any new treatment is applied to a consecutive series of cases of epilepsy. We cannot consider that they show that glasses have any especial therapeutical efficacy, though they may afford some temporary relief, sufficient in some cases to justify their being used.

Curiously enough, Mr. Dodd seems to be quite unaware of the extensive labors of American ophthalmologists and neurologists upon this subject. And he does not refer at all to the muscular conditions of the eye, upon which so much stress is laid by some. Still his results seem to be just about as good as those obtained by the use of prisms and tenotomies.

THE INTERNATIONAL SANITARY CONFERENCE.

We learn by cable despatches that the International Sanitary Conference at Paris has completed its labors and has formulated rules in reference to the prevention of cholera which have a wide significance for good. At a time when there are grave apprehensions for the coming season, when the disease is already raging in Poland and Constantinople, it is most encouraging news to know that the strictest regulations are to be adopted in all those ports whence the plague is spread and in which previously no adequate precautions have been taken. Thus in all those places in India from which pilgrims for Mecca embark there is to be adequate medical inspection, the enforcement of disinfection and of all the other recognized sanitary regulations necessary for the maintenance of a proper health standard for the voyagers. All ships carrying pilgrims will be required to have a physician on board and a proper supply of pure water.

The Turkish lazarettos on the Red Sea are to be reorganized on a proper sanitary basis, and regular and thorough inspections are provided. The quarantine of pilgrim ships is to be so modified as to be reasonable without being oppressive, so that such as have clean bills of health will not be detained in quarantine longer than necessary for inspection, while in doubtful cases they will be held long enough to guarantee their safe liberation. Very thorough precautionary measures are to be taken in case of the pilgrims returning from Mecca, so that the inception and spread of the disease may be combated by the enforcement of all the known preventive measures. Thus virtually the very sources of the disease are attacked and a reasonable guarantee is offered that chances of dissemination will be reduced to a minimum.

The international character of the Conference, the tremendous interests it must necessarily exert, the degree of power for good which it represents, command for its suggestions the highest respect and give to its recommendations that moral force necessary to back the most stringent laws and to support the most radical measures. The Conference has been a success, and the prospect for the future is proportionately bright.

Women Physicians for the Insane.—The Virginia Legislature has a bill pending to cause the appointment of a proper number of women physicians to each hospital for the insane.

PATHOLOGY IN HOSPITALS FOR THE INSANE.

The eighteenth annual report of the New Jersey State Hospital for the Insane, at Morris Plains, is readable and interesting. The re-establishment of the Pathological Laboratory by the present medical director, Dr. B. D. Evans, was a step in the right direction. Dr. Thomas P. Prout, as resident pathologist, is doing creditable work. During the year just passed, thirty-eight autopsies were made. One case of choreic insanity was among the number. Microscopical examination of the brain cells in this case showed "granular degeneration with vacuolation to be features of some prominence." Fragmentation of the nucleus in the third and fourth layers was also observed.

In the report, illustrations are given in which nuclear vacuolation was present in two forms. Either a single large vacuole replaced the nucleus almost completely; or many smaller vacuoles were found scattered throughout the nucleus, giving it a honeycombed appearance. This destruction of the nucleus caused degeneration of the cell itself.

In studying the effect of normal fatigue on brain cells in insects and animals of the lower order, Hodge pointed out that vacuolation was a condition frequently observed.

News of the Week.

The Cartwright Lectures of the Alumni Association of the College of Physicians and Surgeons for 1894, will be continued at the New York Academy of Medicine, No. 17 West Forty third Street, on Wednesday evenings, April 11th and 18th, at eight o'clock, by Professor Russell H. Chittenden, Ph.D., of Yale University. Subject: Digestive Proteolysis.

Charity Work in Baltimore.—From the sixteenth annual report of the Presbyterian Eye, Ear, and Throat Charity Hospital, in Baltimore, we learn that the total number of new cases treated in 1893 was 10,941. In this institution the profession is generously represented on the staff of governors. It is a pleasure to note the courtesy of the latter in appending to the report the following tribute: "To the devoted attention of every member of the Surgical Staff of the Hospital is due the rapid growth of the charity, which, under their regular daily administration, has become one of the largest special hospitals in the United States. The personal sacrifices which they daily make, to be always prompt on time, is worthy of all praise; it has secured for each of them the confidence of the assembled throng of applicants for professional treatment."

The Association of American Medical Colleges.—The fifth annual meeting of the Association of American Medical Colleges will convene at Maple Hall, Grand Pacific Hotel, San Francisco, Cal., at 3 P.M., Wednesday, June 6, 1894. Action will be taken at this meeting upon the following amendments, to wit: Rush Medical College, by unanimous vote, submits the following amendment to Sec. V., Art. III., of the Constitution, "providing that of students who intend to graduate in 1899, or in subsequent classes, four years of medical study and an attendance upon four annual courses of lectures of not less than six months duration each will be required. Provided, that graduates of literary colleges who have taken a course of scientific studies, graduates of schools of pharmacy that require three years study and adequate preliminary education, and graduates of dental colleges requiring two years of study and adequate preliminary education, may be admitted to the second year's work or course of lectures in the college without examination." The present wording of Sec. V., Art. III., is as follows: "Candidates for the degree of Doctor of Medicine shall have attended three courses of graded instruction of not less than six months duration each, in separate years."

A Correction.—The address of Dr. Edwin Barnes is Pleasant Plains, N. Y., instead of Pleasant Valley, as stated in our issue of March 18th.

Obituary.

CHARLES ÉDOUARD BROWN SÉQUARD, M.D., PARIS, FRANCE.

Charles Édouard Brown-Séquard died, in Paris, on April 2d. He was born on April 8, 1817, in the island of Mauritius. His father was a sea-captain, from Philadelphia, who married a French lady named Séquard. The son was sent to Paris, in 1838, to complete his medical studies, and received his degree in 1840. He then devoted himself to physiological experiments, so successfully that he received five prizes from the French Academy, and twice received the Queen's grant for the encouragement of science from the British Royal Society. His experiments decided important questions regarding the conditions and functions of the different constituents of the blood, animal heat (he fixed the temperature of the human body as high as 103° F.), the spinal cord in its normal and pathological state, the brain, the muscular system, the sympathetic nerves and ganglions, and the inhibitory and other influences of many parts of the body upon others.

Until 1864 he was active in London as head of the Hospital for the Paralyzed and Epileptic, and in 1858 he was honored by an invitation to deliver six lectures at the College of Surgeons. In 1864 he was appointed Professor of the Physiology and Pathology of the Nervous System, at Harvard College, which position he held four years, returning to France in 1869, and holding a professorship at the School of Medicine in Paris, until 1871. In 1873 he established himself as practitioner in New York.

During this period he lectured at Bellevue Hospital Medical College, and also gave a series of popular lectures on the "Brain."

He returned once more to Paris, in 1878, succeeding Claude Bernard in the chair of experimental medicine in the College of France. As a consulting physician he confined himself to diseases of the nervous system, being especially successful in the treatment of obscure diseases of the spinal column. He has published some of his writings in volumes entitled "Lectures on the Physiology and Pathology of the Nervous System," "Paralysis of the Lower Extremities," "Lectures on the Nervous Affections." In 1858 he established in Paris the *Journal de la Physiologie de l'Homme et des Animaux*, and in New York he issued, with Dr. Seguin, the *Archives of Scientific and Practical Medicine*. In 1881 he received the Boly medal from the Royal College of Surgeons, of London. While honoring him as an original investigator in various departments of their science, medical authorities have preserved a sceptical attitude toward his alleged discovery, in June, 1889, of a process of rejuvenating the body by subcutaneous injections of testicular extracts.

Society Reports.

ELEVENTH INTERNATIONAL MEDICAL CONGRESS.

Held in Rome, Italy, March 29, 30, and 31, and April 1, 2, 3, 4, and 5, 1894.

(Special Report by Direct U. S. Cable to the MEDICAL RECORD.)

FIRST DAY, THURSDAY, MARCH 29TH — GENERAL SESSIONS.

THE inaugural session of the Eleventh International Medical Congress was held in the Costanzi Theatre, in the Via Firenze, on the morning of Thursday, March 29th. A brilliant assemblage was present, including King Umberto I. and his consort Queen Margherita, His Royal Highness the Prince of Naples, several members of the Italian Cabinet, the officers of the Congress, Drs. Baccelli, Pagliani, and Maragliano, and Commandatore Ferrando, the official delegates from all the civilized countries of the world, and a large concourse of members. Among the latter were Drs. Jacobi, C. Cushing, Lynch, J. B. Murphy, Kee, Spring, Ring, and Owen, from the United States; Stewart, from Canada; Sir Dyce Duckworth, Michael Foster, and others, from England; Virchow, Ewald, Klebs, Strümpell, and Ziemssen, from Germany; Kaposi, Lang, Lorenz, and Nothnagel, from Austria: Brouardel, Bouchard, Mouse, Cornil, Cezilly, and Gougenheim, from France; Babes and Petresen, from Roumania; Laache, from Norway; Stokvis, from Holland; Danilewsky, from Russia; Kocher and D'Espine, from Switzerland; Gyula Dollinger, Jendrassik, and Csatáry de Csatár, from Hungary; Lange, from Denmark; Ramón y Cajal, from Spain; Holmgren and Key, from Sweden; Hassan Pacha Mahmoud, from Egypt; Nazim Chéréffédin Bey and Van Millingen, from Turkey; Kitasato, from Japan; Marchiafava, Lombroso, Bizzozero, Durante, Semmola, Charles, and Rummo, from Italy; and many others. There were also many ladies, the wives and daughters of delegates and members, in the audience.

The meeting was called to order shortly after ten o'clock by the President, Professor Guido Baccelli.

Addresses of Welcome.—Signor Crispi welcomed the Congress to Italy and expressed in her behalf the high appreciation of the choice for such a meeting in her time-honored and classical capital. Science had assembled to add to her already numerous conquests, to record her wonderful progress, and take fresh courage for future work. Medical science worked for good in two ways, by preventing and by curing ills. Ancient Rome, the mother of all, gave civilization and law to the world, and now sends through science her message of peace and good-will to men.

The President, Professor G. Baccelli, followed in an address in Latin, in which he sketched the difficulties attending the civil and political rebirth of the nation, and how much the sympathies and good-will of other nations had been appreciated by Italy. During the celebration in Genoa all the nations sent war ships to honor Columbus, and now they sent scientists to strengthen the former bonds of humanity which unite anew Italy to the rest of the world.

In closing he cordially welcomed the august assemblage to classic Rome, where no one was really a stranger, and whose noble monuments were the real mementos of the achievements of the entire race, and were owned in common by the whole human family. The king and queen were ready to extend to them the freedom of the realm, the Italian ministers extended their cordial hand, while the citizen of Rome was honored by their presence. He then declared the Congress fairly opened.

Ruspoli, Mayor of Rome, gave a brief address welcoming the members of the Congress in the name of the city of Rome. From time immemorial physicians were always honored in Rome. Augustus made them citizens, and the title had legitimately descended upon all members of that glorious brotherhood, whether natives or strangers, so long as they walked her streets or occupied her homes.

Professor Rudolph Virchow, of Berlin, as President of the former Congress, made a short speech in which he claimed that Italy, in spite of numerous vicissitudes, always kept abreast with science: her students were always progressive, and her masters always illustrious. Ancient and modern Rome were linked to each other by scientific progress, and the present meeting was an expression of homage not only to ancient tradition, but to present fact. Physicians were the truest defenders of human rights in their care for the real safety and comfort of their fellows. Their humanitarian ideas, their unselfish work in the prevention of disease, their alacrity to aid in all times of direct need, made them the real peacemakers of the common brotherhood of mankind.

Professor D. Maragliano, the Secretary General, presented the report of the Organizing Committee, in which it was shown that nearly seven thousand members had registered.

Speeches of foreign delegates followed, in which greetings to Rome and the Congress were tendered in the name of their respective nations.

At the close of the session the King and Queen of Italy held an impromptu levee, receiving the Chairmen of the Foreign Organization Committees.

The sections met at three o'clock at the Polyclinic buildings outside the Porta Pia, for organization and the election of officers.

In the evening, at nine o'clock, the ruins of the Forum and its neighborhood were specially illuminated in honor of the Congress. There was a large attendance of members, and the streets around were crowded with people attracted by the novel sight. The lights were very skilfully arranged, throwing into brilliant relief the Arch of Septimius Severus, the few remaining columns of the Temples of Saturn, of Vespasian, and of Castor, Constantine's Basilica, the Arch of Titus, and the gloomy Colosseum in the distance.

SECOND DAY, FRIDAY, MARCH 30TH.

The morning hours, from eight to three, were taken up with the meetings of the different sections at the Polyclinic.

At four o'clock the first general session was held in the Eldorado, on the Via Genova.

The History of Medicine and Morgagni's Work.—Professor Virchow delivered an address on the history of medicine, in which he stated that the science of the healing art had slowly but steadily progressed for fully twenty-eight centuries. The problems sought to be solved comprised the factors of cause, prevention, and cure of disease. Numerous theories, based upon such facts as were known at different periods, successively offered themes for discussion and study. An initiative step was the recognition of humoral pathology. In the East a school arose introducing the spiritual element into crude science.

These two schools blended into one in Italy, where Galen, as its chief exponent, became almost a sacred authority. The slavish following of his teachings retarded substantial progress, especially in the study of anatomy. When dissection became permissible, valuable discoveries became numerous. Harvey demonstrated his theory of the circulation of the blood, and Malpighi that of the capillary system. Morgagni gave a still better direction to anatomical study by basing conclusions on personal experience, thus teaching his successors the true method of research. Hypothesis received its death-blow, and the study of the natural sciences became a declared fact. Morgagni inaugurated the system of localization of disease, which was the radical and necessary commencement for

logical study. He taught us to think anatomically, and thus became the founder of modern pathology.

At the close of the address Dr. Casati presented Virchow with a commemorative medal in the name of the citizens of Forli, the birthplace of Morgagni.

Reflex Fevers.—Professor Brouardel, of Paris, being unavoidably absent on account of illness, he was substituted by his colleague, Professor Bouchard, who delivered for him an address on the general subject of fevers, and their significance as indicating particular pathological lesions. In some instances, however, he was inclined to look upon the phenomenon as merely symptomatic, and apparently without associated lesion. Thus he had noticed that fever patients, when brought to the hospital, always had an increased temperature of one degree or more on the day of admission or the day following. This he believed to be due to mere nervous influence and was a reflex phenomenon, intended more to protect against any extra cold from external sources than to discharge a surplus of internal heat. The healthy man presented only slight temperature changes, as his vitality was greater and his adjustability was prompter and more actively resistant than the convalescent, whose slightest muscular effort was attended by proportionate temperature elevation. It was the relative intensity of the effort rather than its duration. The latter fact explained many curious phenomena, and established the existence of muscular fever, digestive fever, and nervous fever.

The State and Public Health.—Professor V. Babes, of Bucharest, then delivered his address upon the "Position of the State in Relation to the Results of Bacteriological Investigation." He began by saying that since health is the prime requisite to the happiness of the individual and to the development of human powers, it would seem as though it should be placed in the first rank among the work which it is in the province of the state to execute. Politicians are, however, at one in the view that government can concern itself only with that branch of sanitary science called "public health," and all agree that, despite its great importance, this is the least developed of all the administrative departments of European governments. The task which the orator had set himself was to point out the causes of this phenomenon, and then to indicate the means by which the department of public health might be raised to the position in the state to which it is entitled.

The speaker then reviewed the history of state medicine, recalling the fact that the earlier civilized communities, such as Sparta, Egypt, and Israel, were more practically concerned with the health of their individual members than modern states are or are willing to be. Much progress in the right direction has been made in recent times, but even now the most obvious precautions needful for the warding off of epidemic disease are sometimes wilfully disregarded in the interests of commerce.

After describing the Roumanian Health Institute and the work that is being done there, Dr. Babes cited a number of instances showing the services bacteriology has already rendered to the science of preventive medicine, and foreshadowing what great things might be done would the state but put to practical use the measures already proven, in the laboratory and by experience, to be effectual in warding off such scourges as tuberculosis, cholera, typhoid fever, rabies, and the like. These preventive measures might also be perfected and extended through the establishment of properly organized public health institutes.

When we compare the demands of the sanitarians with those of the politicians, we find that the latter almost entirely exclude from the functions of the state the duty of watching over the health of its citizens; and even when this is admitted in a certain degree, other public interests, which interfere with the proper execution of sanitary measures, are given the preference; the state concerns itself with the health of the individual only under certain exceptional conditions, and any interference with the family excites bitter opposition. Medical science will contend in vain with these conditions as long as it is not in a position to demonstrate practically the utilitarian results of modern bacteriological investigation. To this end it is necessary that we cut loose from all non scientific interests, and leave to others the task of safeguarding the rights of commerce, industry, statecraft, the army, and the family. Specially educated physicians, untrammelled by the duties of private practice, must come to the front to spread abroad in suitable places, especially in the legislative bodies, a knowledge of the conquests of our science and of their practical applicability. It is only in this way that sanitary science will attain the position which belongs to it by reason of its superlative importance in relation to the happiness of the people. The first results of such a propaganda will be the establishment of public health institutes, in which laboratory work can be carried out in the most complete and practically useful manner possible, and which will serve at the same time as high schools for the education of hospital superintendents, health officers, and all who will have to do with the carrying out of sanitary measures.

The persons so educated must make it their business to urge hygienic and social reforms, and to bring about the adoption of the principles that the question of individual health cannot be separated from that of public health, that the health of one class is a necessary condition to that of the other classes in the community, and especially that the health of the lowest classes is of vital importance in the social economy. As, however, ill-health among the lower classes depends more upon a lack of the necessities of life and well-being than upon the negligence of the state in the enforcement of the principles of individual hygiene and sanitation, it follows that the betterment of social conditions is a prime factor in the preservation of the health of the community. The sanitary interests of the laboring classes must be placed above the interests of capital and of competition.

The execution of sanitary measures must be wholly in the hands of state officials, but these officials must possess far greater technical knowledge than they do at present. The Department of Public Health must rank in importance with other departments of the government, but at the same time it must be politically independent, free from the interference of whatever party may be temporarily in power, and must be allowed the right of making and enforcing sanitary enactments in times of pressing need. The staff of the department must be large, and its officers must abstain from all political and professional activity outside of their own sphere. Under such conditions sanitary problems will be solved practically and scientifically, and the degree to which it shall be lawful and expedient for the state to interfere in questions of individual and public health will be definitely established. The state will have the right, indeed it will be its duty, to curtail directly or indirectly the liberty of the individual to live as he will, since modern investigation has shown that this restriction is necessary to the sanitary development of the community. Despite the fact that our present sanitary organizations can exercise their functions but imperfectly, and in some countries are almost powerless, some of them can more or less effectively put in execution, even now, certain rational measures, the results of which would demonstrate their potential utility could they but be more universally and strictly enforced. As soon as a sanitary measure has been anywhere shown to be good, or as soon as any discovery tending to the preservation or betterment of health has been made in the workshops of medical science, it will be the duty of the state to prove it, to turn it to practical use, and to popularize it.

Only thus will public health become a science, and that become a well-founded political science: only thus will the state, fulfilling the most important object of its existence, become a sanitary state.

In the evening there was a gala performance at the Costanzi Theatre.

THIRD DAY, SATURDAY, MARCH 31ST.

The Organization of Science.—The important business of the General Session on Saturday was opened by an address on "Organized Effort in Science," which was effectively and extemporaneously delivered by Professor Foster, of Cambridge, England. The subject was treated from practical stand-points, and telling illustrations were offered. The speaker maintained that there was an enormous waste of energy in the present methods of individualism in science.

More constant and systematized efforts were necessary to properly collate facts already known, and give them such wide dissemination as would prevent young, ardent, and inexperienced workers from losing time in verifying self evident propositions on the one hand, or in disproving palpable absurdities on the other. There was not time enough to go over useless ground.

Many young and enthusiastic workers labor assiduously but discover little, not knowing what to look for nor what to see. Many crude articles were published that should never see the light. A remedy for these ills was proper organization. In the Middle Ages every art had its guild. Why not revive the system for science? Then inquirers would meet masters and would be properly directed in their investigations; immature publications would then cease, and opportunities would be afforded for the collection of statistics on large scales and with definite purposes in view. But in order to make such things possible it was necessary to have international organizations. Such investigations are always expensive, and need to be widely distributive. It was time to organize now, and not wait for war before attempting to raise an army. An element in antagonism with organized advancement was the confusion in scientific nomenclature, but this could be easily remedied by an international tribunal. Much time could be saved to scientific students by the establishment of an international bureau, whose duty it should be to condense all useful articles into one publication for each branch of study. If such were impossible, complete and well-classified lists of titles might be frequently published. All such results were possible, however, only through national and international organizations.

Vital Adaptability to Pathological Processes.—Professor Nothnagel, of Vienna, next followed with an address upon the various processes by which the organism adapts itself to pathological losses, giving the well-known examples of repair of tissue in skin, muscles, tendons, and bones, the occurrence of vicarious functions, the work of two organs being often done by one, as, for instance, in the case of loss of one kidney.

Idiopathic Hypertrophy of the Heart and Degeneration of the Cardiac Muscle, was the title of the adress by DR. S. LAACHE, of Christiania, Norway. The pathology of the heart presents, as you know, this peculiarity, that we cannot go back with it to the "Father of Medicine," that ever young and living spring from which we so unceasingly draw. As a consequence of their preconceived ideas concerning the functions of the heart, the physicians of antiquity had formulated what now seems to us a paradox, the dictum that the heart itself could not become diseased. In these venerable times, in the very rare cases in which there was a question of cardiac trouble, the lesion was always referred to "polypi." During the whole of the Middle Ages, also, the true pathology of the heart remained a *terra incognita*. This ignorance is the more striking since it is in no way in harmony with the very clear and precise notions which had then been long held, concerning the anatomical structure of the heart and the affections of the neighboring organs, the lungs and the pleura.

To William Harvey belongs undying honor. Bonet also, with his "Sepulchretum," and others, still deserve to be worthily remembered. But, gentlemen, it was reserved to the country of which we are to-day the guests, to the Eternal City, to cast an effulgent beam of light into the depths of this darkness. Lancisi came, and his two works "De Subitaneis Mortibus," and "De Motu Cordis," bring us at once *in medias res*. The professor of Bologna, Albertini, deserves also to be saluted for all time as the founder of the science of cardiac diagnosis. Along with them we may also recall with gratitude the names of Vieussens, of Sénac, and others. It was, however, an entire century after Albertini that the famous author of "L'Auscultation Médiate," Laënnec, appeared and placed the crown upon the edifice.

There was henceforth an uninterrupted series of workers in this field. In the line of grand and unceasing advances made by the French school in the first half of this century, the pathology of the heart justly held always the first rank. In the number of the most brilliant leaders of this movement we soon meet with the name of Bouilland. But in proving the relation between endocarditis and rheumatism, this author made a discovery which was to a certain extent fatal to the studies which occupy our attention here, for the effect of it was to push too far in the foreground the cardiac valves and their diseases. This fact, joined to the unforeseen and important results furnished by the new method of auscultation, led clinicians to ignore the non-valvular, primary, idiopathic hypertrophies of the heart which had already been described—cardiac aneurisms, as they were formerly called, and some other affections in which the valves are not implicated. We find in this an explanation of how it was that Baur was thought to have made a new discovery when, in his Giessen thesis, published some thirty years ago, he described eighteen cases of hypertrophy of the heart without valvular lesion.

The disease soon became the fashion, and material for its study flowed in from all parts—from England, the United States, France, Russia, Holland, and elsewhere. The Scandinavian countries furnished also their modest contingent, but the most numerous and important works in this field have come to us from Germany.

How, now, shall we define our subject? It is impossible to give an exact definition of it in two words. We have in effect before us a clinical ensemble—a little vague, it is true—embracing a number of organic affections, differing among themselves, but all having one characteristic in common, namely, an enlargement of the heart and an absence of any discoverable anatomical—mechanical, if you prefer the term—obstacles to the circulation, and the fact that the valves remain intact, or that their lesions are in no sense proportionate to the other principal anatomical and clinical symptoms. The degree of enlargement of the organ may vary within very wide limits. It is here that we find the *cœur de bœuf* in its most characteristic form. But we should be very wrong to take into account only the degree of enlargement. A heart of great size may, as you well know, perform its functions in a satisfactory manner, while, on the other hand, an organ only slightly enlarged may do its work very ill. It is with the heart as with another hollow muscle of the organism, the stomach; what matters is not so much the absolute size, the dilatation of the organ, but the way in which it performs its duty, or, in other words, its insufficiency. For a certain number of cases no better designation can be found than the "weakened heart" of English writers, a term which has consequently and justly been introduced on the Continent to signify cardiac degeneration in its most general sense.

Etiology.—These affections offer much of interest as regards their etiology, because of the variety of their causes, especially from a hygienic, or, if you will, social, point of view, as compared with the valvular affections in the production of which rheumatism plays the most important rôle. Time does not permit me to enumerate all the predisposing causes, and I must limit myself to the mention of heredity, one of the three principal causes mentioned by Albertini, and secondly to those states which, in the language of Bouchard, are manifested by a retardation of nutrition.

Among the active causes there are especially two which

have been the subject of much discussion in recent years, viz., alcoholism and excessive muscular exertion.

Alcoholism is a factor of considerable importance, especially that form seen in beer-drinkers, which is, according to the interesting researches of Bollinger, a preponderating cause of so called pure idiopathic hypertrophy. The plethora provoked by the immoderate ingestion of beer, and the increase of blood-pressure resulting therefrom, furnishes an explanation of the increasing part—disputing the first place even with tuberculosis—which cardiac affections play in the mortality statistics of Munich. The "beer heart" constitutes certainly the sad reverse of the medal—I refer to the so justly celebrated Bavarian beer—but at the same time it furnishes a new and very interesting aspect of the multiple manifestations of chronic alcoholism.

Let us now pass to physical overwork, the injurious effect of which is so evident in all heart diseases that it was formerly regarded as sufficient in itself to provoke the most grave disturbances in the action of the cardiac muscle. Heart strain, *Anstrengung des Herzens*, holds, according to the majority of writers of the present day, a most important place among the exciting causes of non-valvular hypertrophy. All physicians, it is true, are not entirely in accord in this view. Nevertheless, even though it may be wise to be conservative, we can hardly admit any doubt as to the potency of this cause, if we consider the testimony furnished by the numerous and conscientious observations of such well-known writers as Fraentzel, Leyden, and others. Must we, however, draw from this the corollary that all muscular exertion a little in excess of the ordinary is to be forbidden, in order to avoid danger to the heart? By no means!

In order to put this subject in a clearer light, let us dwell for a moment upon a question which at the present time moves the spirit and stirs the activity of the entire world, that, namely, of "sport." Among us in Norway bodily exercise excited the greatest interest in remote times, the era of the Sagas and of the Vikings, when it was considered a cause for shame to die in a bed (*paa Lotteseng*), far from the field of battle. Later, physical exercise fell into disrepute, and, as in all mountainous countries, was practised only as an indispensable necessity of existence. For a long time the inhabitants of the cities took almost no exercise whatever. But that has all been changed. Now it is the youth of the cities, especially, who take the lead in athletic games, and not only grown men and boys, but young women also, even girls of six, eight, and ten years, and the latter do not let themselves be distanced by the others, you may depend. Almost all the young folks take sled rides (*Kjælkeagning*), skate, or still more frequently go snow-shoeing (*Ski*), during our long winter of four or five months. The summer sports are the same with us as elsewhere. This *Ski* exercise, or snow-shoeing, by means of which Dr. Nansen was enabled to cross the ice-fields of Greenland in 1888, demands considerable, and sometimes even enormous, muscular exertion under certain circumstances, especially when the ground is uneven. That this is so is very evident to anyone witnessing the annual races, in which it is not rare to see the contestants—not only the victor, even when he is an extraordinary runner, but also his less fortunate competitors—arrive at the goal completely out of breath, bathed in cold perspiration, with lips blue, and a pulse beating from 150 to 180 times a minute.

As a result of these observations, well calculated to awaken a certain degree of apprehension, the question of the sanitary aspects of athletic sports was made the subject of a discussion, some two years ago, before the Christiania Medical Society. One curious instance was related, that of a medical man who died suddenly just after his return from a snow shoe excursion. Some attacks—not many, however—of nervous origin were reported, and in addition there were a few cases, less than might have been expected, of traumatic injury. Not a single instance, however, of permanent disturbance of cardiac function was reported—this doubtless because of the general recuperative power of young persons, and of the reserve force latent in the heart itself. The physicians taking part in the discussion were in entire accord, however, as regards the dangers of an abuse of athletic games, and the evil that may result from their becoming too purely a matter of fashion; and also as to the necessity of imposing precautionary measures, especially an age limit, for those taking part in the races above referred to. Provided the individual acts reasonably and has prepared himself by a gradual course of training, the use of alcohol of course being forbidden, athletic games of various kinds ought to be regarded as not only allowable, but also—of this there can be no doubt—as the best means of tempering the muscles of the body in general and of strengthening the heart-muscle in particular.

We cannot close this chapter without saying a few words concerning intellectual overwork, a prolific cause of psychical enfeeblement, so frequent in our day, and which gives to this enfeeblement its fin-de-siecle character, masking it under an appearance of energy which, however, cannot conceal it from the eye of an attentive observer. In this period of electricity, of the telegraph, and telephone, the world progresses with lightning rapidity, and the individual succumbs all too easily in the struggle for existence as well as in the intellectual arena. The "fatigue of living" has presented itself as a ready subject for the pen of a psychological novelist.[1] And in fact we may justly establish the existence of a cardiac weakness, a "heart tire," alongside of the "brain tire" long since admitted as a current expression in language.

It follows, gentlemen, from what has been said above, that the affections which we are now considering are in large part diseases of *civilization*, and that we must look for them among the inhabitants of large cities rather than in rural districts. If on the one side their relation to alcoholism and physical overwork makes their occurrence very common among the lower classes, on the other there are many causes, such as a sedentary life, overeating, the abuse of tobacco, debauches and excesses of every kind, which tend to render it a not infrequent malady among the leisure classes, even among individuals the highest in the social scale.

Symptoms.—The symptomatology of these affections follows naturally in its ensemble the laws governing that of valvular troubles, but yet the non valvular diseases are peculiar in that they are often so insidious in their onset, and, as it were, masked, that their diagnosis presents great difficulty. As a venerable colleague once said to me, basing his remark upon the results of a long experience: "It is these very affections of the heart whose diagnosis is the most difficult that are the most dangerous."

The examination of the pulse is naturally first made. It may be normal, but the contrary is not rare, the anomalies consisting in irregularity or in an abnormal retardation of pulsations. I will not take up your time in discussing all the details of the diagnosis, so interesting to the clinician and to the physician in his daily practice, but will pass to a brief consideration of the prognosis of this class of cardiac affections.

The prognosis of hypertrophy of the heart, which seems almost inevitable to the lay public, is sudden death. As you know, it is generally maintained that this mode of decease has greatly increased in frequency in our days, and it is probable that the belief rests upon some foundation of fact, although statistics on this point are wanting. In fact, one can hardly open a newspaper without seeing an account of the unexpected death of some one or other, due, it is said, to paralysis of the heart. We must not forget, however, that every event now finds publication, and the before-mentioned work of Lancisi shows us that sudden death was not unknown even in his time. Sudden death is, however, by no means the necessary termination of these affections, the very contrary being often noted. We may even assert that the diseased heart manifests, under certain conditions, a power of resistance which is almost incredible, justify-

[1] Arne Garborg: The Fatigue of Living. Christiania. 1892.

ing the term, *ultimum moriens*, applied by Haller to this organ.

Treatment.—We will sketch briefly only a few points of the treatment of these affections. When, to use a popular expression, the heart is found to be failing, our object must be, as you well know, to establish a condition of compensation and then to do everything possible to maintain it. This end may be reached in various ways. Among the medicinal remedies proposed—their name is legion—for the regulation of the secretions, we employ here also, according to the circumstances in each case, digitalis, iodide of potassium, strophanthus, etc., the last named generally so inoffensive though efficacious.

The method of treatment, consisting in exercise and training of the cardiac muscle, is one that was formerly employed especially in the case of the corpulent and of those of the upper classes whose only mode of progression was in carriages. But the opposite method, that of sparing the heart as far as possible, is the one that was usually employed by the physician, and to which patients themselves instinctively turned; indeed, we may say that the modern symptom of heart-training owes its origin to the results of the experiments of Oertel as recounted in his work, which is familiar to you all.

The most important thing, however, is the prevention of the disease, and this is within the possibilities of all. The necessary measures of prophylaxis may be gathered from what has been said before in the section dealing with the exciting causes of this form of cardiac affections.

You may remember, gentlemen—to borrow an image from Roman antiquity—that Menenius Agrippa, in his celebrated apologue to the people before the war against Volsgians, characterized the stomach as the organ *par excellence* from which all the members derived their sustenance. That was well enough, but from a physiological point of view, and by better right, it is the heart which we ought to regard as the centre whence the strength-giving and nutritive sap flows to all parts of the human frame.

The science of hygiene has hitherto successfully grappled with the problems dealing with the lungs, the digestive organs, and the nervous system, but it has perhaps neglected to take into sufficient account those relating to the heart. Let us hope that the time is coming when it will no longer be open to this reproach.

Would it not, reflect for a moment, be a noble mission to go into an exhaustive study of the hygiene of this noble organ, and thus to realize the very ideal of the subject of our discourse: *Cor sanum in corpore sano?*

FOURTH DAY, SUNDAY, APRIL 1ST.

There was no scientific work on this day, the time being left free for excursions and sight-seeing.

FIFTH DAY, MONDAY, APRIL 2D.

Receptions.—At 9 P.M. the Municipality of Rome tendered a reception to the members of the Congress and their ladies at the Campidoglio. This square of the capital, so rich in historic associations, was brilliantly illuminated for the occasion, and the bronze statue of Marcus Aurelius, astride his magnificent charger, in the centre of the piazza, witnessed a sight unusual even for Rome, the city of spectacles. The Palazzo del Senatore, standing on the remains of the ancient Tabularium, was thrown open for the accommodation of the city's guests, who filled the spacious hall and the rooms adjoining. No general session was held this day.

In the afternoon a garden party was given to the visiting physicians and their wives, by the King and Queen of Italy, in the gardens of the Quirinal Palace. These gardens, to which the public is now very seldom admitted, are delightful in the quaint oddity of their stiff box hedges, the charming glimpses which they afford of the dome of St. Peter's and other prominent objects in the city and surrounding Campagna, and the little unexpected finds of fountains, statues, and whimsical devices, such as an organ played by water, upon which the wanderer is constantly stumbling. Although the gardens are quite spacious, about three-quarters of a mile in circumference, they were well filled by the guests of their Royal Majesties, who strolled by twos and threes along the smooth gravel walks, bordered with high green walls, and listened to the music from one of the best of the regimental bands.

SIXTH DAY, TUESDAY, APRIL 3D.

Growth and Regeneration.—PROFESSOR BIZZOZERO, of Turin, gave an instructive address on this subject. He began by passing in review the most important discoveries of recent years bearing on the topic under consideration. He alluded to the growth and repair of tissues under normal conditions. According to him all the tissues of the human body might be divided into three groups. In the first group he placed those histological structures whose component elements multiplied throughout life. These showed continuous regeneration during the entire natural life of the individual. The spleen, the glands, and the marrow of the bones were given as instances of this class.

The second group comprised those structures the constituent elements of which multiplied up to, and occasionally for some little time after, birth, and then stopped, no further regeneration taking place. The liver and kidneys belonged to this group.

Under the third group the reader included those tissues which did not increase numerically after the embryonal period was ended. Nerve-cells and muscular fibres were given as examples of this class of structures.

Continuing, the reader passed in review the more recent discoveries relating to regeneration of tissues under pathological conditions. In all glandular bodies this regeneration was very active.

In smooth muscular tissue it was less so, and finally in nerve-cells and striated muscles it was not observed at all. These observations accorded with the differences previously pointed out in relation to these various structures.

He next turned to the question touching the part taken by the blood-vessels, lymphatics, nerves, and tissue elements in processes of repair. Morpugo, as was well known, had found that the hyperæmia following division of the sympathetic favored repair after wounds. Penzo had demonstrated that warmth favored regeneration in epithelium and sebaceous glands, but not in connective tissue and cartilage. All these results were even more prominently seen in growing animals.

In the repair of fractures the beneficial results of heat had been amply shown.

He did not believe that the existence of trophic nerve-fibres favoring nutrition and repair of elements had been demonstrated by experiments and unimpeachable clinical observations. Diseases supposed to be due to lesions of trophic nerves might easily be explained otherwise. Facial hemiatrophy, for example, was easily accounted for by vaso motor alterations. All circulatory changes predisposed the parts to the action of pathogenic influences. This fact might explain the origin of certain other nervous troubles, such as herpes zoster. In such a disease as ichthyosis an increase of nutriment might favor an already existing proliferation, but could not excite it *de novo*.

In extra uterine life the tissue elements increased and multiplied from the same cause as in fœtal life, before the establishment and differentiation of the nervous system and blood-vessels. The same causes were also active in the repair of morbid destruction of tissues. The reparative power was inherent in the tissues themselves. It was only modified, but never initiated by heat, the blood-supply, and other agencies.

He had only considered growth and repair, but there

was no doubt that pathological proliferation was effected in the same way. Virchow's doctrine was the only conceivably true one. It was always the cell alone that lived and responded to outside irritants or stimulation.

Biological Importance of Phosphorus in its Organic Combinations.—Professor Danilewsky, of St. Petersburg, delivered an address on phosphorus and its organic combinations. He assumed that protoplasm was the basis of every vital phenomena, was largely composed of albumin, and was directly influenced and modified by various substances for which it had an affinity, as, for instance, alcohol, arsenic, opium, and phosphorus. The latter was a leading factor in the modification of vital phenomena, and its importance in explaining the existence of modified and complex conditions could hardly be over-estimated.

Seventh Day, Wednesday, April 4th.

Non Nocere—Harm Not.—Professor A. Jacobi then delivered an address having the suggestive title of Non Nocere. In speaking of the harm that might come to the International Medical Congress, he glanced at the ominous predominance of the social element and the threatened neglect of the scientific work. There was a neglect in the study of special branches at the expense of progress in general medicine. Many of the so called specialists were untrained men, and others calling themselves scientific men were given to accepting and even advocating proprietary medicines and food nostrums, encouraging fads of sensational treatment of tuberculosis, cholera, and senility. Harm was also done by rash surgical and gynecological interference, while over-dosing was just as bad, as well as the so-called expectant treatment. The latter was often a convenient cover for incompetency and ignorance. Harm was often done by neglecting intubation and tracheotomy at critical junctures. Diseases like pertussis, which could be shortened, must be treated to prevent complications; eruptive diseases be watched and treated to avoid mental disturbance or collapse. Pneumonia may require venesection to save life. In convalescence strong stimulants and great care are needed, and so called maximum doses were safeguards more for the physician than the patient. He then spoke of the senseless over- and under-feeding of infants, the evil effects of excessive sugar in their foods associated with acid catarrh, while sterilized milk as the only food was highly objectionable. The neglect of asphyxia neonatorum led to cerebral disease and idiocy, and by want of care in asepsis wound-infection in the new-born often occurred. The so called chronic constipation in infants was due to extra length of sigmoid flexure. Unless this was correctly treated, enteritis, and auto infection with fever followed. The difficulty corrected itself during the sixth or seventh year. Harm was done in diphtheria by forced applications to struggling children. He had collected thirty-three cases of craniotomy for idiocy and macrocephalus, and found that the results were always negative. A skull in Sach's possession proved the existence of contraction rather than enlargement of cranium as the result of operation.

Chemistry in its Relation to Pharmacy.—Professor Stokvis, of Amsterdam, delivered a scholarly address on the relations of Chemistry to Pharmacy. Therapeutics was formerly the leading art in medicine, but had become distanced by surgery, which lately had developed itself almost to an exact science. He reviewed the most recent discoveries bearing upon the action of different substances upon protoplasm. Such might not profit the healing art as yet, but the future was reasonably bright and could be watched and studied with becoming hopefulness.

New lines for experiment were marked out, but it was premature to assume that they could furnish us with all the active principles for our therapeutics. It was still problematical whether more certain results could be promised from alkaloids than pure drugs, which might be more judiciously mixed. The new remedies and synthetical compounds so alluringly advertised must be more thoroughly tested before they are unqualifiedly indorsed, and due opportunity must be afforded for chemistry to vindicate itself in this line of research.

In the evening, at seven o'clock, the dinners of the sections were served in various hotels and restaurants throughout the city. They were numerously attended.

Eighth Day, Thursday, April 5th.

The closing session of the Congress was held at nine o'clock. At twelve o'clock a lunch was served to the members and their ladies in the grand roofless halls of the Thermæ of Caracalla. This magnificent ruin, which surpasses in some respects even the Colosseum in its majesty, was filled with a throng of Barbarians gathered from all quarters of the globe. The gilded youths who once frequented in thousands this club (for such it really was) would have rubbed their eyes in blank amazement to see this assembly of learned men and graceful women from Gaul, the British Isles, and far Atlantis, the latter sweeping with their trains the dimmed mosaics of the tessellated pavement and the floor of the now drained frigidarium. Here, where in the days of imperial luxury, the dissolute descendants of the conquerors of the world were wont to idle away the hours of the waning day in riotous feasting and enervating baths, a feast was once again spread, and around it was gathered an army whose legions are battling to save life instead of to destroy, whose god is Mercury and not Mars, whose conquests will once more unite the world, not under the thraldom of an imperial master, but in the bonds of a universal brotherhood of health-givers, worthy worshippers at the shrine of Esculapius, on the Isola Tiberina.

In the afternoon a battle of flowers, such as used to mark the closing day of the carnival, was held in the Corso, and a boat race took place on the Tiber. Soon after the Ave Maria, in the gathering darkness of the night, came the beautiful "ritirata dei moccoletti" (a candle-light procession familiar to visitors in Rome), signalling the close of the International Medical Congress of 1894.

Further details of the congress will appear in future issues.

Opposed to the Registration of Tuberculosis.—At a recent special meeting of the College of Physicians of Philadelphia, the question of registering cases of tuberculosis was fully discussed and the following action was taken:

Resolved, That the College of Physicians believes that the attempt to register consumptives and to treat them as the subjects of contagious disease would be adding hardship to the lives of these unfortunates, stamping them as the outcasts of society. In view of the chronic character of the malady, it could not lead to any measures of real value not otherwise attainable.

That strict attention on the part of physicians in charge of the individual cases, insisting on the disinfection of the sputum and of the rooms, on adequate ventilation, and on the separation of the sick from the well as far as possible, will meet the requirements of the situation so far as they practically can be met, and better than any rules that, for diseases so chronic, can be carried out by a Board of Health.

That the College of Physicians respectfully requests that no official action be taken in the matter by the Board of Health, except the insisting on the disinfection of rooms in which consumptives have lived and died, in instances in which such procedure is not likely to have been adopted under the direction of the attending physician.

A Simple-minded Man writes to an English contemporary to inquire whether it is proper for members of a medical society to consult with herbalists.

Reviews and Notices of Books.

An American Text-book of the Theory and Practice of Medicine. Edited by William Pepper, M.D., LL.D., etc. Vol. II., p. 1046. Philadelphia: W. B. Saunders & Co. 1894.

The first volume of this treatise appeared about one year ago, and was noticed in these columns. An examination of the present volume shows that the excellencies of its predecessor have been well maintained. Dr. Welch writes on bacteria, infection, and immunity. Dr. Lyman on diathetic diseases, the acid dyscrasia, osteomalacia, obesity, biliary lithiasis, gravel, diabetes, polyuria, rheumatoid arthritis, gout, and rheumatism. Dr. Osler upon the blood, adrenals, and ductless glands. Dr. Pepper on the heart and large vessels and the mediastinum, mouth, tongue, salivary glands, pharynx and tonsils, œsophagus, stomach, and intestines. Dr. J. C. Wilson on the nose, larynx, bronchi, and pleuræ. Dr. Delafield on the lungs and kidneys. Dr. J. W. Holland on urinalysis; and Dr. Fitz closes the volume with chapters on the peritoneum, liver, and pancreas.

A work of this nature is essentially a series of monographs systematically arranged. Such an arrangement has both good and bad features. It is a middle ground between a mere student's text-book and an elaborate system. American physicians can, however, look with pride upon the work of Dr. Pepper and his corps of associates. It brings our knowledge down to the present hour, and has been written from an eminently practical standpoint.

The National Dispensatory. Containing the natural history, chemistry, pharmacy, actions, and uses of medicines, including those recognized in the Pharmacopœias of the United States, Great Britain, and Germany, with numerous references to the French Codex. By Alfred Stillé, M.D., LL.D., Professor Emeritus of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania; John M. Maisch, Ph.M., Phar.D., late Professor of Materia Medica and Botany in Philadelphia Coll. of Pharm., Secretary to the Amer. Pharm. Assoc.; Charles Caspari, Jr., Ph.G., Professor of Pharmacy in the Maryland College of Pharmacy, Baltimore; and Henry C. C. Maisch, Ph.G., Ph.D. Fifth edition. 8vo, pp. 1903. Philadelphia: Lea Brothers & Co. 1894.

The fifth edition of this well-known work has been much enlarged and thoroughly revised in accordance with the seventh decennial revision of the United States Pharmacopœia. The careful examination of this large volume will strike the reader with surprise at the great number of new articles added, and the amount of useful and accurate information regarding their properties, methods of preparation, and therapeutical effects. In general arrangement the work naturally corresponds with that of previous editions, and is the one best calculated for reference and study, as, in the first place, the articles appear in alphabetical order; and, secondly, the therapeutical properties of the different drugs are likewise noted under an index of diseases, in each case affording ready means for consultation. Many of the older articles have been re-written, others which have become obsolete have been omitted, while the large number of new ones containing all the latest synthetic remedies and unofficinal remedies, compass the entire range of available information in the line of the work. Although the metric system naturally takes precedence, the old one of weights and measures is not ignored, as separate formulas for the latter have been added for convenient quantities of all official preparations. A number of very complete tables, together with all the official re agents and solutions for qualitative and quantitative tests, appear in the appendix. Another notable feature of usefulness is the introduction of a list of over four hundred formulas and molecular weights of chemical compounds.

Altogether this work maintains its previous high reputation for accuracy, practical usefulness, and encyclopædic scope, and is indispensable alike to the pharmacist and physician. Every druggist knows of it and uses it, and almost every physician properly consults it when desirous of settling all doubtful questions regarding the property, preparation, and uses of drugs.

An Illustrated Encyclopædic Medical Dictionary. Being a dictionary of the technical terms used by writers on medicine and the collateral sciences, in the Latin, English, French, and German languages. By Frank P. Foster, M.D., editor of the New York *Medical Journal*. Vol. IV. New York: D. Appleton & Co. 1894.

The fourth volume of this admirable dictionary, which commences with Minnequa Spring and ends with Zythum, completes the work. In noticing the preceding volumes we have given an idea of the range and completeness of the series, and we need say at this time that the last is by no means the least. If anything, the latter would appear to contain more words and references than any of the former ones. A supplement of extra words which have appeared since the work began has been added, as well as a comprehensive list of the chief initial and terminal parts of compound words, and a table of weights and measures. Altogether the work is the most complete, most practical, and consequently most useful, medical dictionary now extant. We congratulate Dr. Foster on the completion of his stupendous task, and wish him long life to enjoy the well-earned fruits of his labors.

Dissections Illustrated. A graphic hand-book for students of human anatomy. By C. Cordon Brodie, F.R.C.S., Senior Demonstrator of Anatomy, Middlesex Hospital Medical School, etc.; with plates drawn and lithographed by Percy Highley. In four parts. Parts I. and II. London and New York: Whittaker & Co.

These plates are designed after those of Ford and Ellis, so familiar to students of anatomy, but are made smaller in size and less expensive in price, in order to adapt them to means and needs of a wider circle of patrons. Part I. comprises dissections of the upper limb, with seventeen colored plates, one-third life size, and Part II. contains twenty similarly made illustrations of the lower limb. The selections of divisions of regions are judiciously made, the anatomical parts are accurately represented in every necessary detail, and are admirably suited to the purpose of guiding the student in his dissections, and of refreshing the memory of the operating surgeon who finds it impossible to obtain material for rehearsal. The best study is the dead body itself, but the next best is a well-drawn and accurate anatomical plate.

Annual Reports of the State Board of Health of New York. One vol., 1892, and two vols., 1893. Albany: James B. Lyon, State printer.

These volumes represent the doings of the State Board during the years 1891 and 1892, and comprise reports of sanitary investigations of different parts of the State, maps of water-supply, drainage, etc., with a summary of vital statistics of different cities and towns, the average birth- and death-rates, and accounts of epidemics, notably that of influenza.

Sewage Disposal in the United States. By George W. Rafter, M. Am. Soc. of C. E., and M. N. Baker, Ph.B., Associate Editor *Engineering News*. 8vo, pp. 598. New York: D. Van Nostrand Co. London: Sampson, Low, Marston & Co. 1894.

The main purpose of this work is the study of American methods of sewage disposal, and their varied adaptability to different localities. It is fair to say that sufficient experience has been gained in regard to these points to

warrant the writing of a separate treatise. The manner of pollution of water-supplies, the varying degrees of contamination, the diseases arising from the same, and the different methods of sewage disposal, by filtration, precipitation, and irrigation, are exhaustively treated, based as they are on actual experiences in different cities throughout the United States. The self purification of contaminated running water is intelligently discussed, from chemical and biological standpoints, and many interesting data in connection therewith are intelligently and interestingly presented. The work will prove of great value to health authorities, sanitary engineers, and all others interested in the vital questions bearing upon this most important department of public health, and will become a standard authority in its line.

Philadelphia Hospital Reports. Vol. II., 1893. Edited by Charles K. Mills, M.D., Member of Neurological Staff. and James W. Walk, A.M., M.D., one of the Directors of Charities and Corrections. Philadelphia: J. B. Lippincott Co. 1893.

Although this volume has less than three hundred pages, it contains more variety of valuable medical and surgical material than most books thrice the size. There are over forty papers on as many distinct subjects, and all are practical and good. A fine steel portrait of the late Dr. D. Hayes Agnew adorns the work as a frontispiece.

Chart of the Officinal Chemical Salts of the U. S. P., 1890. Showing the Methods of Production, together with a Schedule of Neutral Principles and Phenols. By James Kennedy, University of Texas. 1894.

This is a large chart which may be hung on the wall. It presents at a glance a large amount of information concerning the chemistry of the officinal alkaloids and other remedies in common use.

Suicide and Insanity: a Physiological and Sociological Study. By S. A. K. Strahan, M.D., Barrister-at-Law; Member of the Medico-Psychological Association of Great Britain and Ireland, etc. Pp. xiv., 228. London: Swan, Sonnenschein & Co. 1883.

The subject treated of in Dr. Strahan's excellent little work has always possessed and, in the nature of things, must in future possess, keen interest not only for physicians and jurists, moralists, and sociologists, but for all thinking persons. That such a fundamental instinct as the desire to live should ever so far yield, either to reason or imperative craving, as to culminate in self-destruction, is a phenomenon so opposed to the principles of animal existence as to affect even the most unimaginative very much as would the sudden reversal of the law of gravitation.

Self-destroyers naturally fall into two classes: those who are impelled to suicide by ratiocinative motives, and those who arrive at the same sad climax, borne on the tide of imperative impulse. As may readily be supposed, these two classes are not by any means always sharply defined, but are separated by a large category of cases which are strictly neither rational nor impulsive, but partake in varying degrees of both.

Heredity naturally plays an enormous rôle in a suicide. This point alone has given rise to a voluminous medico-legal literature, and has been well brought out in the present work by convincing statistics.

The relation of suicide to race, climate, religion, occupation, and the season of year, have also been well shown. The author's arguments and resultant conclusions, which are the outgrowth of the question: "Is suicide justifiable under any circumstances?" are interesting, and in some respects startling. His final summary is worth quoting. "We are driven," he says, "from the foregoing examination to the conclusion that, although suicide may in some instances be criminal, as may any other human act, yet it is not necessarily so in all cases; or, as Dr. Donne quaintly puts it, 'Self-homicide is not so naturally sin that it may never be otherwise.'"

The book is well made and is provided with an index of sufficient scope to be helpful.

The Nurse's Dictionary. By Honnor Morten. The Scientific Press. London. 1894.

This is a pocket manual of one hundred and forty pages. It gives in clear, concise English, definitions of all the terms used in the literature of nursing. It is a useful guide for all novitiates in this art.

On Gout. By Willoughby Francis Wade, F.R.C.S., etc. Pp. 59. London: Simpkin, Marshall, Hamilton, Kent & Co. 1893.

In this essay the author endeavors to prove that gout is a peripheral neurosis. He finds evidence of the truth of this theory in the peculiar distribution of nerve-fibres about the great toe-joint. To the symmetrical distribution of gouty pains he also attaches much importance. Incidentally, the various theories of the malady are discussed in such a way as to show that the author has looked at truth from all sides. There will be differences of opinion as to whether Mr. Wade has proved his point, but none at all as to the reasonableness with which he has expressed his views.

Braithwaithe's Retrospect, Vol. CVIII., July–December, 1893. London: Simpkin, Marshall & Co. 1894.

The reputation of this well-known serial is kept up in the present issue. It covers, however, too small a portion of the field of medical literature to be very comprehensive.

Essentials of Practice of Medicine. By Henry Morris, M.D. Third edition. Philadelphia: W. B. Saunders. 1894.

This work, which has an appendix on urinalysis by Dr. Lawrence Wolf, comprises numbers eight and nine of Saunders's question compends. This series has already been favorably noticed by us.

Lectures on the Surgical Disorders of the Urinary Organs. By Reginald Harrison, F.R.C.S., Member of the Council and lately one of the Hunterian Professors of Pathology and Surgery, Royal College of Surgeons of England; formerly Surgeon Liverpool Royal Infirmary, etc. Fourth Edition. 8vo, pp. 588. London: J. & A. Churchill. 1893.

This well-known work in its present edition has been so thoroughly revised and amended that it has virtually taken a fresh start in its bid for continued popularity. From the first edition it stamped itself as authoritative in character, and its successive issues expanded its usefulness and practical work by the rapidly enlarging experience of its skilled author. In the form of lectures the general subjects are presented in an attractive and intelligible form, making easy and profitable reading, at the same time giving the book a practical turn which it could not otherwise, at least in a natural manner, so easily take. It is unnecessary to say that it is filled with practical and common-sense suggestions from one who in every variety of disease within the scope of his speciality has had exceptional opportunities for large experience. Many new and striking illustrations are added, and the work as a whole is further enriched by the incorporation of the author's Lettsomian Lectures (of 1888), as well as those delivered before the Royal College of Surgeons in 1891, the latter of which has not heretofore been published. As a whole it may be considered a standard book, written by one who is acknowledged as a leader in his line of work, and whose practices are eminently sound and whose principles of action are founded on the broadest possible basis of a large, varied, and successful experience.

Fissure of the Anus in Babes.—Dr. Daniel Martine, of St. Joseph, Mo. (*Clinique*), says that fissura in ano is common in infants, and usually escapes notice as the symptoms generally point to the bladder.

Clinical Department.

THE TREATMENT OF COUGH BY MANIPULATION.

By ORRICK METCALFE, M.D.,

NATCHEZ, MISS.

In 1868, in handling a wrist stiffened and somewhat enlarged and painful, I observed that the manipulation reduced the swelling perceptibly, and relieved the pain to a certain extent. On the following day there was less swelling and less pain. I inferred that by manipulation I might relieve pain from other causes than rheumatism. This was an inference, and I was impatient to test the correctness. It was not long before I was called to see a patient with a severe and painful cough. Somehow or other the idea occurred to me that the muscles might be more to blame for the cough than the lungs. The pain, in the case referred to, was at the edge of the ribs, to the right of the ensiform cartilage. On exposing the chest and abdomen I was surprised and delighted to find the first and second segments of the rectus abdominis of right side strikingly developed—such not being the case on left side These segments were painful. Manipulation of these parts relieved the pain very much, and enabled the patient to cough and expectorate more freely. In thinking over this case, and some others seen soon afterward, I was forced to the conclusion that possibly some pulmonary troubles were due more frequently to the muscles than to the lung itself. I asked myself where does the force reside that does the work in respiration? The answer was that the muscles do the work and the lung does only what it is made to do or allowed to do. The expansion of the chest allows the air to enter the lungs under atmospheric pressure, and the contraction of the muscles forces the lung to contract, and if there is any loose mucus in the bronchial tubes it may be expelled. It was not long before I came to the conclusion that in most troubles of the chest—consumption, pneumonia, bronchitis, and asthma—it is the external, not the internal, man that is sick. Twenty-five years of laborious observation, made under great difficulties, seem to me to have established the truth of the above proposition so firmly that I feel justified in communicating my views to the profession. I have overcome some of the difficulties, but there remains much to be done. I have reached a point where I do not dread, as formerly, to encounter a case of pneumonia, nor does a hacking cough in a consumptive patient alarm me. An asthmatic struggling for breath, and the patient with bronchitis that keeps one awake all night, do not deter me from promising relief in half an hour, so that the former can lie down to rest and the latter pass the day and night without any distressing cough. I could cite many cases confirming the above statement—more than fifty cases of pneumonia, a good many cases of consumption, and a great many cases of bronchitis and asthma.

The treatment by manipulation has an advantage over every other method with which I am acquainted in its prompt relief, but it sometimes enables one to be sure of his diagnosis at once, instead of waiting for developments. You not only find out what is the matter when you enable the patient to expectorate, but you afford him relief at the same time. In some cases there is no return of the pain. This all takes place in a few minutes—sometimes five, sometimes ten minutes, and sometimes a little longer. The last case I had was that of a young man, in good health, who was seized with a pain in the left side near the nipple, accompanied by a hard chill, at 10.30 A.M. At half past two he came to my office in great distress; temperature, 103° F.; pulse, 125. The pain in the side was so great that he could not cough, and consequently he had not expectorated. There was appreciable dulness over left lower posterior portion, and absence of râles of any kind. The pain on manipulation wa intense, but he was sufficiently relieved to be able to cough and expectorate a little. It was then possible to get the crepitant râle very distinctly. After the expulsion of the mucus with each cough, you could fully realize how much better the air enters the lung. As he was suffering from a severe headache, I gave him three grains of antifebrine. I saw him again at 10 P.M., and repeated the manipulation. The next morning I found him much better. He had expectorated the pathognomonic sputum of pneumonia. His fever was gone. I saw him twice more, manipulating each time. In forty-eight hours after I first saw him he was ready to go out on the street, and did go. This is not an isolated case. The profession may think it bold to rely exclusively on manipulation in a disease so often fatal. Believing that the essence of the disease is the disturbance of the relation between the muscles and the mucous membrane of the bronchial tubes, I have come to the conclusion that the disturbance is more quickly relieved by manipulation than by any other means. This was forced on me in a somewhat singular way, by accident so to speak, as many things are. Having been in the habit of prescribing iodide of potassium in ten-grain doses every three hours, I concluded more than two years ago to combine manipulation with the iodide, which I prescribed in the doses stated. It was a bad case apparently, if one judges by the distress the patient had been in for a week and the extent of the lung involved. The manipulation enabled him to expectorate, after which he could lie any way and rise in bed, whereas he had been forced to lie on his back. The next day, when I asked him how the medicine agreed with him, he told me that he had not bought it, and consequently had taken nothing. He was much better in every way. Of course, I was angry, and prescribed the potash again, and threatened to have nothing more to do with him if he did not get the medicine. The following day I found him much better, and again asked him how the medicine agreed with him. I always ask this question, because the iodide in such doses often distresses so as to force a discontinuance. To my delight, this time, he told me again that he had not got it. The manipulation, then, or coincidence, had the whole credit; naturally I gave the credit to manipulation. The next day when I knocked on the door he got up and opened it himself. That was my last visit; he was well. Soon after this I was sent for to see a young man living five miles in the country. Finding he had pneumonia I manipulated, and enabled him to expectorate, which almost always brings relief. I prescribed a solution of iodide of potash, eight grains to one drachm, every three hours. When I returned to see him, two days afterward, I found him better, and asked him how the medicine agreed with him and how he had taken it. He, by some accident, thought I told him to put a teaspoonful in a pint of water, and take ten drops of that three times a day. Here was another time that I gave the credit to manipulation, and not to coincidence, for I must frankly own that I do not believe the small quantity of the iodide had anything to do with it. Ten drops of a solution of eight grains to a pint, given three times a day, I do not think would exert much influence. It did not distress the patient in the least. My last visit to this patient was on Sunday. Two miles beyond was a woman, who had come to see me at my office in Natchez at twelve o'clock on the preceding Friday. Hers was apparently such a severe attack that I kept her in my office till five o'clock, so as to manipulate her twice. She had been ill several days, the fever was high—105° F.—and a large portion of the left lung was involved. She had seven miles to ride in an open buggy to reach her home. It was so cold that I had to give her a blanket to wrap up in. She left with instructions to let me know early the next morning how she was, and how the medicine agreed with her; true to her promise, she sent me word the next morning that the medicine had done her no good, and that she had coughed all night. When asked how he knew the medicine had done her no good, the messenger, her son, told me that he had broken the vial on the way home.

I was glad to hear that she had coughed all night, for I know no way half so good to free the lungs of the obstructing mucus. I was busy with another patient, and the son left, as good luck would have it, without my renewing the prescription. Being within two miles of her home on the Sunday mentioned, I concluded to make the ride of two miles to see what she was doing. I found her sitting up in bed combing her hair. On examination I found her condition much improved. I manipulated again, and not wishing to appear to neglect her I put a teaspoonful of the solution (used by the young man with such good result) in a pint of water, of which she was to take ten drops three times a day. She had no further trouble. A few days after this I was sent for to see a man who had been several days ill, and all that the messenger could tell me was that he had a mighty bad pain in his side. I had declined to go, but thinking it might be a case of pneumonia, I reconsidered and went to see him. It was a case of pneumonia, with high fever and severe pain, which caused great distress whenever he attempted to move. Manipulation soon relieved him so that he could cough and expectorate freely. I never saw him again till he called at my office, a year afterward, and told me that he hadn't had a bit of trouble after I put my hands on him. My hands would not have done any good had I not put them in the right place. By that I mean that the manipulation must be done in the right place, and may be in the right way. I could cite many cases of pneumonia treated by manipulation, some old people upward of eighty years of age, and young children, who are equally amenable to this mode of treatment. Sometimes the manipulation of the painful spot will be all that is necessary, in other cases you have to search diligently for the spot related to the lung involved, for there may be no complaint of pain till the spot is touched. Knowing that bronchitis sometimes runs into pneumonia, and sometimes into consumption, and that pneumonia runs into consumption, and that bronchitis runs into asthma, and asthma into consumption, I am inclined to think that they are (in many cases) phases of the same trouble, the trouble being a disturbance of the relation which, in health, exists between the muscles engaged in respiration and the mucous membrane of the bronchial tubes. I do not pretend to understand how the manipulation relieves this disordered condition, but that it does relieve it there is no doubt whatever. I have seen too many cases to have any doubt myself, and I have convinced my friends who had doubts about the possibility of what I claimed to be able to do. The results are so surprisingly prompt, and follow so certainly, that it is hard for one who has never witnessed it to believe it. Sometimes one manipulation will relieve a case of pneumonia where the fever may be high—105° F.—and the pain in the side severe. The relief may be so great that there will be no further anxiety on the part of the physician, and in some cases no further necessity for treatment. This seems almost incredible, but it is true. What I was taught and thought positive proof of pleuritic complication I have learned to regard as muscular pain. This position seems to me to be established by the disappearance of the pain as soon as the relief afforded by the manipulation allows the patient to expectorate the characteristic sputum of pneumonia. Anyone who has studied pneumonia in its early stage has observed occasionally cases where the sound caused by the passage of the air through the mucus resembles the friction-sound so closely that you could only be convinced as to the nature of the sound when the mucus is expelled and the sound is no longer heard nor the vibration felt.

The method of manipulation is as simple as it is effective. Continuous and firm pressure is made upon the painful part of the chest by the tips of the fingers, the latter being at the same time made to move the skin in a circular direction within the area of pressure. At first the patient will complain of increase of pain, but I tell him to cough, when, after some minutes, expectoration occurs and then the pain disappears. But I generally persevere, even if it takes ten minutes or longer, until expectoration takes place. The longer I pursue this study, and the more extensive my observation becomes, the more I am inclined to hold to the notion that it is the external and not the internal man that is sick at the start in many cases of pulmonary trouble. The ideas expressed have seemed new to most of the professional men to whom I have explained them, and I hope I am not mistaken in thinking them worthy of publication. To some they will seem extravagant and absurd, but I hope that they will receive that respectful consideration which honest work always deserves. All I ask of my readers is that they follow the advice of that great thinker, Lord Bacon, who says you must read "not to contradict nor to believe, but to weigh and consider."

A CASE OF ANEURISM AT THE TRANSVERSE PART OF THE ARCH OF THE AORTA.

By A. HYMANSON, M.D.,
NEW YORK.

Joshua Z——, a pedler, aged thirty-five, born in Russia, eight months in the United States. No history of syphilis or rheumatism in the family. Father died of phthisis at the age of forty.

Previous history: Patient served in the Russian army from the age of twenty-one up to twenty six. Until the age of thirty-three he had an easy position as clerk in a store in St. Petersburg. Led a quiet and temperate life; was never exposed to hardships. Had always enjoyed good health, except in 1881, when he was sick with a gonorrhœa for about seven weeks. Married, has two children in good health.

History of the present attack: About three and a half years ago there was a conflagration in his store; he was exposed to cold, and carried some heavy weights. Two weeks later he noticed pain in the right shoulder and upper extremity, and right hemicrania; had also some pain in the left forearm and hand; which he thought was rheumatism, and applied liniments. A month later he noticed a small tumor throbbing in the suprasternal notch, which increased gradually. He soon was subject to cardiac palpitation and shortness of breath on excessive exertion. The hemicrania and the pain in the right upper extremity induced him to seek for medical advice; different plans of treatment have been tried; he received also strophanthus (?) without the slightest effect. To a physician in Libau he owes thanks, as to the only man who was able to relieve his suffering, for about six months, by the use of hypodermatic injections of morphia several times in a day. During the following year the patient practised the same treatment on himself by obtaining a needle and injecting two or three grains of morphia daily. On exertion, when the tumor was increasing in size and palpitating strongly, he applied ice or cold-water compresses, which relieved him wonderfully. He felt so comfortable that he could attend to his ordinary avocations.

For about six months, since he came to this country, he was exposed to hard labor (he was peddling fruit with a push cart), and experienced great inconvenience on the slightest exertion—shortness of breath and cardiac palpitation—and for the last two months he has been obliged to give up his work entirely.

Patient has a harsh metallic cough, without expectoration, and stridulous breathing when he lies flat on his back. On examination a pulsating tumor, as large as a man's fist, is found at the suprasternal notch. On auscultation an accentuated booming sound is heard all over the tumor; there is a double murmur to be heard at the aortic valves, and a faint double mitral murmur at the apex. Heart is somewhat hypertrophied, and displaced to the left and downward. Loud tracheal breathing; respiratory murmur feeble, and more distinct on the left than on the right side. The radials on both sides equal. There is no impairment of vision, pupils normal, no difficulty in swallowing. The face flushed on excitement, on both sides equally. When at rest there is no pain at the site of

tumor. The urine acid in reaction had a specific gravity of 1.012, it contained no albumin.

The points of interest in this case are, first, its vague etiology; the man had no syphilis, no gout, nor was he exposed to very heavy labor; there must be some degenerative changes in some parts of his arterial walls. Secondly, the duration of the disease. According to the opinion of Dr. Garland[1] the progress of aneurism of the aorta is very rapid, and in the majority of cases the fatal termination is not delayed many months. Out of 40 cases 20 died within one year, 9 lived for two years, and 3 lingered five years; here is a man who worked hard for six months in the fourth year of the disease. Thirdly, and the most interesting point, is the use of such large doses of morphia for more than eighteen months. Professor A. L. Loomis, at his clinic in the University Medical College, expressed himself about this case that the use of morphia actually prolonged his life; it not only relieved his pain, but by its quieting and regulating influence on the heart it delayed the growth of the aneurism.

To Dr. E. Le Fevre I express my thanks for his kindness in examining the patient with me.

207 Madison Street.

AN UNUSUAL OBSTETRICAL EXPERIENCE.

By CLARENCE W. GOSS, M.D.,

LANCASTER, O.

On January 21, 1893, at noon, I was hurriedly summoned to see Mrs. T——, who was suffering from severe pain in the head. Upon my arrival I found a woman, about twenty years of age, with luxurious surroundings, a primipara, who was in the last month of her pregnancy. She had engaged my father, Dr. J. H. Goss, three months previously, to attend her, but did not expect confinement for a month yet. I administered a quarter of a grain of morphiæ, hypodermically, which quieted her in a few minutes, and left. Six hours later my father received a telephone message from her husband to come up immediately, that his wife was having a convulsion. This he did and I followed a short time afterward. Upon my arrival I found her coming out of the third convulsion and rapidly succumbing to the influence of chloroform. The chloroform was pushed until there was complete relaxation, the forceps were applied high up, and after forty-five minutes' powerful physical exertion upon the part of my father and myself, a ten pound boy was born, the placenta coming immediately afterward. The child was cyanotic, and there was a complete absence of any signs of life. The chloroform was still administered to the mother at intervals, and in the meantime sixty grains potassii bromide per orem, and a half-grain of morphiæ, hypodermically.

At this time the child that was thought to be dead came to my mind, and I resolved to try artificial respiration, with no thought of accomplishing anything. I alternated between the Schultz and Goodell methods, and after a half-hour's unceasing work, signs of returning life were discernible. The color of the body's surface became better, and an occasional spasmodic attempt at respiration was manifest. After another half-hour's tiresome work, I had the satisfaction of hearing a lusty yell and seeing a bright red body-surface. Up to this time the mother had been quiet, and the chloroform was discontinued. Suddenly, without any apparent warning, the pulse jumped from 80 to 170 per minute, full and bounding, and a most fearful convulsion came on. So rigid were the jaws that a wooden plug, which had been put between the teeth in the other convulsions, was bitten nearly through. A ligature was hurriedly thrown around the arm, above the elbow, and a lancet plunged into the median cephalic vein. In about fifteen minutes the pulse dropped from 170 to 90 per minute, and the patient relaxed once more. The amount of blood drawn was nearly three pints. At this time Dr. G. W. Boerstler was called in consultation, who kindly responded and found the patient resting quietly. It was deemed advisable to give tinct. verat. viride, in fifteen-drop doses, as needed, which readily kept the pulse about sixty to the minute. By four o'clock next morning the patient was conscious, and from that time on made an uninterrupted recovery. Up to this time the child, not being satisfied with his previous narrow escape, took on tetanus neanotorum. He was put on his left side and five-grain doses of potassii bromide, every three hours, were administered per rectum. At the end of five days he recovered, and six weeks after he was a bright hearty baby.

The above case is, I think, somewhat unusual, and it demonstrates to my mind what can be accomplished by perseverance and artificial respiration. It is also an earnest plea to the practitioner not to abandon hope too soon. This is often done, as in my own case, when a chance thought directed my attention to the baby, and thereby a human life was saved.

[1] Pepper: System of Medicine, vol. iii., p. 815.

NINE DRACHMS OF BROMIDE AT A DOSE.

By MARIA M. VINTON, M.D.,

NEW YORK.

March 5, 1894, A. V——, aged thirty, superintendent. The patient is not a strong woman, but very energetic. She has a marked murmur of mitral regurgitation, which has existed for several years, and on over-exertion has palpitation and shortness of breath.

About 7.30 A.M., desiring to take a dose of Hunyadi water, she went to the closet for a quart bottle, poured out about half a tumblerful, and drank it off. Noticing that it seemed unusually salty, she went to examine the bottle and found on one side a small label stating that the bottle contained a solution of potassium bromide, gr. xx. to ʒ j. At first she was much frightened, but having considerable knowledge of drugs, and realizing that potassium bromide is not a dangerous poison, she went on with her dressing, and by the time she was ready for breakfast she sent for me to know what she had better do. As I was not prepared for the day's work, I sent word to her to take ℥ ss. of whiskey, on account of her weak heart, and a cup of strong coffee. I did not order an emetic, believing that the solution taken some time before on an empty stomach had passed into the intestine. About fifteen minutes later I saw her just coming from breakfast and feeling no effects from her dose. Her pulse was as good as usual, and normal in quickness. We measured the quantity of bromide which she had taken in a peculiarly marked tumbler, and found that it amounted to about ℥ iijss., thus containing ʒ ix. or gr. 560 of pure bromide. I gave her a hypodermic of strychnia, gr. 40, and ordered more coffee later.

At 10 A.M. she felt as well as usual, rather light-hearted, and sat down to her desk, where she wrote for about four hours. The afternoon was spent out-of-doors on business. She occasionally felt drowsy and once fell asleep in a train. She took more coffee at night and attended the theatre, after which she went to bed and slept well.

March 6th.—She felt depressed, gastric and intestinal digestion were poor, and bowels torpid, and her head felt heavy, with times of drowsiness. At night she took a dose of Rochelle salt, which kept her up and down all night and she slept very little. She had taken strych. sulph., gr. $\frac{1}{30}$, t.i.d.

March 7th.—She felt much better and was at work as usual, and the following day felt as well as usual.

It is interesting to note that this drug, which is taken so freely by epileptics after establishing a tolerance, can also be taken in so large a single dose without any more marked symptoms of depression. In all probability not nearly all of the bromide was absorbed on account of the depression of the digestive functions caused by it.

160 East Thirty-sixth Street.

The Bristol Medico Chirurgical Society has a library of nearly 2,000 volumes.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

CHELSEA HOSPITAL FOR WOMEN—THE MANAGEMENT REPLY AND DEMAND INQUIRY—STATEMENT OF THE STAFF—THE OFFICERS OF HEALTH TO GIVE FURTHER REPORT—SCHOOL OPHTHALMIA—SYMPHYSEOTOMY, A PAPER BY AN AMERICAN AUTHOR—CEREBRAL SURGERY AT THE CLINICAL SOCIETY.

London, March 17, 1894.

The authorities of the Chelsea Hospital for Women have lost no time in replying to the charges made by the Medical Officer of Health (Dr. Louis Parkes), and which I have previously reported. It will be remembered that the report of Dr. Parkes was considered so serious by the vestry that they sent copies to the Home Office, and the Local Government Board, and requested an official inquiry. This inquiry was not granted and the treasurer of the hospital has sent to the journals his statement of the facts, which certainly differs essentially from that of Dr. Parkes, who, he declares, asked for power to close the hospital, "which he well knew had been shut for five weeks, and in which he knew public money was being expended to carry out, loyally, every recommendation, reasonable or otherwise, which it had seemed good to him to make." The treasurer adds that the Board of Management are making representation of the facts to the Home Secretary and President of the Local Board. This is certainly a fair retort to the vestry, and the best course that could be adopted, for the reflections made by Dr. Parkes were such that some step of the kind was necessary. Another point in his report was that an authoritative official statement as to the operations, mortality, causes of death, etc., ought to be made. The challenge thus made has been promptly accepted by the medical staff, who have issued a bulky pamphlet giving these particulars and many others. Dr. Parkes says he is preparing a report in reply to this, so it is too soon to express a definite opinion as to all the matters involved. It is only fair, however, to acknowledge that the mortality of the operations does not seem to be greater than at other institutions, and that the staff appear to state the medical facts with candor. If their statements and the assertions of the treasurer should be completely proved, Dr. Parkes will have the honor of having "discovered a mare's nest," and Medical Officers of Health will, perhaps, take the lesson to heart. Without at all forestalling results, I may remark that it is very questionable whether such officers have any *locus standi* for reporting on medical and surgical questions at hospitals. Presumably, the staff are much better judges, and compared with them the officer of health must be ignorant of such questions. In sanitary matters they may be glad of his advice, though on medical or surgical questions they would be justified in considering it impertinent. *Ne sutor ultra crepidam* is a proverb that needs impressing on many officers of health. This fact has been made more obvious lately in various localities, and many complaints have been made by practitioners as to the manner in which these officers interfere in notification cases and other matters.

At the adjourned discussion on School Ophthalmia, Mr. Hutchinson declared he had understated the frequency and severity of the cases rather than exaggerated them. In the school on which he had been consulted all the boys had been sent home for two months, but the affected ones returned worse than when they left. As to the suggestion that there were two forms of the disease, one mild the other severe, it was for those who thought so to prove it. He could find no evidence of it, and insisted on treatment at the earliest stage. Several members stated that they had observed a great increase of ophthalmia during the past year. Disbelief was expressed in two forms of school ophthalmia and defective sanitation was generally blamed, while it was urged that the utmost precautions should be enforced whenever an outbreak occurred.

The Obstetrical Society has had a paper on symphyseotomy by Dr. Robert P. Harris, of Philadelphia, based upon its record for the last eight years. The operation has not found much favor in England, and some of the reasons for this were well brought out in the discussion, such as the mortality being as high as that of Cæsarean section; the ease of combining the latter with sterilization, the unsatisfactory after condition so far as reported, and doubts whether union would occur after repeated operations.

The difficulties of cerebral surgery are well illustrated in the case of a lad of fourteen who went as an out-patient to the London Hospital complaining of intense headache due to a blow upon the right mastoid region some weeks before. An abscess was found and opened (superficial to the periosteum) with relief. A week later the boy returned with the same symptoms in an aggravated form and was admitted. The abscess, which had closed up, was reopened, and the periosteum incised, again with relief. Five days later the pain reappeared, with drowsiness, restlessness, and other signs of cerebral pressure. The mastoid antrum was trephined and examined, but nothing was found inside it. It was not washed out, as there was no disease of the ear. After this the boy appeared perfectly well for ten days; then all the symptoms returned in an aggravated form, with optic neuritis in addition on the right side. The skull was trephined over the temporo-sphenoidal lobe; no pulsation was detected; the dura was healthy, but bulged upward, into the wound. A trocar and cannula were inserted in various directions without result. The bone was then removed from over the cerebellum and an exploration carried out there with equal want of success. Finally, a few drachms of fluid were drawn off from the descending corner of the lateral ventricle through the temporo-sphenoidal lobe, and pulsation returned. Twenty-four hours after the patient died comatose. At the post-mortem there was no middle-ear disease or inflammation upon the right side of the head or brain. In the left temporo-sphenoidal lobe was a very old encysted abscess, with some cohesions to the dura mater over it. Nothing else was found. The case was related at the Clinical Society on the 9th inst, by Mr. Mansell Moullin, who also mentioned another in which he had explored without finding pus, yet three weeks later, after death, they found an abscess occupying almost the whole of one cerebral hemisphere.

Mr. Clutton pointed out that the trocar was not of much use in exploring for pus in the brain, and he mentioned a case in which careful exploration had failed to reveal pus, yet after death abscesses were found in the temporo-sphenoidal lobe and in the cerebellum. At the same meeting Mr. Battle read notes of three cases of extra-dural hemorrhage which had been operated on by him during the past few months.

Case I.—A woman, aged fifty-nine, with compound depressed fracture of the skull and compound comminuted fracture of the os calcis and astragalus. Temperature, 95.4° F. There was some oozing from the fracture of skull, but nothing to indicate hemorrhage, excepting marked shock. No paralysis or even inequality of pupil. Operation was done for the depressed fracture, and a large clot found which had compressed the right hemisphere to such an extent that no expansion followed its removal, and she returned to bed, with a large depression of the right side of the brain. The shock gradually passed off and no symptoms of unfavorable return developed. The leg was saved, although some sloughing of the wound followed, this was not accompanied by suppuration, and she left after a residence of thirty-five days. She is now able to walk, wearing a head and side iron.

Case II.—A boy, aged five, operated on two hours after the accident, a fall on the head from a coster's barrow. There had been no interval of consciousness. There was

a baggy, bloody swelling in the scalp extending from the temporal region upward and backward toward the longitudinal sinus, marking the site of a simple fissured fracture of the skull. He was quite motionless, and could not be roused, pupils equal and reacting to light. Then twitchings developed in the eyebrows, left ala nasi, left side of the mouth, afterward in the left arm and leg. There was some twitching in the right side, but less marked. The pulse was full and slow at the time of the operation, right pupil the larger, but acting to light. No conjunctival reflex, no response on pricking with a pin. The diagnosis was fissured fracture of vault with extra-dural hemorrhage. Operation was done by semi-lunar flap, insertion of blade of Hoffman's forceps in fissure, the edges of which were separated at head by one-eighth of an inch, removal of sufficient bone, and application of ligation of silk to wounded vessel (anterior branch of the middle meningeal artery) by means of needle passed through the dura-mater round it. The anterior end of the fracture ran forward into the orbit. Recovery was perfect.

Case III.—Was that of a robust man who fell from a scaffold. There was a fissured and slightly depressed fracture in the right parietal region. No loss of consciousness. Drowsiness, unconsciousness, deepening into coma, with left hemiplegia and dilatation of the right pupil, a purple condition of the face, embarrassed respiration with much sweating developed. Operation was performed and a large clot of blood found. Much bleeding went on during the necessary manipulations. Bone was removed forward, and on failure to find the bleeding point the opening was extended backward. There was an opening in a large vein of the dura mater one-half inch from the superior longitudinal sinus, near the posterior-superior angle of the parietal. This was closed with a silk ligature passed by means of a curved needle. Another opening from the head from which venous blood flowed, no longer permitted escape after application of forceps. There was no expansion of the brain and the man died four hours later, not having recovered consciousness.

MORPHINE vs. PERMANGANATE OF POTASH.

To the Editor of the Medical Record.

Sir: In your esteemed journal of March 10, I have been rather severely criticised by Dr. Glenn Andrews, of Montgomery, Ala. While I feel happy that the use of permanganate of potassium as an antidote to morphine should be made the subject of investigations and discussions, yet I am unwilling to make anything but publications that appeared in scientific periodicals the basis of such discussions. Dr. Andrews is perfectly right in exclaiming: "According to the cases referred to by Dr. Moor the only death occurring was a rabbit given one grain of morphia through the mouth, and subsequently a gastric fistula was established. In my opinion if the doctor had discovered an antidote for the fistula instead of for morphia, his rabbit would not have died," but nevertheless Dr. Andrews will be amused to learn that the martyr rabbit in question died neither from morphine nor from a gastric fistula, but expired after a few sniffs of chloroform ere the knife had reached him. *Requiescat in pace.* There is another point, Mr. Editor, which requires rectification. In the Medical Record of February 24, 1894, you say that according to the *Journal de Pharmacie* of Alsace Lorraine, an Alsatian pharmacist, M. J. Anthal, has discovered by means of a series of experiments on dogs, rabbits, and frogs that permanganate of potash acts as an antidote to phosphorus, muscarine, strychnine, colchicine, oil of sabine, and oxalic acid. To convince myself of the correctness or erroneousness of such a claim I made the following tests:

1. To one grain of phosphorus under water (thirty minims) I added one drop of a 1 to 15 permanganate solution, which imparted to the thirty minims of water the characteristic purple color. This remained unaltered after one minute's vigorous shaking and showed no change after several hours' standing. Even after sixteen hours the original purple color had become only very slightly lighter. It is therefore evident that permanganate of potassium can have no effect on phosphorus in the presence of other organic matter.

2. One ounce of water at 98° F. was added to two grains of sulphate of strychnine in crystals. After thirty minutes the size of the crystals was still the same. Two grains of permanganate of potash in one ounce of water were added, producing first a purple solution, changing into carmine. Thirty minutes later the color was still carmine, the crystals of strychnine still remaining of the same size. Thus we see that the permanganate had practically no effect on strychnine crystals. To test the effect of the permanganate on a perfect solution of strychnine in the presence of albumin, I dissolved one grain of sulphate of strychnine in two drachms of boiling water, added to it, after the water had cooled off, one drachm of the white of an egg, stirred well, and then rapidly added, while stirring, one grain of permanganate in fifteen minims of water. Having filtered this mixture, I injected two drachms of it subcutaneously into a full-grown rabbit. In two minutes after the injection the animal was trembling, in five minutes he had tetanus, in thirteen minutes again tetanus ending in death. Another full-grown rabbit received only one drachm subcutaneously, resulting after two minutes in tetanus and three minutes after the injection, in death. Thus one grain of permanganate had no antidotal effect on one grain of strychnine in the presence of one drachm of albumin. In another instance I dissolved one grain of sulphate of strychnine in thirty minims of boiling water, added to it two drachms of the white of an egg and one drachm of water, and then two grains of permanganate of potassium in thirty minims of water. Having filtered, I injected one drachm of this solution into a full-grown rabbit at 8.32 A.M. In a few moments the rabbit became agitated, his respiration exceedingly rapid, eyes protruding. At 8.47 A.M. he received another injection of one drachm. At 8.55 his hind legs were stiff, at 8.58 he had tetanoid convulsions. At 9.13 he received a third injection resulting six minutes later in tetanus and death. Thus it is evident that permanganate of potassium has no antidotal effect on strychnine in the presence of albumin.

3. One drop of a 1 to 15 permanganate solution retains its purple color in a saturated solution of oxalic acid, four grains to one drachm of water, for thirty seconds, imparting at the same time its purple color to a part of the solution of oxalic acid. This is sufficient proof that albumin, peptone, etc., would deoxidize the permanganate of potassium, ere the latter could have any effect on oxalic acid.

4. Cases of poisoning by colchicine itself have not been recorded. As to the preparations of colchicum, one drop of a 1 to 250 permanganate solution remains purple for several seconds, and then turns red and stays so for one minute in a one per cent. solution of the acetic extract of colchicum. The reaction, therefore, between the latter and the permanganate is not rapid enough to be of any value in the presence of albuminoid bodies.

The aforesaid warrants the conclusion that if permanganate of potassium has been shown, by means of a series of experiments on animals, to act as an antidote to phosphorus, muscarine, strychnine, colchicine, oil of sabine, and oxalic acid, those animals experimented upon must have been in a condition ideal for such a purpose; *i.e.*, their stomachs must have been empty.

There is another point upon which I should like to dwell briefly. In my article, which appeared in the Record of February 17th, I said that ten or fifteen grains of the antidote, repeated three or four times, should be given in cases of opium poisoning. Having shown that a certain amount of morphine is decomposed by the same

quantity of permanganate of potassium, it is natural that whenever there is evidence or suspicion that more than fifteen grains of morphine or its equivalent of a preparation of opium have been taken, a corresponding amount of the antidote must be administered in order to prove efficacious.

William Moor, M.D.

355 Boulevard, New York.
March 20, 1894.

FIRST STUDY GERMAN AT HOME.

To the Editor of the Medical Record.

Sir: Referring to the article in the last edition of your paper, "German Literature a French Necessity," I wish to call your attention to a matter well worth considering. I do not intend to dwell on the study of the classics, nor can I understand why medical faculties again and again weigh the arguments for and against their study. We all know how much a knowledge of Latin has helped us in the pursuit of our work; the need of a universal medical language is to a degree met by the use of Latin, which has so long been the agent to express medical thoughts intended to travel, irrespective of zone and climate, to all parts of the world. We must, for these reasons, advocate the study of Latin, and more especially as, from the common origin of their tongues, English, French, Italian, and Spanish speaking people can so much more easily attain proficiency in Latin, than, for example, Germans. To know and understand English means to know Latin. I claim that an English student, properly and practically taught, can learn in two months all the Latin he will need to remove that sentiment of inferiority, and to maintain the dignity of the profession, for which reason the Medical Faculty of Paris advocate the study of Latin. With regard to the pronunciation, permit me to ask if it is not advisable to teach young men intending to enter the study of medicine, the Roman pronunciation? It would assist them greatly if they should desire to continue their studies in Germany.

Each additional language acquired affords to the speaker a new life, permitting him to receive from and impart to another nation new ideas, to compare old ones, and by comparison evolve new thoughts of value to our profession. To day, when medical science derives its elements from all parts of the world and international intercourse is on the increase, a physician almost imperatively must be a linguist. But languages are so numerous, and a physician's time so occupied by the advance of medical science that we must be content to master two, or even one foreign tongue. Naturally we would select the language of the land which is generally accepted as being the chief seat of medical learning. The French Medical Faculty has just and justly conceded supremacy to Germany, and advocates the study of German. Not colloquial, but medical German is wanted to enjoy the fruits of labor of the German savants.

At no time has the study of medicine received more attention in this country than at present. The fraternity rejoices to see the standard raised by State laws, and trusts both to the work of medical authors and to the wisdom of future law-giving bodies to establish and further advance the reputation of American medicine. It is the duty of each of us to be instrumental in this direction, and as we would resent an insult to the Stars and Stripes, so should we also defend our intellectual reputation, wherever it is carried. There is one thing tending to our hurt abroad—the rush of American physicians and medical students to Europe without previous training to receive the teachings of the European professors in their own language. The wide usefulness of your journal encourages me to seek here an opportunity to utter a warning word to those contemplating a continuance in Europe of their studies begun here.

Medical European tourists may be classified thus:

1. Those seeking to learn German alone by listening to medical lectures; 2. Those seeking to learn German and study medicine with no knowledge of German; 3. Those seeking to learn German and study medicine with a smattering of colloquial German.

The men of the first class are doing fairly well, but I would advise them not to spend so much time in the lecture-room, where, being only listeners, they neglect their tongue, and fail to receive the necessary practice and correction for successful study of language. The acquisition of a language is not a matter of intellect, since the child progresses better than the adult, but is one of memory and practice. Let the American student, then, mingle freely with educated Germans, and select from the German, not medical but philological students, a practical private teacher. I say practical, for it is astonishing how impractical some of them are. In this manner only can a foreigner gain fluency of speech and the spirit of the language. For our purpose it is the spirit of the language which we must imbibe if we would profitably read German medical literature. Only in this way will the student get an equivalent for his time and money.

The second and third class men, from the very perversity of their undertaking, must needs fail. They both lose their time and money. They gain nothing in medicine, but rather lose. They do not learn even as much German as the men of the first class, giving their full attention to the study of German only. While the second-class men seem more daring, they still injure none but themselves; the men of the third class, with their smattering of German, do a great harm to the American reputation. Say that two students, for example, of the second and third class, of equal perceptive powers, shall go abroad to study, suppose to Berlin. With a full pocketbook, and the best wishes of the community, each sets out. Already on arriving at the seat of a university, they have learned that with a little or no German at command it is only their money which is interpreter and provides for material necessities. Eager to go to work, after only a few days of rest, they seek the university. They accomplish much if they find a person who can direct them to the various and widely separated medical institutions belonging to the university. Having found the place sought, each presents his letter of introduction to the professor, say Rudolph Virchow. Nearly everyone has some such letter, of little or no avail to the bearer, though well meant by the home professor. Professor Virchow—wonderful man with wonderful memory—may or may not recollect the writer of the letter, but he will courteously invite the bearer to attend his lectures. A certain professor is reported as saying: The road to my lecture-room leads across the quaestor (who collects the fees). Thus, after all, it is not a letter but money which procures admission. The newcomers now must fight their own battle, and a hard one it is for both men. It requires pluck to bear up when it becomes evident one has travelled thousands of miles, spent hundreds of dollars, and even intrusted dear life to the treacherous ocean—to be unable to understand one word of the great professor. Trained as the native student is in the language, it requires weeks to learn the ways of the professor. How much longer will it require for a foreigner, even if he speak German. And how is it possible at all if he speak but little or none? Now our two students learn that they must abandon all or part of their original plan. Study medicine in German they cannot, study German in medicine they may and, in a measure unwisely, do. Thus they become of our first class, studying the German language at medical lectures. If these two men do not surrender their original plan, what is the result? They soon become acquainted with German students. The man with no German speaks not, and thus is harmless, receives the benefit of doubt, being silent, and is deemed the wiser. But the other, who has a German smattering, soon finds himself speaking on medical topics. He says what he does not mean and does not know what he has said. The German student, having never tasted a traveller's embarrassment, lacks charity. Thus comes misunderstanding. The American, as I have

seen, has become the laughing stock, and a poor opinion of American scholarship is formed by the German students. Our unfortunate student, then, is not, as good citizens should, maintaining the national reputation abroad. Having attempted to do two things at once, *a priori*, his sagacity is doubted, since a man of attainments knows better. However, our two travellers advance daily in German, the third-class man ahead of the other. Now if they mean to stay at least three years in the one place, devoting half of that period to language alone, then one semester to familiarize themselves with the ways of certain professors, with whom they intend to study, and finally the last year to careful note-taking, all would be well. But what are the facts? Americans stay rarely longer than one year, many only one semester. There is here an erroneous impression that sufficient German may be learned in three months to listen to medical lectures. Withal American travellers, despite of their good qualifications of application and thorough preparation in elementary medical branches, are an unsteady, restless class of students (possibly made so by their failure to accomplish what they unwisely undertook). They are eager to see many universities and hear many great professors. They become rolling stones gathering no moss. Returning home, they doubtless in a measure are fair German conversationalists, but no better clinicians than before. Many, doubtless, wish, that which policy forbids them to utter, that they had never left home without previous training in German.

But there is another very important matter. The time of stay abroad being limited and the desire to see many different universities so strong, these students cannot, as earnest workers should, settle down to imbibe knowledge from the fountain. Eagerness to improve increases as time remaining decreases. They notice daily progress. Finally they think they understand the lecturer fairly well. They take notes! In them the European professor is constantly misrepresented and the home professor unjustly criticised, while the student is at a loss what to believe. I have time and again seen and corrected such notes, and what an interesting mine of misinformation you see clothed in the skeleton of the professor's words, but conveying not even a fragmentary bone of his thoughts! Progress and not less egotism, only natural to mortals, establishes in these students a firm belief in their German knowledge, all the more so as they are by this time able to understand the words and even some sentence of minor importance of the professor. They forget that words are only agents to express or to hide thoughts. They are not yet far enough advanced to analyze the professor's long and sometimes tedious and intricate sentences, to unvail the deep thought contained therein. They also forget that a little seemingly insignificant word, without attracting a foreigner's attention, might modify or alter the meaning and importance of a thought. Let these two men now return after a year's absence to their community, which rejoiced at and commended at their going and again at their coming. They soon set up a lucrative practice on the strength and reputation of the "studies abroad;" but who can tell how many will suffer by the treatment founded on those unreliable notes? The doctor is thus unconsciously made to do harm where intention and duty prompt him to do good.

In view of these facts I have tried to induce some members of the Faculty of Berlin University to give courses in English. Some of them, for that purpose, joined a course of medical English which I held at the Royal Polyclinicium of Professors v. Bergmann and Schweigger, with the result that in the near future some English courses will be given. It is, however, not for them to give up research to become polyglots, but it is the duty of the foreigner to bring his tools to work with.

Now, Mr. Editor, I would urge the American necessity to study German and German literature, and more especially I would ask you to hold before your reader the imperative necessity to prepare before leaving home to understand the German professor, if to him they must go. It is for the benefit of those Americans and German descendants who shall go hereafter that these lines are written to spare them the disappointment, save them time and money and the impeachment of their sagacity.

Professor Rudolph Virchow, in his rectoral inaugural speech of 1892, commented favorably on the application of American students in Berlin. Let us in the future prepare so that men of his calibre may speak favorably of our success due to application and training.

J. C. Lewinsky, M.D.

1758 Madison Avenue, New York.

OPIUM AND ITS EXCESSIVE USE.

To the Editor of the Medical Record.

Sir: The use of morphine and other forms of opium is said to be on the increase. We are informed by the drug trade that the demand for opiates has increased materially in the last six or twelve months. It has occurred to me, as I have given the excessive use of opiates some thought, that it would not be out of place to make some suggestions on this subject. During the time mentioned there has sprung up a great interest, especially among the profession and others, on the subject of curing the opium habit, and a large number have undertaken to cure it, and are teaching people that the chief point to gain is to stop the use of opium without much reference to the damage done by opium when used for a long time in large quantities. There is a disposition to teach that the opium habit is a small matter of very easy remedy and susceptible to almost magical cure; and it is my impression that it is that idea getting hold of the people that is inclining them to use it more carelessly and excessively than they would otherwise. There is hardly any curse greater than the opium habit established in a family. I have often said that if you would give me an instrument which would represent to the fullest extent the idea of eternal punishment, I would take a human being and get him into the opium habit and then keep him from taking quite enough to satisfy the morbid craving. I think then we would have a condition that is as miserable for the body and soul, you might say, of the afflicted one, and as terrifying and tormenting for the time being, at least, to him and his relatives as Hades itself could present.

Now opium is a good medicine in its place. It is a good servant but a terrible task-master, and it is a well-established fact that its tendency is to increase its domination and general destructive influence over any people among whom it once gets started, and this is especially true of a nervous people, who live so fast, work so hard, and in every way put the nervous system on such tension as the people of this country do.

While opium is, as I have said, a good servant under certain conditions of acute pain, extreme irritability of the nervous system, etc., it is an exceedingly dangerous and destructive one when taken in large quantities for a long time. It locks up all the secretions, perverts all the functions, unbalances the mental faculties, and in every way prevents a man or woman from accomplishing the true designs of life. This is the latter or chronic effect it produces. Small doses making certain impressions, then larger ones being required to make a similar impression, and so on until the whole system is dominated by it. The teaching that this condition can be magically changed is entirely irrational, and the object of this article is to teach the people not to believe that simply stopping opium is curing the diseased condition produced by it. They will be led astray and thousands will carelessly use it and thus be carried on to destruction that would not be if they could realize the course of the habit and the difficulty of getting over the bad effects of it.

There is material enough to fill many pages of your journal that would be well enough for the public to know on this subject, but I do not feel inclined to encroach further. This is a mere hint. Not long since I saw in

your journal an article something like this, saying that if a person could use opium in moderation it would do the system no material harm—very likely do it good. This is very unwise teaching, in my judgment, or, at least, it is a matter that ought not to be placed before the public without further explanation of the difficulty of doing that. The opium habit is established from the very fact that, as a rule, you cannot use opium continuously in moderation. Every man who has given the subject any serious thought must come to this conclusion. It is a good thing when it is needed in acute diseases, and sometimes in certain kinds of chronic diseases that are hopeless in their nature, etc., and in many ways it is useful; but when we make an expression like the above before a people who do not understand that they cannot use it in moderation, it is an article that ought to be explained, or it should never have been published. No man can use opium continuously without an inclination to increase the dose, and under that increased dose the opium habit is formed, and when that is established no one, let him be what he may, can accomplish the true ends of life under it. Its effect upon the mind itself, if it did no more, precludes this. It over stimulates the impulses and imagination to the detriment of reason, will, and moral sensibility and thoroughly deranges the true economy of the whole being, physical, mental, and moral.

B. M. Woolley, M.D.

Atlanta, Ga., March 1, 1894.

WHY NOT REGISTER THE MALE PROSTITUTE?

To the Editor of the Medical Record.

Sir: As a means of control of prostitution, why not register the male syphilitic? Registering and licensing of the female prostitute does not control prostitution. I know this, because I had charge for several years of the Venereal Lock-hospital of the Yoshiwara of Tokio, that is, of the whole licensed system of prostitution of Tokio. That system, which was first established in 1867, did not prevent the archery girls and the numerous tea house girls from propagating venereal diseases. The two thousand licensed prostitutes were the smallest contingent to the army of prostitution. The great body was not under control. The lock hospital system proved to be simply a bug-a-boo! They feared that more than anything, as a licensed prostitute could not be relicensed without a certificate of cure from the hospital authorities. Those people, during the time of their sickness, were really in prison. They preferred opening archery establishments and tea-houses, and thus, unmolested by the law, exercise their trade and spread the poison.

The Russian Government at Nagasaki, in 1867, I think, opened for its own navy brothels of its own. The Japanese girls were examined and, when found healthy, were placed on trade for the use of the Russian marine. Even such careful proceedings did not prevent as much venereal sickness as was found in other navies. It was found that the officers of the navy propagated the disease, and not the women; they brought it from Calcutta, Singapore, and other Indian ports.

As to considering the moral part of the question, I think that it is not at all within the province of the medical profession. But, if we cannot put an end to prostitution, we can, at least, register the male syphilitic, and thus put on record the fact that he is a source of infection. I think even that it is our duty to do so. The diseased male will fear his record, if he fears nothing else, and people with marriageable daughters will have a means of protecting them.

Yours truly,

Albert S. Ashmead, M.D.

New York, March 29, 1894.

The Gresham University is the name by which the proposed teaching university for London will be known.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 31, 1894.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	4	2
Scarlet fever	115	13
Cerebro-spinal meningitis	0	0
Measles	258	24
Diphtheria	191	54
Small-pox	16	4
Cholera	0	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0

The Health of London.—From 1700 to 1750 the death-rate in London was so high that the population stagnated. In the former year the inhabitants numbered 665,200, and in the latter year 653,900. During this period the deaths were in the ratio of about one per thirty persons living. By 1801 the population had crept up to 777,000, and the deaths had fallen to one in forty-one persons living. This great improvement in the state of public health in London was not, except to a trifling extent, the result of sanitary legislation. People were becoming more enlightened on many matters affecting their health, partly owing to a more general knowledge of chemistry, physiology, and other sciences relating to man and his surroundings. When those intrusted with the conduct of public affairs became aware how much the health of the people was affected by bad water, by foul emanations, and cesspools, and by too great a density of population, they began to secure supplies of pure water, to construct proper house-drains and street-sewers, to remove systematically filth from houses, and to widen streets. The promulgation of the natural laws of health preceded the enactment of laws of health by the state. Jenner's discovery of prophylaxis in small pox had for its corollary the vaccination laws. The chemical analysis of water was the basis of acts of Parliament relating to water and rivers.

Bathing in Alaska.—In Alaska the method of taking a bath is somewhat heroic. Every trading post has a bath-house and the people are supposed to avail themselves of its privileges once a week. A person accustomed to living in a milder climate would have a good deal of hesitancy about undressing in one of these places, as the temperature is always below zero. In an inner room an arch of stones is built so that a fire made beneath can penetrate. A trap door in the roof answers for a chimney. After the stones have become thoroughly heated and the smoke has passed out, all the coals are removed and the trap-door closed. In this room stands a cask of warm water and another that is ice-cold. When the bather enters he pours hot water on the stones until the room is filled with steam; then, taking a seat on a bench, he waits till the perspiration streams from every pore in his body. Next he takes a bunch of dried twigs and leaves, prepared for the purpose, with which he scrubs himself till all the impurities have been removed from the skin, following this with a wash-off in warm water and soap. He concludes his bath by dashing a bucket of ice-cold water over his body, and then rushing to the dressing-room, where, with his teeth chattering and shivering in every limb, he resumes his clothes.

Ruskin and Charcot on the Grotesque.—Nowhere is the physician more directly opposed to the artist in his judgment than on the subject of grotesques. Take, for example, the grotesque head carved on the base of the tower of Santa Maria Formosa at Venice. Of this Mr.

Ruskin says: "A head—huge, inhuman, and monstrous—leering in bestial degradation, too foul to be either pictured or described, or to be beheld for more than an instant. Yet let it be endured for that instant, for in that head is embodied the type of the evil spirit to which Venice was abandoned in the fourth period of her decline. . . . This head is one of the many hundreds which disgrace the latest buildings of the city, all more or less agreeing in their expression of sneering mockery, in most cases enhanced by thrusting out the tongue. They are evidences of a delight in the contemplation of bestial vice and the expression of low sarcasm, which is, I believe, the most hopeless state into which the human mind can fall." It is rather refreshing, after this uncomfortable judgment on poor Venice, to turn to the doctor's diagnosis. M. Charcot writes: "In our opinion this distortion of the features, which gives the mask so grotesque and hideous an aspect, is by no means the result of a mere artistic whim. Nature, in her infinite variety of forms, is a mine of inexhaustible richness, where the beautiful and the ugly, the harmonious and the deformed, are mingled with intermediary degrees. The artist of Santa Maria Formosa, seeking for a grotesque type, seems to us to have met one in his path, to have seen it with his eyes, seized it in passing, and reproduced it with a fidelity which enables us at this day to recognize in it the signs of a pathological deformation of a nervous affection, clearly defined, of which we have had under our notice at La Salpêtrière very interesting examples. The case in question is evidently a spasm of the face, and presenting characters so marked that it is impossible to confound it with any other facial and spasmodic affection." Thus the physician comes to the rescue of the artist, and reveals a mere naturalistic *tour de force* in what the artist has read as "a delight in the contemplation of bestial vice."—*London Hospital.*

Tetanus Complicating Vaccinia.—Dr. S. W. Toms has recently reported in the Philadelphia *Medical News* a case of this probable nature. The patient, a strumous girl, five years of age, was vaccinated November 6th. Eighteen days later it was found that directions as to cleanliness had not been carried out by the mother, and at the site of inoculation there was an ulcer the size of a half dollar; deep and discharging fetid sanious pus. A week later the child took cold, had a sore throat and considerable trismus. Two days later general convulsions supervened. Three days after that she died of pulmonary œdema. Dr. Toms finds six similar cases recorded in medical literature. He says that from the period of time elapsing from the date of vaccination to the developing of the tetanus, it is certain that this does not correspond to the accepted view of the period of incubation.

In conclusion, the possible source of infection of the ulcer might have been from 1, vaselin (which might have been infected from previous use); 2, sponge (which might have been dirty); 3, unsterilized dressings; also from the solution of continuity of the mucous membranes of the mouth and throat.

Against the theory that it was due to vaccination is

1. The existence of "sore mouth," which is possible as offering a nidus for infection.

2. The date of onset not corresponding to the generally accepted period of incubation; and absence of bacilli of tetanus in the pus and tissue from the wound.

3. The fact that the disease manifested such a mild course, and that the fatal issue was dependent upon an intercurrent complication. Had not this unfortunate circumstance occurred, and had the child possessed ordinary vitality, it is but reasonable to assume that she would have recovered.

Protest Against a Pasteur Institute.—Some worthy souls in London, belonging to the anti vivisectionist wing of the Absurd, are greatly disturbed in mind by the proposed establishment of a Pasteur Institute in Chelsea, and are writing long protests to the London journals. The following is the style of one of their lamentations directed to the *Daily News*: "We desire to enter our earnest protest against the setting up of a Pasteur Institute in our midst (*sic*). It appears that no legal power can intervene to prevent the accomplishment of a design which is merely the offspring of a few physiologists, and for which there has been no public demand. We protest with all our might against the licensing by the Home Secretary of this gratuitous addition to the fifty-nine existing laboratories of what we believe to be a cruel and misleading science, and living as we do in and around the district where this horrible institution is to be set up, we claim that we and our fellow residents should have a right of veto over it as a public nuisance, dangerous to health, and involving animal suffering." Some of the names appended to this protest are of people who betray an ordinary intelligence in other matters.

Pizarro, a Congenital Criminal.—The three hundred and fiftieth anniversary of the death of Pizarro was recently celebrated with great pomp and circumstance in Lima, the city which venerates him under the title of founder. The mummy of the conqueror of peaceful aborigines, which lies in the cathedral at Lima, was disinterred and submitted to a thorough anthropometrical examination. It is hard to say why this indignity was put upon the poor old shrivelled remains, unless it is that they hoped to discover evidences of sanctity and gentleness of disposition which might be used in his process of beatification by the Church. The result of the examination hardly came up to their expectations, however, for on his skull were found the typical deformations, even the "fossa of Lombroso," which are regarded by the criminal anthropologists as infallible signs of moral degeneration.

Rome's Mineral Spring.—When Rome was first settled by Alban shepherds migrating to the banks of the Tiber to escape the dangers of the volcanic disturbances of their mountain home, the Campagna was dotted everywhere with mineral springs, which were even then celebrated for their healing virtues. Of these the only one still flowing in the neighborhood of the city is the one called Aqua Acetosa. The spring issues near the left bank of the Tiber, between two and three miles from Rome, in a well-house erected by Bernini at the request of Pope Alexander VII. The water is bottled every morning in wicker-covered flasks, like those in which the wine of Chianti is exported, and is peddled through the streets of the city for five centimes (one cent) a flask. The following is the composition of the water in parts per thousand:

Chloride of sodium	13.65
Chloride of calcium	0.57
Chloride of magnesium	0.10
Chloride of lithium	traces
Carbonate of sodium	1.15
Carbonate of calcium	7.87
Carbonate of magnesium	0.23
Carbonate of lithium	traces
Sulphate of sodium	2.26
Sulphate of calcium	0.11
Sulphate of magnesium	1.02
Silicic acid	0.11
Total	27.07
Free carbonic acid	9.36
Oxygen	0.15
Temperature of the water	61° F.

The New York Physicians' Mutual Aid Association.—From the recently issued report detailing the operations of this society for 1893 we learn that its present membership is one thousand two hundred and fourteen. There were eighteen deaths during the year. In each instance the sum of $1,000 was paid to the beneficiaries. The oldest death occurred at eighty-five, of "senility," and the youngest at twenty-eight, of typhoid fever. During the year fifty-three members were dropped for non-payment of dues, while four resigned. One year ago the by-laws were amended to allow the surplus in the assess-

ment fund to be used for the payment of a death-claim, whenever such surplus shall exceed $1,000. One claim has already been paid in that way. The funds of the association are summarized as follows:

Assessment fund	$4,481 99
Contingent fund	213 33
Permanent fund	19,372 63
	$24,067 95

Companionship in Convalescence.—It will be generally admitted that the term "illness" possesses a fuller meaning than can be explained by the mere presence of disease. The further stage of convalescence, hopeful and relatively healthy as it is, must also be included in the term. At best it is the approach to health, and its ailing incapacity must be reckoned with and provided for unless we would retard or frustrate the whole process of recovery. Conscious of this fact, some have even argued that a service of attendance is needful at this, as it manifestly is at an earlier, period. For the care of the skilled nurse they would substitute that of an invalid's companion. The office is not unknown to experience In one or other form it has existed, probably as long as that of the nurse, chiefly as a privilege of moneyed comfort. A novel extension has lately been proposed for the especial benefit of children convalescent from infectious disease, whose discomfort and isolation have excited the pity of some kind hearted persons. The suggestion is well intended, and wherever feasible might be put in practice. In some cases of partial recovery still requiring supervision for the purpose of its completion, such attendance might even be advisable on medical grounds. In such instances a nurse would be the fittest guardian. For the rest, the attentions of a judicious friend would usually afford the social advantages best suited to the needs and wishes of the convalescent. A system of regularly paid service, it appears to us, is in this case hardly called for, though voluntary assistance in aid of the parental care, if rendered with friendly tact, must often bring with it a truly grateful sense of relief.—*Lancet.*

The Changes in the Pharmacopœia.—The new Pharmacopœia of 1890 became official on January 1st. For the convenience of our readers we give a list of the new remedies which are now official, as well as of those which are no longer recognized. Certain changes in official nomenclature are important for correct usage in the future. There are eighty-eight new articles, and ninety have been omitted (*Boston Medical and Surgical Journal*). The newly adopted articles are the following: Acetanilidum, acidum hypophosphorosum dilutum, acidum stearicum, adeps lanæ hydrosus, alcohol absolutum, alcohol deodoratum, aloe barbadensis, aloinum, aqua aurantii florum (diluted), aqua chloroformi, aqua hydrogenii dioxidi, aqua rosæ (diluted), aspidosperma, barii dioxidum, caffeina citrata, caffeina citrata effervescens, calcii sulphas exsiccatus, cinnamomum saigonicum, cocainæ hydrochloras, convallaria elastica, elixir aromaticum, elixir phosphori, eriodictyon, eucalyptol, extractum apocyni fluidum, extractum asclepiadis fluidum extractum aspidospermatis fluidum, extractum cimicifugæ, extractum convallariæ fluidum, extractum eriodictyi fluidum, extractum jalapæ, extractum lappæ fluidum, extractum menispermi fluidum, extractum phytolaccæ fluidum, extractum rhamni purshianæ fluidum, extractum scoparii fluidum, extractum uvæ ursi, extractum viburni opuli fluidum, ferri et quininæ citras solubilis, glyceritum acidi carbolici, glyceritum acidi tannici, glyceritum boroglycerini, glyceritum hydrastis, hydrastininæ hydrochloras, hyoscinæ hydrobromas, hyoscyaminæ hydrobromas, lithii citras effervescens, menthol, methyl salicylas, naphtalinum, naphthol, oleatum zinci. oleum betulæ volatile, oleum cadinum, oleum terebinthinæ rectificatum, pancreatinum, paraldehydum, pepsinum, petrolatum liquidum, petrolatum spissum, physostigminæ sulphas, pilulæ catharticæ vegetabilis, pilulæ ferri carbonatis, potassii citras effervescens, pyrogallol, resorcinum, rhamnus purshiana, salol, sodii nitris, sparteinæ sulphas, spiritus amygdalæ amaræ, spiritus aurantii compositus, spiritus glonoini, spiritus phosphori, strontii bromidum, strontii iodidum, strontii lactas, strophanthus, suppositoria glycerini, terebenum, terpini hydras, tinctura lactucarii, tinctura quillajæ, tinctura strophanthi, trochisci santonini, viburnum opulus, zea.

The articles dismissed are: Abstractum aconiti, abstractum belladonnæ, abstractum conii, abstractum digitalis, abstractum hyoscyami, abstractum ignatiæ, abstractum jalapæ, abstractum nucis vomicæ, abstractum podophylli, abstractum senegæ, abstractum valerianæ, acetum lobeliæ, acetum sanguinariæ, æther, ammonii phosphas, ammonii sulphas, amylum iodatum, aurantii flores, azederach, cannabis americana, ceratum extracti cantharidis, ceratum sabinæ, charta cantharidis, chinoidinum, chloroformum venale, chincona flava, cornus, cupri acetas, cydonium, elixir aurantii, emplastrum ammoniaci, emplastrum asafœtidæ, emplastrum galbani, emplastrum picis canadensis, extractum cornus fluidum, extractum lactucarii fluidum, extractum malti, extractum mezerei, fel bovis inspissatum, ferri oxalas, galbanum, gaultheria, gutta-percha, hydrargyri sulphidum rubrum, ignatia, infusum brayeræ, juniperus, lavandula, linimentum cantharidis, linimentum plumbi subacetatis, liquor ferri et quininæ citratis, liquor gutta-perchæ, liquor pepsini, magnesii sulphis, magnolia, maltum, mistura magnesæ et asafœtidæ, mistura potassii citratis, mucilago cydonii, oleum lavandulæ, oleum rutæ, oleum succini, oleum valerianæ, origanum, pilulæ ferri compositæ, pilulæ galbani compositæ, pix canadensis, potassii sulphis, potassii tartras, prinos, rosmarinus, salix, sodii bicarbonas venalis, sodii santoninas, spiritus odoratus, syrupus ferri bromidi, syrupus limonis, thuja, tinctura conii, tinctura ferri acetatis, tinctura ignatiæ, trochisci magnesiæ, trochisci sodii santoninatis, unguentum acidi gallici, unguentum mezerei, unguentum sulphuris alkalinum, ustilago, vinum album fortra, vinum aloes, vinum aromaticum, vinum rhei, viola tricolor.

Di-iodoform and the Treatment of Chancre.—The Paris correspondent of *The Lancet* writes: Every surgeon must have arrived at the conclusion that as a dressing for soft chancres nothing equals iodoform; but the odor of this valuable compound militates greatly against its use, and attempts have accordingly been made to replace it by such iodine compounds as aristol, antiseptol, etc. Efforts have again been made to cover the odor of iodoform by means of coumarin, otto of rose, balsam of Peru, etc. Have we at last discovered the long-looked-for succedaneum in di-iodoform? MM. Maquenne and Taine have been recently engaged in investigating the properties of this new substance, which is an iodide of carbon, its ultimate analysis yielding: carbon, 4.62; iodine, 95.38. It is free from any trace of hydrogen and is remarkably rich in iodine. It is insoluble in water and only slightly so in alcohol and ether; it is easily soluble in chloroform, sulphide of carbon, benzene, and especially hot toluene. It crystallizes in fine prismatic needles, which are quite distinct from the hexagonal scales of iodoform. It remains practically odorless while it is kept in the dark. Exposed to the light it turns brown and disengages gradually a characteristic but slight odor. For this reason it is well to keep it in colored bottles. It is a very stable compound, resisting the action of boiling nitric acid. Hot alcoholic solution of potassium alone decomposes it with formation of iodide of potassium. Di-iodoform is prepared by acting on periodate of acetylene with iodine in excess, as also by the action of liquor potassæ and iodine on barium carbide held in suspension in benzene or chloroform. M. Hallopeau is engaged in studying its therapeutical effects in his skin wards at St. Louis. He has tried it in cases of soft chancres and finds its effects to be identical with those of iodoform. *A propos* of the local treatment of simple chancres, Dr. Balzer, of the Hôpital du Midi, expresses himself as highly satisfied with the following method: wash the surface with a 1 in

1,000 solution of corrosive sublimate or in a solution of boric acid, and then apply to the chancre, on a thin dossil of ungreased cotton wool, some europhene.

Medicine as a Career for Educated Men.—In an address delivered by Dr. W. W. Keen, of Philadelphia, before the Lafayette College Commencement in 1893, he said: "If any of you look forward to medicine as a career, you should view it from three different standpoints. First, on its economic side. This is a matter of no little importance, for every man in this world must earn his living, and also naturally looks forward to the support, not only of himself, but of his wife and children, in the future. No one should expect in medicine to make a fortune. A few doctors do so, but they are the exceptions. But every man who enters medicine, if he will be faithful and honest in his work, and *a fortiori* the more intellectual college man, can be sure of a competence —nay more, can be sure that he will enjoy not only the reasonable reward of toil, but be able to lay up sufficient for his own old age and for his family. Secondly, a much more elevating and attractive side is the philanthropic or humanitarian. The medicine of the future will be chiefly in the direction of that most philanthropic object, the prevention rather than the cure of disease. Hygiene or Preventive Medicine has only arisen within the last forty years. It has already done much, but it promises far more. If it is necessary to show that the knowledge of hygiene is still limited, look at the recent reports on the sources of the water-supply of New York. Nay, you need only go into the slums of your own city; or if you live in the more God-blessed country, you may find a startling ignorance of the laws of health in almost every farm-house. Nay, more, you need only cross-question a half-dozen of your intimate friends as to their modes of life, to discover that the laws of hygiene are 'more honored in the breach than in the observance.' But besides the economic and the philanthropic side, medicine has, thirdly, its splendid scientific aspect, which fuses with both of the others and yet may be regarded separately from them. Let me point out some of the best achievements and present problems of medicine. The present century has seen vast strides in every department of medicine. I will not weary you by mentioning the immense improvements made in many minor details, which would be more suited to a technical audience, but it is proper that I should allude to three brilliant discoveries which stand out prominently as of the first magnitude, viz., the discovery of anæsthetics, the inauguration of antiseptic surgery, and the establishment of the new science of biology. The twentieth century, in which you will live, will be the most glorious time of all the ages. But you may take part in this grand march of progress, not only in the rank and file, but as a leader, if you will but write. Or it may be, if you have the gift of imparting knowledge, you may be one of the teachers of medical science, an enviable post of honor and responsibility, but also of unequalled enjoyment. Have I not put before you enough to arouse the ambition, the energy, the benevolence, the enthusiasm, of any young man about to choose his career? Can there be in any other department of human knowledge so fine a field for research, for discovery, for fame, and, what is far better, for serving the human race? If, in consequence of what I have said to you, some of you will select medicine as your chosen pursuit, rest assured that if you will faithfully perform your duty, at the close of life you will have the pleasure of surveying a career which has been advantageous to yourselves, has been a means of doing good to your fellow-men, and I verily believe, has approximated as near as possible to the Divine Life as is given to any man to do."

Hard Times and Free Medicine.—From every part of this great and rich country the news comes to us of extreme stringency in the financial position of our *confrères*, the general practitioners. Never was there a richer opportunity for the masses to play the pauper than now. The present panicky state of the money-market affords people an immense excuse for wholesale imposition on the profession. The conditions of the times will not give them free bread, free clothes, free transportation on the railroads, or rent free, but they hie away to many of our too numerous hospitals and dispensaries for free treatment—advice, medicine, and all included for nothing, or for "ten cents," the figures fixed in certain palatial infirmaries. The consequence of all this has been most demoralizing to the profession and the public. Practitioners, reduced to a state of enforced idleness and grim want, are forced either to quit their profession altogether, or to "meet steal with steel," to open rival dispensaries, to advertise, or to drift into downright quackery. Many cases have come to our knowledge which go to prove that the practice in vogue in many of our largest dispensaries is a species of downright robbery, and tends to work incalculable harm to the profession. Case after case is taken from among the people of ample means and turned over to the hospital or to the college professor for his clinic, without a word being asked as to their mendicity or ability to pay anything at all. Cheap railroad excursion rates drain the outlying villages for miles in every direction. This hydra-headed monster of indiscriminate free treatment must be seized and strangled, or we will soon see the profession of medicine dragged in the dust; open downright quackery will be rampant, and integrity and honor in the healing art will be things of the past. By no means let us withhold our services to the poor and deserving, for humanity compels us to gratuitously attend those without means. Nor let us strip the field of such clinical material as legitimately belongs to the teacher; but let the teacher not forget that he has no prescriptive right to filch from the struggling practitioner what justly belongs to him.—*Medical and Surgical Reporter.*

BOOKS RECEIVED.

DESCRIPTIVE CATALOGUE OF THE ANATOMICAL AND PATHOLOGICAL SPECIMENS IN THE MUSEUM OF THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH. By Charles W. Cathcart. Vol. I., 605 pages. James Thin, Edinburgh, Scotland. Price, 7s. 6d.

SYLLABUS OF LECTURES ON THE PRACTICE OF SURGERY. By N. Senn, M.D. Oblong 8vo, 221 pages. W. B. Saunders, Philadelphia, Pa. Price, $2.00.

THE ART OF LIVING IN AUSTRALIA. By Philip E. Muskett. 12mo, 431 pages. Eyre & Spottiswoode, London, Eng.

SEWAGE DISPOSAL IN THE UNITED STATES. By George W. Rafter and M. N. Baker. 8vo, 598 pages, illustrated. The D. Van Nostrand Company, New York City.

THE ART OF MASSAGE. By A. Creighton Hall. 8vo, 144 pages, illustrated. The Scientific Press, Limited, London. Price, 6s.

CANCER, SARCOMA, AND OTHER MORBID GROWTHS. By J. J. Clarke. 12mo, 97 pages, illustrated. Balliere, Tindall & Co., London. Price, 3s. 6d.

TEXT-BOOK OF PHYSIOLOGY. By M. Foster. Fifth American edition, from the Fifth English edition. 8vo, 1083 pages, illustrated. Lea Bros. & Co., Philadelphia, Pa. Price, cloth, $4.50; leather, $5.50.

SURGERY. A MANUAL FOR STUDENTS AND PRACTITIONERS. By B. B. Gallaudet, M.D., and C. N. Dixon Jones. 12mo, 301 pages, illustrated. Lea Bros. & Co., Philadelphia, Pa. Price, $1.75.

THE PHYSIOLOGY OF DEATH BY TRAUMATIC FEVER. By John D. Malcom. 8vo, 129 pages. J. & A. Churchill, London. Price, 3s. 6d.

FIRST AID IN ILLNESS AND INJURY. By James E. Pilcher, M.D., Ph.D. 12mo, 322 pages, illustrated. Charles Scribner's Sons, New York City.

ESSENTIALS OF MEDICAL PHYSICS. By Fred. J. Brockway, M.D. 12mo, 330 pages, illustrated. Price, $1. W. B. Saunders, Philadelphia, Pa.

SYLLABUS OF OBSTETRICAL LECTURES. By Richard C. Norris, M.D. Third Edition. 12mo, 222 pages. Price, $2. W. B. Saunders, Philadelphia, Pa.

MANUAL OF THERAPEUTICS. By Dr. A. A. Stevens. 12mo, 435 pages. Price, $2.25. W. B. Saunders, Philadelphia, Pa.

TRANSACTIONS OF THE AMERICAN ORTHOPEDIC ASSOCIATION. Vol. VI. 8vo, 275 pages, illustrated. Published by the Association, Philadelphia, Pa.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 45, No. 15.
Whole No. 1223.

NEW YORK, APRIL 14, 1894.

$5.00 Per Annum.
Single Copies, 10c.

Original Lectures.

DIGESTIVE PROTEOLYSIS.

THE CARTWRIGHT LECTURES FOR 1894.

BY R. H. CHITTENDEN, PH.D.,

PROFESSOR OF PHYSIOLOGICAL CHEMISTRY IN YALE UNIVERSITY.

LECTURE I.

PART II.—GENERAL NATURE OF PROTEIDS.

(Continued from p. 423.)

PROTEIDS are confessedly among the most complex bodies the physiologist has to deal with, while at the same time they are perhaps the most important, not only in view of their wide spread distribution through animal and vegetable tissues, but because of the prominent part they take in the nutrition of the body. The more our knowledge is broadened concerning these varied substances, the more we are impressed with their complexity, and at the same time with the necessity for a more accurate study of both their composition and constitution. Concerning the latter, full fruition of our hopes is probably in the distant future, but every step of advance in this direction adds greatly to our resources in the interpretation of the varied and complex changes characteristic of proteid metabolism. Every study of proteid decomposition adds something to our store of knowledge, and gives perhaps an added fact available for broadening our deductions.[1] Moreover, the composition and general reactions of the proteids may be investigated with full confidence of obtaining many useful results, which must necessarily be an aid in interpreting the changes accompanying digestive proteolysis.

Take, for example, the single question of peptonization by gastric digestion. What is the nature of the process? Is the proteid transformed into a soluble and diffusible peptone as a result of hydration and cleavage, or is it a transformation which results from a simple depolymerization of the proteid molecule, *i.e.*, are we to consider albumin and peptone as isomeric bodies? These questions, on which physiologists seem loath to agree, can certainly be answered definitely; not, however, by arguments but by careful experimentation, in which the composition of the proteid undergoing digestion must be a necessary preliminary factor, and the composition of the resultant product or products a secondary factor of equal importance. Further, the question needs to be answered not with reference to one proteid merely, but with reference to every proteid capable of digestion by either gastric or pancreatic juice. When these questions have been fully answered in this manner, we shall have positive data to deal with, and our conclusions will rest upon a foundation of fact not easily set aside. This is one of the problems upon which I have been at work for some years, and although progress may in one sense be slow, yet it is sure and gives results of no uncertain character.

First, then, let us consider briefly the nature of the proteids whose proteolysis we may be interested in; remembering, however, that in so doing we can merely touch upon the points essential for our purpose. Allow me to say in parenthesis that there is being published in Moscow a work on proteids alone of five volumes, 900 pages each, which it is supposed will constitute an exhaustive treatise of the subject.[1]

If we attempt to classify all of the proteid bodies hitherto discovered and studied we are at once confronted with a problem of no small proportions. So varied are they in their reactions, solubilities, and behavior toward general reagents, so inclined to merge into each other by almost insensible gradations that it becomes an extremely difficult matter to make an arrangement that will satisfy all the requirements of the case. I have to suggest, however, the following classification, which is merely a modification of several existing ones, based primarily upon chemical composition and solubility in the more common menstruums.

Proteids may first be divided into three main groups as follows:

I. *Simple Proteids.*—Composed of carbon, hydrogen, nitrogen, sulphur, and oxygen, and yielding by decomposition aromatic bodies such as tyrosin, phenol, indol, etc.

II. *Compound Proteids.*—Composed of a simple proteid united to some non-proteid body.

III. *Albuminoids.*—A class of nitrogenous bodies related to and derived from proteids, but differing especially from the latter by great resistance to the ordinary solvents of true proteids.

The individual members of these three groups may be arranged as follows on the basis of solubility, coagulability, etc.:

I. SIMPLE PROTEIDS.—*A. Soluble in water.—a.* Coagulable by heat, and by long contact with alcohol. Albumins: serum-albumin, egg-albumin, lacto-albumin, myo-albumin, vegetable albumins. *b.* Non-coagulable by heat and by long contact with alcohol. Proteoses:[2] proto-proteoses, deuteroproteoses. Peptones:[2] amphopeptones, antipeptones, hemipeptones.

B. Insoluble in water, but soluble in salt solutions.—a. More or less coagulable by heat. Globulins. 1. Soluble in dilute and saturated NaCl solutions. Vitellins. 2. Soluble in dilute NaCl solutions, but precipitated by saturation with NaCl. Myosins, paraglobulin[3] or serum-globulin, fibrinogen, myoglobulin, paramyosinogen, cell-globulins. *b.* Non-coagulable by heat, soluble in dilute NaCl solution and precipitated by saturation with NaCl. Heteroproteoses.

C. Insoluble in water and salt solutions, soluble in dilute alcohol—Zein, gliadins.

D. Insoluble in water, salt solutions and alcohol; soluble in dilute acids or alkalics.—a. Coagulable by heat when suspended in a neutral fluid. Acid-albumins, alkali albumins or albuminates. *b.* Non-coagulable by heat when suspended in a neutral fluid. Antialbumids, dysproteoses, glutenins.

E. Insoluble in water, salt solutions, alcohol, dilute acids and alkalies; soluble in strong acids, alkalies, and in pepsin-hydrochloric acid and alkaline solutions of trypsin.—Coagulated proteids, fibrin.[4]

II. COMPOUND PROTEIDS.—*A. Compounds of a proteid (globulin) with an iron-containing pigment, soluble in*

[1] See Drechsel: Der Abbau der Eiweissstoffe. Du Bois Reymond's Archiv f. Physiol., 1891, p. 248.

[1] Die Einheit der Proteinstoffe. Historische u. experimentelle Untersuchungen, by L. Morokhowetz.

[2] Used in the generic sense; the proteoses including albumoses, globuloses, myosinoses, elastoses, etc., and the peptones the peptone-products formed in the digestion of any or all proteids.

[3] Not completely insoluble in saturated NaCl solution.

[4] In blood-fibrin we have a good illustration of the fact that these divisions are not absolutely exact, since this form of proteid matter, for example, is somewhat soluble in dilute acids and in salt solutions, although requiring a long time for marked solution.

water and coagulable by heat and alcohol.—Hæmoglobin, oxyhæmoglobin, methæmoglobin, etc.

B. Compounds of proteids with members of the carbohydrate group. Insoluble in water: soluble in very weak alkalies.—a. True mucins. *b.* Mucoids or mucinoids.

C. Compounds of proteid with nucleic acid. Phosphorized bodies yielding by decomposition metaphosphoric acid. Insoluble in water and in pepsin hydrochloric acid, but more or less soluble in alkalies.—Nucleins.

D. Compounds of proteids with nucleins. Very soluble in dilute alkalies.—Nucleoalbumins, as casein of milk and nucleoalbumins of cell-protoplasm and cell-nuclei, etc.

III. Albuminoids.—*A. Soluble in boiling water with formation of gelatin and yielding by decomposition leucin and glycocoll*—Collagen (gelatin).

B. Insoluble in boiling water, and yielding by decomposition much leucin and some tyrosin, together with glycocoll and lysatin. Slowly hydrated by boiling dilute acids and by treatment with pepsin-hydrochloric acid.—Elastin.

C. Insoluble in water, dilute acids and alkalies, also in gastric and pancreatic juice. Yield leucin and tyrosin by decomposition.—Keratin, neurokeratin.

We may now advantageously consider the composition of a few of the more prominent representatives of the individual groups, taking for illustration those bodies which have been most thoroughly studied, and which we may have occasion to refer to in our discusssion of proteolysis. I have not included in the table any of the alteration-products of the proteids formed by the action of pepsin acid, trypsin or boiling dilute acids, confining myself here simply to those bodies which occur ready-formed in nature.

Composition of Some of the More Prominent Proteids Occurring in Nature.*

Substance.	C	H	N	S	O	P	Ash.	Origin.	Author.
Serum-albumin	53.05	6.85	16.04	1.77	22.29	....	0.57–	Serum from horse blood.	Hammarsten.[1]
Serum-albumin	52.25	6.65	15.88	2.27	22.95	....	1.84	Pleural exudation	Hammarsten.[1]
Egg-albumin	52.25	6.90	15.25	1.93	23.67	....	....	Non-coagulated.	Hammarsten.[1]
Egg-albumin	52 33	6.98	15.89	1.83	22.07	....	1.11	Non-coagulated	Chittenden and Bolton.[2]
Lacto-albumin	52.19	7.18	15.77	1.73	23.13	....	.. .	Cow's milk	Sebelien.[3]
Vegetable-albumin	52.25	6.76	16.07	1.48	23.44	....	0.70	Corn or maize	Chittenden and Osborne.[4]
Vegetable-albumin	53.02	6.84	16.80	1.28	22.06	....	0.32	Wheat	Osborne and Voorhees.[5]
Proteose, animal	52.13	6.83	16.55	1 09	23.40	....	0.79	Hemialbumose, urine.	Kühne and Chittenden.[6]
Proteose, vegetable	50.60	6.68	16.33	1.62	24.77	....	2.99	Corn or maize	Chittenden and Osborne.[4]
Proteose, vegetable	51.86	6.82	17.32	....	....	...	0.25	Wheat	Osborne and Voorhees.[5]
Proteose, vegetable	49 98	6.95	18.78	....	....	....	1.80	Flax-seed	Osborne.[7]
Proteose, vegetable	46.52	6.40	18 25	....	....	....	2.20	Cocoanut meat	Chittenden and Setchell.[8]
Vitellin, spheroidal	51.71	6.84	18 12	0.85	22.48	....	1.20	Corn or maize	Chittenden and Osborne.[4]
Vitellin, crystalline	51.60	6.97	18.80	1 01	21.62	....	0.30	Squash-seed	Chittenden and Hartwell.[9]
Vitellin, amorphous	51.81	6.94	18.71	1.01	21.53	....	0	Squash-seed	Chittenden and Hartwell.[9]
Vitellin, crystalline	51.48	6.94	18.60	0.81	22.17	....	0.54	Flax-seed	Osborne.[7]
Vitellin, spheroids	51.03	6.85	18.39	0.69	23.04	....	0.49	Wheat	Osborne and Voorhees.[5]
Vitellin, crystalline	51.63	6.90	18.78	0.90	21.79	....	0.56	Hemp-seed	Chittenden and Mendel.[8]
Vitellin, crystalline	51.31	6.97	18.75	0 76	22.21	....	0.03	Castor bean	Osborne.[10]
Vitellin, crystalline	52.18	6.92	18.30	1.06	21.54	....	0.20	Brazil nut	Osborne.[10]
Vitellin, semi-crystalline	51.23	6.90	18.40	1 06	22.41	....	0.25	Cocoanut meat	Chittenden and Setchell.[8]
Myosin, 13 diff. samples	52.82	7.11	16.77	1.27	21 90	....	1 45	Muscle-tissue	Chittenden and Cummins.[11]
Myosin, vegetable	52.68	7.02	16.78	1.30	22.22	....	0.63	Corn or maize	Chittenden and Osborne.[4]
Myosin, vegetable, crystalline	52.18	7.05	17.90	0.53	22.34	....	0.10	Oats	Osborne.[12]
Paraglobulin	52.71	7.01	15.85	1.11	23.24	....	0.30	Blood of horse.	Hammarsten.[13]
Fibrinogen	52 93	6.99	16.66	1.25	22.26	....	1.75	Blood of horse.	Hammarsten.[14]
Zein	55.23	7.26	16.13	0.60	20.78	....	0.43	Corn or maize	Chittenden and Osborne.[4]
Gliadin	52.72	6.86	17.66	1.14	21.62	....	0.51	Wheat	Osborne and Voorhees.[5]
Gliadin	53.01	6.91	16.43	2.26	21.39	....	....	Oats	Osborne.[12]
Glutenin	52.34	6.83	17.49	1.08	22.26	....	....	Wheat	Osborne and Voorhees.[5]
Coagulated proteid	52.33	6.98	15.84	1.81	23.04	....	0.27	Egg-albumin	Chittenden and Bolton.[2]
Coagulated proteid	51.58	6.88	18.80	1.09	21 65	....	0.25	Vitellin, hemp-seed.	Chittenden and Mendel.[8]
Fibrin	52.68	6.83	16.01	1.10	22.48	....	0.56	Blood of horse.	Hammarsten.[14]
Oxyhæmoglobin	53.85	7.32	16.17	0.39	21.84	....	0 43 Fe.	Blood of dog.	Hoppe-Seyler.[15]
Oxyhæmoglobin	54.71	7.38	17.43	0 48	19.60	....	0.39 Fe.	Blood of pig	Hüfner.[16]
Mucin	50 30	6.84	13.62	1.71	27.53	....	0.33	From snail.	Hammarsten.[17]
Mucin	48.84	6.80	12.32	0.84	31.20	....	0.35	Submaxillary gland	Hammarsten.[18]
Chondromucoid	47.30	6.42	12.58	2.42	31.28	....	....	Cartilage	Mörner.[19]
Nuclein	50.60	7.60	13.18	....	...	1.89	....	Human brain	V. Jaksch.[20]
Nuclein	49.58	7.10	15.02	....	....	2 28	....	Pus	Hoppe-Seyler.[21]
Casein	52.96	7.05	15.65	0.71	22.78	0.84	....	Cow's milk	Hammersten.[22]
Casein	53.30	7.07	15.91	0.82	22.03	0.87	0.98	Cow's milk	Chittenden and Painter.[23]
Nucleo-histon or leuconuclein	48.41	7.21	16.85	0.70	24.41	2.42	....	Leucocytes	Lilienfeld.[24]
Gelatin	49.38	6.81	17.97	0.71	25 13	....	1.26	Connective tissue	Chittenden and Solley.[25]
Elastin	54 24	7.27	16.70	0.30	21.79	....	0.90	Neck-band	Chittenden and Hart.[26]
Elastin	53.95	7.03	16.67	0.38	21 97	....	0.72	Aorta	Schwarz.[27]
Keratin	49 45	6.52	16.81	4.02	23.20	....	1.01	White rabbit's hair	Kühne and Chittenden.[28]
Neurokeratin	56.99	7 53	13.15	1.87	20 46	....	1.35	Human brain	Kühne and Chittenden.[29]
Reticulin	52.88	6.97	15.63	1.88	22.30	0.34	2 27	Reticular tissue	Siegfried.[30]

* Many of these results represent the average of a large number of individual analyses.

[1] Jahresbericht f. Thierchemie, Band 11, p. 19.
[2] Studies in Physiological Chemistry, Yale Univer., vol. 2, p. 126.
[3] Zeitschr. f. physiol. Chem., Band 9, p. 463.
[4] Amer. Chemical Journal, vols. 13 and 14
[5] Ibid., vol. 15, p. 379
[6] Zeitschr. f. Biol., Band 19, p. 198.
[7] American Chemical Journal, vol. 14, p. 629.
[8] Not hitherto published.
[9] Journal of Physiology, vol. 11, p. 435.
[10] American Chemical Journal, vol. 14, p. 662.
[11] Studies in Physiological Chemistry, Yale University, vol. 3, p. 115.
[12] Fourteenth Annual Report Conn. Ag Exp. Sta., 1890; 2d paper. American Chemical Journal, vol. 14, p. 212.
[13] Pflüger's Archiv f. Physiol., Band 22, p. 489.
[14] Ibid., Band 22, p. 479.
[15] Hoppe-Seyler's Med. Chem. Untersuch., p. 189.
[16] Hoppe-Seyler's Chem. Analyse, 6th auflage, p. 275.
[17] Pflüger's Archiv f. Physiol., Band 36, p. 392.
[18] Zeitschr. f. physiol. Chem., Band 12, p. 185.
[19] Jahresbericht f. Thierchemie, Band 18, p. 219.
[20] Pflüger's Archiv f. Physiol., Band 13, p. 469.
[21] Hoppe-Seyler's Med. Chem. Untersuch., p. 489.
[22] Zeitschr. f. physiol. Chem., Band 7, p. 269.
[23] Studies in Physiological Chemistry, Yale University, vol. 2, p. 172.
[24] Du Bois Reymond's Archiv f. Physiol., 1892, p. 170.
[25] Journal of Physiology, vol. 12, p. 23.
[26] Studies in Physiological Chemistry, Yale University, vol. 3, p. 19; also Zeitschr. f. Biol., Band 25, p. 568.
[27] Zeitschr. f. physiol. Chem., Band 18, p. 401.
[28] Zeitschr. f. Biol., Band 26, p. 304.
[29] Ibid., p. 301.
[30] Jahresbericht f. Thierchemie, Band 22, p. 15.

In considering the results tabulated above, it is to be remembered that all of these bodies, with the exception of keratin, neurokeratin, and reticulin, are more or less digestible in either gastric or pancreatic juice, or indeed in both fluids. I will not take time here to point out the obvious genetic relationships and differences in composition shown by the above data, but will immediately call your attention to the fact that there are other and more important points of difference between many of these proteids which are hidden beneath the surface, and which a simple determination of composition will not bring to light. I refer to the chemical constitution of the bodies, to the way in which the individual atoms are arranged in the molecule, on which hinges more or less the general properties of the bodies and which in part determines their behavior toward the digestive enzymes,

as well as toward other hydrolytic agents. These differences in inner structure can only be ascertained by a study of the decomposition products of the proteids, and of the way in which the complex molecules break down into simpler. The nature of the fragments resulting from the decomposition of a complex proteid molecule, gives at once something of an insight into the character of the molecule. Thus, egg-albumin exposed to the action of boiling dilute sulphuric acid yields, among other fragments, large quantities of leucin and tyrosin, the latter belonging to the aromatic group and containing the phenol radical. Collagen, or gelatin, on the other hand, by similar treatment fails to yield any tyrosin or other aromatic body, but gives instead glycocoll or amido-acetic acid in addition to leucin, lysin, and other products common to albumin. Its constitution, therefore, is evidently quite different from that of albumin, but the composition of the body reveals no sign of it. Further, we have physiological evidence of this difference in constitution in that gelatin, though containing even more nitrogen than albumin, is not able to take the place of the latter in supplying the physiological needs of the body; its food value is of quite a different order from that of albumin.

But while all of the individual proteids show many points of difference, either in composition, constitution, reactions, or otherwise, they are nearly all alike in their tendency to undergo hydrolytic decomposition under proper conditions; the extent of the hydrolysis and accompanying cleavage being dependent simply upon the vigor or duration of the hydrolytic process.

Furthermore, all of the simple proteids, at least, give evidence of the presence of two distinct groups or radicals, which give rise by decomposition or cleavage to two distinct classes of products. These two groups, which we may assume to be characteristic of every typical proteid, Kühne has named the anti- and hemi-group respectively. This conception of the proteid molecule is one of the foundation-stones on which rest some of our present theories regarding the hydrolytic decomposition of proteids, especially by the proteolytic enzymes. Moreover, it is not a mere conception, for it has been tested so many times by experiment that it has seemingly become a fact. The two groups, or their representatives, can be separated, in part, at least, by the action of dilute sulphuric acid (three per cent.) at 100° C. Thus, after a few hours' treatment of coagulated egg-albumin, about fifty per cent. of the proteid passes into solution, while there remains a homogeneous mass, something like silica in appearance, insoluble in dilute acid, but readily soluble in dilute solutions of sodium carbonate. This latter is the representative of the anti-group, originally named by Schützenberger[1] hemiprotein, but now called antialbumid.[2] It is only slightly digestible in gastric juice, but is readily attacked by alkaline solutions of trypsin, being converted thereby into a soluble peptone known as antipeptone. In the sulphuric-acid solution, on the other hand, are found the representatives of the hemi-group; viz., albumoses, originally known as one body, hemialbumose,[3] together with more or less hemipeptone, leucin, tyrosin, etc.

The fact that we have so many representatives of the hemi-group in this decomposition is significant of the readiness with which the so called hemi-group undergoes change. All of its members are prone to suffer hydration and cleavage, passing through successive stages until leucin, tyrosin, and other simple bodies are reached. These, and other similar crystalline bodies, are likewise the typical end-products of proteolysis by trypsin, and presumably come directly from the breaking-down of hemipeptone. Antipeptone, on the other hand, is incapable of further change by the proteolytic ferment trypsin. Hence the hemi-group can be identified by the behavior of the body containing it toward trypsin; *i.e.*, it will ultimately yield leucin, tyrosin, and other bodies of simple constitution to be spoken of later on. The anti-group, however, will show its presence by a certain degree of resistance to the action of trypsin, antipeptone being the final product of its transformation by this agent; *i.e.*, leucin, tyrosin, etc., will not result. In this hydrolytic cleavage of proteids the anti-group does not always appear as antialbumid. It may make its appearance in the form of some related body, the exact character of the product being dependent in great part upon the nature of the hydrolytic agent, but in every case the characteristics of the anti-group will come to the surface when the body is subjected to the action of trypsin.

The above-described treatment of a coagulated proteid with water containing sulphuric acid evidently induces profound changes in the proteid molecule. The conditions are certainly such as favor hydration, and in the case of complex molecules, like the proteids, cleavage might naturally be expected to follow. Analysis of antialbumid from various sources plainly shows that its formation is accompanied by marked chemical changes. Thus the following data, showing the composition of antialbumid formed from egg-albumin and serum-albumin by the action of dilute sulphuric acid at 100° C., gives tangible expression to the extent of this change:

	Egg-albumin.	Antialbumid[1] from egg-albumin.	Serum-albumin.	Antialbumid[1] from serum-albumin.
C.....	52.33	53.79	53.05	54.51
H.....	6.98	7.08	6.85	7.27
N.....	15.84	14.55	16.04	14.31

[1] Kühne und Chittenden: Zeitschr. f. Biol., Band 19, pp. 167 and 178.

In both cases there is a noticeable decrease in nitrogen, and a corresponding increase in the content of carbon. Evidently, then, this cleavage of the albumin molecule into the anti-group on the one hand, and into bodies of the hemi-group on the other, is accompanied by chemical changes of such magnitude that their imprint is plainly visible upon the resultant products; changes which certainly are far removed from those common to polymerization.

This proneness of proteid matter to undergo hydration and subsequent cleavage is further testified to by the readiness with which even such a resistant body as coagulated egg-albumin will break down under the simple influence of superheated water at 130° to 150° C. Many observations are recorded bearing on this tendency of proteid matter, but few observers have carried their experiments to a satisfactory conclusion. A recent study of this question in my own laboratory, has given some very interesting results.[1] Thus, coagulated egg-albumin placed in sealed tubes with a little distilled water and exposed to a temperature of 150° C. for three to four hours, rapidly dissolves, leaving, however, an appreciable residue. The solution reacts alkaline, there is a separation of sulphur, and in the fluid is to be found not albumin, but two distinct albumose-like bodies, together with some true peptone and a small amount of leucin, tyrosin, and presumably other bodies.[2] The albumose-like bodies are in many ways quite peculiar. In some respects they resemble the albumoses formed in ordinary digestion; but in others they show peculiarities which render them quite unique, so that they merit the specific name of atmidalbumoses, as suggested by Neumeister. What, however, I wish to call attention to here is the composition of these albumoses. Prepared from coagulated egg-

[1] Recherches sur l'albumine et les matières albuminoides. Bulletin de la Société chimique de Paris, tomes 23 and 24.

[2] Kühne: Weitere Mittheilungen über Verdauungsenzyme und die Verdauung der Albumine. Verhandl. d. Naturhist. Med. Ver. zu Heidelb. Band 1, p. 236.

[3] Kühne und Chittenden: Ueber die nächsten Spaltungsproducte der Eiweisskörper. Zeitschr. f. Biol., Band 19, p. 159.

[1] Chittenden and Meara: A Study of the Primary Products Resulting from the Action of Superheated Water on Coagulated Egg-albumin. Journal of Physiology, vol. 15, p. 501.

[2] Compare Neumeister's experiments on blood fibrin. Ueber die nächste Einwirkung gespannte Wasserdämpfe auf Proteine und über eine Gruppe eigenthümlicher Eiweisskörper und Albumosen. Zeitschr. f. Biol., Band 26, p. 57.

albumin by the simple action of heat and water, they show a deviation from the composition of the mother proteid, which plainly implies changes of no slight degree. This is clearly apparent from the following table:

	Coagulated egg-albumin.	Atmidalbumose precipitated by NaCl.	Atmidalbumose precipitated by NaCl + acid.	Deutero-atmidalbumose	Antialbumid.
C	52.33	55.13	55.04	51.99	53.79
H	6.98	6.93	6.89	6.60	7.08
N	15.84	14.28	14.17	13.25	14.55
S	1.81	1.66	....	0.98	....
O	23.04	22.00	....	27.18	....

Here we see that two of these primary albumoses formed by the action of superheated water, like the previously described antialbumid, show a loss of nitrogen with a marked increase in the content of carbon. Evidently, they are related to the antialbumid formed by the action of dilute acid. They are, however, soluble in water, and in many ways differ from true antialbumid, but there is evidently an inner relationship. The so-called deuteroatmidalbumose shows a still more noticeable falling off in nitrogen and sulphur, while the content of carbon is more closely allied to that of the mother-proteid. The albumose precipitable by sodium chloride, although different from an albumid, evidently comes from the anti-group and is a cleavage product which in turn may undergo further hydration and splitting by continued treatment. The so-called deutero-body, on the other hand, may well be a representative of the hemi-group.[1]

It is not my purpose here to enter into details connected with the action of superheated water on proteids. Such a course would take us too far from our present subject, but I do wish to emphasize the fact that even the most resistant of proteids has an innate tendency to undergo hydration and cleavage, and that even simple heating with water alone, at a temperature slightly above 100° C., is sufficient to induce at least partial solution of the proteid. Further, this solvent action in the case of water and dilute acids, at least, is certainly associated with marked chemical changes. It is not mere solution, it is not simply the formation of one soluble body, but solution of the proteid is accompanied by the appearance of a row of new products, in which the terminal bodies are crystalline substances of simple composition. Further, this conclusion does not rest upon the results obtained from a single proteid, for I have at various times studied also the primary products formed in the cleavage of casein, elastin, zein, and other proteids by the action of hot dilute acid, and in all cases have obtained evidence of the formation of several proteose-like bodies, as well as of true peptones.

By the action of more powerful hydrolytic agents, such as boiling hydrochloric acid to which a little stannous chloride has been added to prevent oxidation, the proteid molecule may be completely broken down into simple decomposition products, of which leucin, tyrosin, aspartic acid, glutamic acid, glucoprotein, lysin, and lysatinin are typical examples.[2] In other words, by this and other methods of treatment, which we cannot take time to consider, we can easily break down the albumin molecule completely into bodies which, as we shall see later on, are typical end-products of trypsin proteolysis, and which are far removed from the original proteid. But, as we have seen, even the primary bodies formed in the less profound hydrolysis induced by superheated water, do not show the composition of the mother-proteid. Hydration and cleavage leave their marks upon the products, and thereby we know that solution of the proteid is the result of something more than a mere rearrangement of the atoms in the molecule.

[1] Compare Krukenberg, Sitzungsberichte der Jenaischen Gesellschaft für Medicin, etc. 1886.

[2] Hlasiwetz und Habermann, Ann. Chem. u. Pharm. Band 169, p. 150. Also Drechsel, Du Bois-Reymond's Archiv f. Physiol., 1891, p. 255.

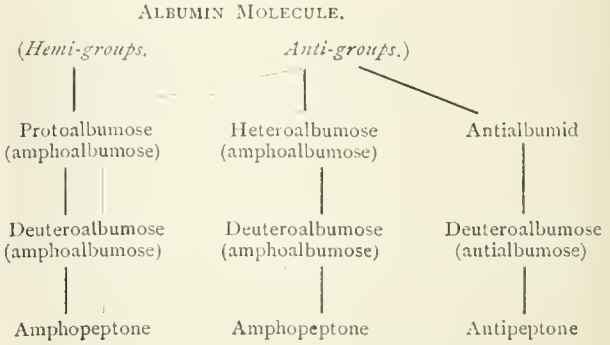
Further, we are to remember that boiling dilute acid and superheated water tend to produce a cleavage along specific lines; viz., a cleavage into the anti- and hemi-groups of the molecule, and as representatives of these groups we may, in the hydration of every native proteid, look for two distinct rows of closely related substances.

In digestive proteolysis it will be our purpose to show that cleavage of much the same order occurs, not necessarily resulting, however, in formation of identically the same products, but certainly accompanied with the production of bodies belonging to the hemi- and anti-groups, although they may be less sharply separated from each other than in the cleavage with dilute sulphuric acid.

The body originally described as hemialbumose, and identified as a product of every gastric digestion, is now known to be a mixture of closely related substances ordinarily spoken of as albumoses,[1] or generically as proteoses. These are primary products in the digestion of every form of proteid matter, intermediate between the mother proteid and the peptone which results from the further action of the proteolytic enzymes. Associated with the hemi-albumoses are corresponding antialbumoses, coming from the anti- half of the proteid molecule, and differing from their neighbors, the hemi-bodies, mainly in their behavior toward the ferment trypsin. Thus, we have the counterpart of the many bodies described by Meissner, although now arranged systematically and on the basis of structural and other differences not thought of in his day.

By the initial action of pepsin-acid, proteids are first transformed into acid albumin or syntonin, then, by the further action of the ferment, this body is changed into the primary proteoses, proto and heteroproteose, of each of which there must be two varieties, a hemi and an anti. These may then undergo further transformation into what is known as a secondary proteose, viz., deuteroproteose, of which there must likewise be two varieties, corresponding to the hemi- and anti-groups respectively. By continued proteolytic action there results as the final product of gastric digestion peptones; approximately, an equal mixture of so called hemipeptone and antipeptone, generally known as amphopeptone. Such a peptone exposed to the proteolytic action of trypsin should obviously break down in part into simple crystalline bodies, leaving a residue of true antipeptone. In truth, this is exactly what does happen when the peptone resulting from gastric digestion is warmed with an alkaline solution of trypsin. The so called hemipeptone quickly responds to the action of the pancreatic ferment, and is converted into other products, while the so called antipeptone resists its action completely, thus giving results in harmony with our general conception of the proteid molecule.

On the basis of these facts, and others not yet mentioned, we may accept provisionally, at least, the following schematic view, suggested in part by Neumeister,[2] of the general line of proteolysis as it occurs in pepsin digestion; a view which clearly expresses the significant relationship of the hemi-and anti-groups in the proteid molecule.



[1] Kühne und Chittenden: Ueber Albumosen, Zeitschr. f. Biol., Band 20, p. 11.

[2] Zur Kentniss der Albumosen, Zeitschr. f. Biol., Band 23, p. 391.

The dark and light lines in this scheme are intended to represent the relative share which the hemi- and anti-groups take in the formation of the individual bodies. Thus, we see that protoproteoses have their origin mainly in the hemi-groups of the molecule, although, as the fine line indicates, anti groups are somewhat concerned in their construction. Heteroproteoses, on the other hand, come mainly from the anti-groups, but still some hemi-groups have a part in their structure. As previously stated, these two primary proteoses by further hydrolytic action may be transformed into secondary products; viz., into deuteroproteoses, but, as the above scheme indicates, the two deutero bodies will be more or less unlike in their inner nature. In one sense, they are both amphodeuteroproteoses, but they necessarily differ in the proportion of hemi- and anti-groups they contain. By the still further action of pepsin-acid, the deutero bodies may be changed, in part at least, into peptone, *i.e.*, into amphopeptone, although, as Neumeister has pointed out, protoproteose tends to yield an amphopeptone in which the hemi-groups predominate, while the peptone coming from heteroproteose contains an excess of anti-groups. Moreover, in the gastric digestion of any simple proteid a certain number of anti-groups are split off in the form of antialbumid, a body which is only slowly digestible in pepsin-acid. By the very powerful proteolytic action of a strong gastric juice, however, antialbumid may be somewhat digested, and is then transformed into antideuteroalbumose, which in turn may be eventually changed into antipeptone.

From these statements it is evident that a given proteid exposed to pepsin proteolysis may give rise to a large number of products; in fact, to a far larger number than is implied by the names in the above scheme. Thus, at first glance you would be inclined to say there can be only three deuteroalbumoses, for example; one, a pure anti-body, the other two, amphoalbumoses, differing from each other simply in their content of hemi- and anti-groups. It must be remembered, however, that the inner constitution of these bodies, as implied by the relative proportion of the above groups, may vary to almost any extent. Thus, every variation in the number of anti-groups split off from the original albumin molecule to form antialbumid means just so much of a change in the relative proportion of hemi- and anti-groups entering into the structure of both primary and secondary albumoses. Hence, as you can see, digestive proteolysis, even in gastric digestion, is a somewhat complex process. We have to deal not only with a number of bodies superficially unlike, as the primary and secondary proteoses and peptones, but these bodies may show marked variations in structure dependent upon the exact conditions attending their formation.

Evidently the complexities attending digestive proteolysis are connected primarily with the complex nature of the proteids themselves, while proteolysis, as a process, is made possible through the natural tendency of the proteids to undergo hydration and cleavage.

The Zulu Treatment of Pain in the Stomach.—Cetewayo had a pain in his stomach, and two of his children were unwell. "Why do you not do something to prevent it?" inquired an English visitor. "So I do," replied the great chief. "No one can tax me with neglect of my duty in that respect. I have been killing witches right and left, but the more of them I kill the more there seem to be." And he gave a great sigh.

More Bogus Diplomas.—From a correspondent in Toronto, we learn that a short man with generous ventral dimensions, a fugitive from justice in that city, is now selling bogus diplomas with the degree of M.D. attached to them, and has had quarters in Boston. It is thought that his portrait adorns the Rogues' Gallery in New York. He is wanted in Canada for fraud, in connection with the running of a loan and trust company.

Original Articles.

AN ANALYSIS OF THE HECTIC PHENOMENON: WITH REMARKS ON THE TREATMENT.[1]

By HENRY S. STARK, A.M., M.D.,

NEW YORK.

In attempting to narrate our views of the character and significance of hectic fever within the narrow scope of a short paper, we cannot hope to be more successful than to convey a very faint impression of its importance. There are extant any number of descriptions of this fever, but the splendor of the portrayal that Charles Dickens gives us of it in his "Oliver Twist" stands out in such bold relief in comparison to the dull scientific phraseology of medicine that it must have found its way into more than one medical volume.

Throughout the entire gamut of subjective symptoms I know of none which appeals more strikingly to the conscience of the patient and the sympathy of the physician than the complex condition which is the subject of this paper. So commonly prevalent in a host of affections, so painfully recurrent, so profoundly impressive, it appears as though Nature in her munificence intended this thermometric phenomenon as an early and significant warning, a beacon, as it were, to arouse suspicion of a threatened invasion of the vital forces. Is it then to be wondered at that from time immemorial investigators have busied themselves with the study of its interpretation? To-day, thanks to our newer knowledge, the profession is in possession of a law which is the ultimate and inevitable outgrowth of these successful studies. That law is, that hectic fever means pus, or rather, if you please, pus-generating micro-organisms. The character of the pus is irrelevant; it may abound in the cocci of Rosenbach or of Passet. The quantity of pus is irrelevant; it may be microscopic in quantity or appreciable to the naked eye. Even the site of the pus is irrelevant; it may be localized to a microscopic area or it may be diffused over different and distant parts of the body. The point of importance is that, when once this typical fever is firmly established, the idea of suppuration cannot be thrown out of the field. In an article on "Suppurative Fever," which appeared in the New York MEDICAL RECORD of February 1, 1890, I stated, to quote from myself, that "hectic fever is nature's method of announcing pus, for just as in physics it is said that 'nature abhors a vacuum,' so in medicine it may be said that nature abhors pus in the living economy." To-day, with a riper experience and a more extensive knowledge of the subject, I am only the more convinced of the correctness of this statement.

It is necessary at the outset to draw a distinction between a characteristic hectic movement and the simple chill followed by a febrile movement, the latter phenomenon being such a frequent heralder of a variety of affections. The distinguishing characteristics of the former are a cold, a hot, and a sweating stage. The concomitant symptoms that accompany each stage are too familiar to require enumeration here; suffice it, however, to state that the amount of perspiration is not necessarily in proportion to the intensity of the fever. Thus the temperature may be scarcely appreciable to the patient, and yet may be followed by a most profuse sweat, which may exhaust the patient sufficiently to make him somnolent or to prostrate him. There may also be a marked disproportion between the intensity of the morbid process and the temperature. Thus in a long-standing case of pulmonary tuberculosis, with extensive pulmonary involvement, the daily temperature may be slightly elevated while the colliquative sweat may also be insignificant. The latter disproportion seems to depend upon the duration of the pathological process and upon the age of the patient. Old age seems to enjoy a compara-

[1] Read at a meeting of the Metropolitan Medical Society of New York.

tive immunity from severe attacks of the hectic cycle. I have frequently confirmed this observation at the bedside, and no doubt my hearers have also.

What relation of cause and effect there may be between the degree of fever, the severity of the morbid process, and the quantity of perspiration, is a matter for which, at present, no feasible explanation can be offered. Still more mysterious are the regularity and promptness in the recurrence of each stage and of the cycle as a whole. The same hour of each day will witness the same stage, with almost astronomical precision. So much so, that patients with a long-standing suppurative disease learn to await their daily fever matinees with a feeling of resignation somewhat akin to respectful awe and bordering on utter helplessness. The three stages of the hectic movement, then, form a triad of symptoms which cannot be precisely duplicated in the whole domain of semeiology, and which renders the differentiation between it and other febrile affections fairly easy.

The differentiation between the hectic cycle and the initial febrile movement of other affections is not attended with many difficulties when it is remembered that in the latter there is usually only one such chill followed by an increased temperature, and that occurs at the very onset of the disease.

The differentiation, however, between hectic fever and the various varieties of the malarial fevers, especially those of a quotidian type, is not so easy. In many such cases time alone is the determining element. Points of distinction, however, are the following: In hectic fever the daily paroxysm begins in the afternoon, in malarial fevers it begins most frequently during the morning hours; in hectic fever the chill takes place at almost the same hour of each day, while in quotidian malaria the chill may recur at an earlier or a later hour than on the previous fever day. Further, the rhythm in malarial fevers may become so completely changed that a quotidian type is transformed into a tertian, or *vice versa*. In malaria one or two of the three phases in the cycle of events may be continually absent, either the chill or the sweating stage. In hectic fever, however, the three events follow in an almost immutable succession. In making the above distinctions I refer, of course, only to such individual cases as are not at once accompanied by characteristic signs or by pathognomonic symptoms. Naturally enough, there occurs a generality of cases in which the discriminating diagnosis between hectic and the malarial fevers is made readily enough from the signs and symptoms that directly or subsequently unfold themselves. The periodical fevers of malarial origin present not only the above points of distinction, but offer a marked contrast in the laws which govern their causation, duration, periodicity, and their amenity to specific medication.

Such types as intermittent and remittent fevers conform so severely to certain well-known laws of periodicity of their febrile action that their recognition and differentiation is rendered comparatively easy. In intermittent fever, for example, there occurs a daily febrile intermission between the paroxysm, an afebrile term, while in remittent fever there occurs a well-marked remission of the temperature, a low fever term. All this is in such striking contrast to the daily chill, fever, and exhausting sweat of hectic fever as to make it appear that the differentiation, after all, is not beset with insurmountable obstacles.

The specific poison of the malarial fevers is now well established upon a morphological basis, while the specific poison or poisons of hectic fever are equally well known and hold a distinct place in our bacteriological nomenclature. So that, should the clinician become baffled, the pathologist would come to his rescue.

The differential diagnosis between hectic fever when accompanied by severe prostration, or coma, or icterus, or gastric and intestinal disturbances, and certain continued malarial fevers, when accompanied by these particular symptoms, such as pernicious intermittent fever, is often a fruitful source of difficulty and apprehension. For the clinical pictures in both instances resemble each other so closely that a close clinical differentiation is well nigh out of the question. In these instances the first inquiry, naturally, would be in regard to the type of fever prevailing in the locality at the time. The absence or prevalence of the malarial type would be the main point of reliance; secondly, the presence of characteristic lesions would appear to afford *à priori* evidence.

The value of the hectic phenomenon as an aid to diagnosis cannot be alluded to with sufficient emphasis. Often, when all other symptoms fail of interpretation and the physician's efforts to unravel the character of his patient's disease meet with no response, the recognition of the hectic phenomenon furnishes the key to the solution of the diagnostic problem. Time and time again this has been the experience of novice and of expert. In tuberculosis, for example, the hectic cycle warns us that there must be present a suppurative breaking down of lung parenchyma. In many of these cases the thermometer, by detecting a hectic movement, will enable one to form a correct judgment of the condition of the lung long before the physical signs and symptoms reveal the presence of consolidation. This rule applies with double weight in the case of children, for in many of these the continued daily hyperpyrexia is the first and only symptom for a time. I have seen it present to the entire exclusion of all the other subjective symptoms that are usually associated with pulmonary tuberculosis.

Conversely, the *absence* of the hectic fever is often as much of an aid in the diagnosis of certain maladies whose nature remains obscure for a while as its *presence* is in other maladies. Thus in a case of pleurisy with effusion the absence of the hectic phenomenon would be interpreted to mean that the pleural effusion was serous and not purulent, and so in all other febrile maladies accompanied by exudations this observation would apply equally as well.

In surgical diseases the recognition of the hectic phenomenon is the mainstay to diagnosis. In doubtful cases of suppuration the surgeon places his main reliance on the presence or absence of this febrile movement. Often, as in deep-seated, indistinctly fluctuating swellings, such as a pyosalpinx, a nephritic, hepatic, typhlitic, or pelvic abscess, outside of surgical or manual interference, the hectic fever is the sole criterion of the presence of a purulent fluid. And so, after an elaborate surgical dressing has been applied over a freshly operated part with a view of having it remain a number of days, should the typical hectic fever develop the surgeon recognizes the fact that suppuration has taken place.

If, now, so much importance attaches to this variety of fever, the question of its origin and character is a matter of much interest. This inquiry would bring us into touch with the prevailing theories regarding the origin of fevers. This is a point I do not intend to discuss further than to allude to the microbic theory of the origin of fevers as it applies to hectic fever, since in the present state of our knowledge it is not possible to explain satisfactorily the *modus operandi* by which all the varied phenomena of the fevers are produced. At the present day it is generally accepted that there is an inseparable etiological relation between micro-organisms and inflammations; in other words, the *sine qua non* of an inflammation is a microbe. In the case of hectic fever, as is well known, it would be the streptococci or staphylococci of Rosenbach or of Passet. Now the broad application of this theory, from a pathological stand-point, would mean that hectic fever is a constitutional phenomenon due to absorption into the blood through the avenue of the lymphatics of the pus-generating cocci or of their toxic products and chemical *débris*, the *materies morbi* acting on the blood as a ferment. The poison, having entered into the general circulation, produces symptoms of a constitutional character and affects the entire organism. But like many other specific poisons it is known to exercise a selective affinity on special organs. In the case of

hectic fever it is my opinion that the poison exhibits a selective influence on the nerve-centres. In that event it would appear that hectic fever was a poisoning of the nerve-centres, and this is exactly the stand I shall assume. This theory would furnish certain natural general principles of treatment, based on its morbid anatomy and its pathogenesis, to which I shall later invite your attention in this paper.

The nerve-centre intoxication varies in its intensity, according to the quantity and character of the blood-contamination, the pre-existing state of the innervation, and the power of resistance of the body to the operation of morbid products. Thus the toxic elements may be so insignificant in quantity and character as not to occasion any appreciable derangement of any organ, or to exert any elective affinity on any tissue. In such cases the symptoms would not be sufficiently prominent to attract attention from either patient or physician. Instances of this kind of hectic fever are the obscure febrile movement that accompanies a beginning felon, a small abscess, a beginning pus formation in the Fallopian tube or in a serous cavity, and the fever that is sometimes observed to follow urethral instrumentation.

The palpable evidence, as it were, that can be produced to confirm the position that this fever is a microbic intoxication of the nerve-centres is based upon an anatomical interpretation of the phenomena of the fever. The most familiar phenomenon is the hectic flush. This, in medical parlance, is nothing more or less than a nerve-centre phenomenon; a dilatation of the cutaneous arterioles, caused by a stimulus in the central nervous apparatus, from which point as a centre the stimulus is transmitted to the vaso-motor system, the muscular fibres of which relax, the artery dilates, and a suffusion or flush results. This mechanism is started in the poisoned nerve-centres.

Another prominent feature of hectic fever whose origin is found in an altered condition of the central nervous system is the profuse perspiration. Experimental evidence of physiologists has established the fact that the mechanism of this function is often under the control of the central nervous system. It may be brought about as the result of a reflex act. Physiologists speak of "sweat-centres" in the spinal cord, just as we speak of vaso-motor centres. We are therefore led to infer that there are special nerve-fibres, emanating in the spinal cord, which control to a large degree the activity of the sudoriferous glands. Familiar examples of these facts are the profuse ante-mortem sweats, the sweats that accompany the crises of certain diseases, and the sweats that follow certain mental emotions, as fear or fright.

Still further evidence in favor of the view that the nerve-centres are immediately concerned in originating this species of fever is found in some well-established physiological facts. First, it is known that the spinal cord may originate, regulate, and influence body heat. In short, that the spinal cord may be the starting-point of the fever. Second, it is known that the nerves supplying the blood-vessels and sudoriferous glands act in concert in health and in disease. Third, it is known that certain nerve-centres preside over certain functions to the exclusion of all other functions.

An explanation of the pathogenesis of hectic fever, based upon the theory of a reciprocal relation between it and the process of suppuration, is at once beset with the broad objection that experience and experiments have demonstrated the possibility of a non-microbic suppuration. But, granted that there is such a possibility, my conclusion is still warranted. For I do not claim that hectic fever accompanies every suppurative process, or that every suppurative process exerts an influence on the nerve-centres. On the contrary, it is a matter of daily observation that pus-generating cocci of the most virulent character may be absorbed without eliciting the faintest hectic movement, and that a suppurative process may be in a state of activity for months and years without ever provoking the hectic phenomenon. Examples to illustrate these facts could be enumerated by the score. It is therefore fair to assume that when once the characteristic micro organisms of suppuration find their way, through the avenue of the blood-vessels or lymphatics, to the nerve-centres, then they invariably provoke the fever.

Now, what elements influence this immunity of the nerve-centres on the one hand, or their susceptibility on the other hand, cannot be easily determined in the present imperfect state of our knowledge, without offering *bizarre* theories and wild speculations. There are, however, certain experiences which appear to throw some light upon the matter. Thus it appears from experience that non-microbic suppuration is rarely accompanied by the hectic movement. The suppuration apparently provoked by external irritants, such as heat, light, air, or chemicals, and that produced by pressure effects and movement, is hardly ever accompanied by a decided hectic spell. Such facts, to say the least, add plausibility to the theory that pus-generating cocci are the *sine qua non*, and that the fever is neither idiopathic nor coincidental. Further evidence to reconcile the theory that the nerve-centres are the objective points of the microbes is the well-known observation, that directly you rid the site of suppuration of microbes, by incision and drainage, that is, you remove the local source of irritation, the hectic abates, only to recur when retention or accumulation of pus follows, and the organisms again assail the nerve-centres.

As far as the treatment of this fever is concerned, I have already alluded to the fact that certain general principles can be adduced from a knowledge of its pathological nature. The specific poison being known, its locality is to be ascertained that it may be eliminated from the economy. It is a cardinal rule of surgery to get rid of pus wherever discovered, and as speedily as is consistent with the exigencies of the case. To discover its presence and site every resource known to medicine and surgery should be called into requisition without fear or hesitation. The first general principle, then, is to remove the local source of irritation, whenever possible, through surgical interference. There are certain low forms of hectic fever depending upon a nerve-centre poisoning of moderate or slight intensity the treatment of which can be relegated entirely to nature's reparative power. In some of these cases the quantity of pus is quite appreciable to touch and to sight. I think most of you are familiar with instances of this nature. Purulent pleurisies, purulent peritoneal inflammations are sometimes of this type. A case of this kind occurs to my mind at present—a female with pelvic inflammation accompanied by hectic fever. Pus was demonstrated by exploratory puncture. For divers and diplomatic reasons operative interference was withheld, the cure of the disease having been left to nature's reparative power with a successful issue. How far and when we may rely upon nature to bring about a favorable issue must be determined by consulting the condition of the patient and the character of the affection. No hard-and-fast rules of regulation can be framed. When, however, the two alternatives are presented, of firstly leaving the case to nature, and secondly to the physician, it is well to remember that between the two the physician is by all odds the better healer. The criterion for action with me has been the amount of exhaustion, the rapidity of emaciation, and the intensity of the fever. Thus, if the nervo-muscular prostration is great and rapid, heroic measures are preferable to procrastination, and whenever it is apparent that the purulent inflammatory products threaten to invade a vital locality, it is advisable to act energetically, despite the fact that pathologists inform us that the system will always tolerate a certain amount of microbic intoxication with comparative immunity and will supply the constitutional antidote unsolicited and unaided. The intrinsic tendency of hectic fever to disappear, at times, through the *vis medicatrix naturæ* by a process of retrograde metamorphosis of the inflamma-

tory products is then to be taken into consideration in reference to its management. I don't, however, mean to infer that the physician should stand by as a mere spectator; on the contrary, his judgment and usefulness will come mainly into play in determining the relative merits of nature and art as curative agencies.

Passing now to the consideration of drugs for the alleviation of the symptoms, the therapeutic indications have reference to the colliquative sweat, the chill, the nervo muscular prostration, and the hyperpyrexia. As far as the treatment of the hyperpyrexia is concerned, I have nothing new to offer. In regard to the treatment of the colliquative sweat and the prostration, however, I wish to put myself on record in favor of two drugs which have served me admirably, after having experimented with a variety and having subsequently discarded them. These drugs fulfil the physiological and pathological indication in a way that commends them favorably to all practitioners. They are, for the sweat and prostration, atropine, and for the prostration and circulatory disturbances, strychnine. For several years, both in public and private practice it has been a matter of routine with me to combine the salts of atropine and strychnine in a palatable manner in the treatment of this fever complex, and I have up to date yet to learn of a more effective combination. A serious drawback to the freer employment of these powerful drugs has always been the imminent danger of miscalculating the dosage or in committing a chirographical or a mathematical error in writing the prescription or in having it compounded. I actually know of one physician who has absolutely stricken these drugs from his personal pharmacopœia on that account. It would appear that this *quasi* obstacle ought not to militate against their use, as it could readily be overcome, to the interest both of the public and of the profession, with a little precision, heroism, and self confidence on the part of the practitioner.

The mode of operation of these drugs is of importance. It is known that both are cardiac tonics, under certain conditions, which do not at all antagonize each other, inasmuch as they act differently on different functions. Thus atropine, according to therapeutists, has a paralyzing action on the inhibitory fibres of the pneumogastric and at the same time stimulates the cardiac ganglia of the sympathetic; strychnine increases arterial tension and the force of the apex beat. Further, atropine, if properly administered, will check the profuse sweat that so surely exhausts and prostrates, and will also allay the irritability of the central nervous system. Strychnine is the remedy, *par excellence*, as a general tonic for the nerve centres; in this respect it is almost a specific. The exhaustion and depression caused by the nerve-centre poisoning find here a remedy which strikes at the very root of the affection, without in any way impairing the cerebral functions. I am aware that some writers discourage the employment of strychnine in the acute stage of spinal disease, but my experience does not warrant such a conclusion, as I have as yet to note an untoward effect or an unpleasant result. *En passant*, I recall a very severe case of hectic fever accompanying a pyonephrosis, in which there was a daily collapse for three successive days, due to the hectic phenomenon. Strychnine and atropine were administered, to the exclusion of all other drugs, and I verily believe that they were the means of tiding the victim over the critical period, until an operation was deemed advisable, by economizing his vitality and strengthening the circulation and innervation. The mode of administering these drugs is as follows: I usually combine both salts of the alkaloids in pill form. Of atropine, the adult dose should be $\frac{1}{200}$ to $\frac{1}{90}$ grain; of strychnine, $\frac{1}{60}$ to $\frac{1}{30}$ grain. They should be administered one or two hours before the anticipated chill in one large dose, or else in divided doses t.i.d. I usually give $\frac{1}{100}$ atropine and $\frac{1}{30}$ grain strychnine to adults. As far as the atropine is concerned its effects are delayed at times for one or two days, or its influence may be extended over a like period. Slight atropinization occurs at times, but tetanization never. On this account it is preferable to study the idiosyncrasy of the patient and his tolerance by administering each drug independently at first. I never employ any preparation except the alkaloids themselves, and even in the case of children this rule applies with double strength, for it is an ordinary observation that they tolerate atropine much better, comparatively, than adults do.

The administration of these alkaloids in no way interferes with the action of other drugs that may be employed for the reduction of temperature; on the contrary, they enhance their value by counteracting the depressing effects on the heart of the synthetical antipyretics of recent date. It is scarcely necessary to state that not all cases of hectic fever are to be combated with atropine and strychnine, singly or conjointly. There are many instances of this fever which entirely abate directly the local source of irritation is removed. The point intended to be emphasized is this, that these drugs are of decided benefit for the amelioration of the symptoms in those cases where the pus nidus cannot be precisely located, or where operative procedures are advisedly delayed or expressly abandoned for conservative reasons. In that type of hectic which consists merely of chill and hyperpyrexia atropine should be discarded.

The following are some formulæ which cover the points brought out by this paper and which are employed by me.

When hyperpyrexia is insignificant, but the chill, sweat, and prostration are the prominent features:

No. 1.

℞. Strychninæ sulphat ..... gr. $\frac{1}{8}$
Atropini sulphat..... gr. $\frac{1}{100}$
Extr. gentian..... q. s.
M. et F. in pilulas No. xii.
S.—One t.i.d.

When all the symptoms are present:

No. 2.

℞. Strychninæ sulph..... gr. $\frac{1}{8}$
Atropini sulph..... gr. $\frac{1}{100}$
Antifebrin ..... ʒ j.
M. et F. in capsulas No. xii. aut oblat.
S.—One t.i.d. or p.r.n.

When the sweating stage is absent, but the temperature and prostration predominate:

No. 3.

℞. Strychninæ sulphat..... gr. $\frac{1}{8}$
Phenacetin..... ʒ ij.
Caffein citratis..... grs. xxiv.
M. et F. in oblat. No. xii.
S.—One wafer t.i.d. aut p.r.n.

To sum up, I would submit the following conclusions: 1. A typical hectic fever means a pyogenic intoxication. 2. The objective point of the micro-organisms is the spinal nerve-centres. 3. From a physiological and therapeutical stand-point the drugs most immediately indicated are strychnine and atropine.

270 Seventh Street.

A Sonnet on the Retirement of William Howship Dickinson, M.D., F.R.C.P., from the Working Staff of St. George's Hospital.—

Physician thou for twenty years hast been,
To our St. George's School a faithful friend—
A teacher among teachers to the end;
And a great scholar, too, as all have seen.
In observation thou didst always lean
On Nature first, so thou couldst well defend
Thy theories. None ever saw thee bend
The blade of Truth to fit thy thought so keen.

Farewell! We will not write a song of praise
To thee, but rather store within our mind
A memory of thyself, for we did find
Duty and truth thy foremost aims. We raise
Our voice in one, that thy remaining days
Be full of joy, and Old Age to thee kind.

—T. W. P.

VEXED QUESTIONS IN THE BACTERIOLOGY OF DIPHTHERIA.

By WALTER F. CHAPPELL, M.D.,

NEW YORK.

In view of the presence or absence of the Klebs Löffler bacillus being almost universally accepted in this city as a proof of diphtheria or not, the following cases will doubtless prove interesting:

During the latter part of January of this year, while making some investigations with Dr. William Hallock Park, of this city, with a view of settling the question of the contagious or non contagious character of follicular tonsillitis, I examined the throats of forty-seven children in the New York Orthopedic Hospital, and noted the ones having enlarged and diseased tonsils or unhealthy-looking throats. Dr. Park subsequently made cultures from some of the throats which were found to be abnormal in appearance. Dr. Park reported that, from two of these throats, he obtained pure cultures of typical Klebs-Löffler bacilli growing in fair abundance; in two others they were also present, but were few in number.

The histories of the cases containing the greatest number of Klebs-Löffler bacilli, were as follows:

Case I.—Mary M——, nine years of age, has been in the hospital since August 23, 1892, suffering from knee and spinal disease. Her left tonsil was moderately enlarged, but healthy in appearance; posterior wall of the pharynx quite red. During her stay in the hospital, one year and five months, she has had several attacks of indigestion, but no sore throat, and was perfectly well at the time of the examination.

Case II.—Emily B——, aged twelve, in the hospital since November 1, 1893, suffering from club-foot. Right tonsil moderately enlarged, Klebs-Löffler bacilli abundant. With the exception of an acute attack of indigestion, has had no illness since she came to the hospital.

Case III.—May C——, in whom the bacilli found were reported to be of a doubtful character, has tubercular hip joint disease. Her tonsils are moderately enlarged, but healthy in appearance. Her throat has not been sore, neither has she appeared sick since her admission.

The children in this hospital seem specially liable to attacks of follicular tonsillitis, but there had been no recent case, neither had there been any diphtheria in the hospital.

Beside the report made by Dr. Park, I made two cultures, which were examined by a bacteriologist, who did not know the source of the specimen, nor the previous results obtained. His report was similar to Dr. Park's.

From the surroundings and his examinations of the patients, Dr. Park expressed doubts about the virulent character of the Klebs-Löffler bacilli found, and subsequently reported that from inoculation he had found them to be non-virulent.

Until these cases were examined I supposed that Klebs-Löffler bacilli found in a sore throat meant diphtheria, whether the clinical history and appearance supported that diagnosis or not. If we have to rely on inoculation for the final test as to the true character of the bacilli, the simple finding of the Klebs-Löffler would not be available for reliable and rapid diagnosis, as non-virulent Klebs-Löffler might be found in a person suffering from follicular tonsillitis.

Does the inoculation of an animal with the Klebs-Löffler bacillus, producing virulent results, necessarily prove that this bacillus is the cause of diphtheria in man?

Might not the character of the bacilli be determined by the nature of the soil in which they grow?

At present writing it seems there are three possibilities: 1, Clinical phenomenon of diphtheria without Klebs-Löffler bacilli; 2, clinical phenomenon of diphtheria with Klebs-Löffler bacilli; 3, Klebs Löffler bacilli without any clinical phenomenon of diphtheria.

22 East Forty-second Street.

CHLOROFORM IN ORGANIC DISEASES OF THE HEART.

By FISHER R. CLARKE, M.D.,

STOCKTON, CAL.

There is a very generally prevailing opinion among the profession that chloroform should not be given in organic heart disease; in other words, that it is a dangerous drug to administer, even to a slight degree, where dilatation, valvular disease, fatty degeneration, or any organic or functional trouble exists that gives rise to a weak and imperfect circulation; while complete anæsthesia would be almost certainly fatal. So dangerous is this drug under these conditions that many of our authors teach that it should not be administered to any patient until a careful stethoscopic examination of the heart and lungs has been made. This idea is so well established and so generally believed that even the laity are well informed on this point, and the surgeon often meets and is obliged to overcome the prejudice and groundless fear of his patient before administering chloroform—a nervous condition, always to be avoided when any anæsthetic is to be employed. I use the term, "groundless fear," for I believe, from an experience and observation extending over a few years, that, if properly administered, chloroform is the safest, quickest, and, in every sense, the most reliable and the most desirable anæsthetic we possess, and may be safely given under conditions that are generally considered hazardous, if not absolutely fatal.

From a careful study of the effects of chloroform I am convinced its danger lies, not in the drug itself, but in the manner of administering it. I have seen it given in the worst forms of organic heart disease with perfect success, the patient passing off into complete anæsthesia quickly, easily, and quietly.

Eight months ago I was called to see a patient, aged fifteen years, who was suffering from organic heart trouble. I found the boy propped upon pillows, unable to lie in a horizontal position; great dyspnœa; heart laboring to that extent that each pulsation could be readily counted across the room by the shaking of the entire body and the bed upon which he reclined; the cellular tissue everywhere filled to bursting with fluid; the abnormal cavity enormously distended; urine almost entirely suppressed; bowels constipated from the intense pressure upon the sigmoid flexure: decided enlargement of the chest-wall, showing great prominence at the juncture of the fourth rib with the sternum, and the apex impulse three intercostal spaces below normal; the force of the impulse so great that the entire left thorax was lifted with each heart-beat, and carried to the left to such an extent as to be plainly visible from any part of the room, and so strong as to shake the entire body. I detail these symptoms to give a correct idea of the extent of the heart lesion.

Under these conditions I advised tapping as a temporary relief, but the patient absolutely refused to submit to the operation unless an anæsthetic were administered. I consulted my friend, Dr. A. T. Hudson, who has given the subject of anæsthesia much attention, and has contributed, through the Record, several valuable articles on the use of chloroform, and requested him to administer it in this case. A mixture of seventy per cent. chloroform and thirty per cent. alcohol was made, and, after giving a glass of brandy, was administered to the patient in the following manner: The inhaler was held a few inches from the patient's face, and, very slowly and gradually, carried nearer. So gently and carefully was this done that no choking, or sense of suffocation, was experienced, but, instead, the patient passed off easily, quickly, and pleasantly, to complete anæsthesia, without the slightest perceptible impression being made upon his diseased and laboring heart. The abdomen was tapped, and fourteen quarts of fluid removed without the slightest shock or perceptible impression upon the patient. This operation was repeated at intervals three times, with the same success. As tapping gives only temporary relief,

this patient was steadily getting weaker and more œdematous, until it was evident that the end was near. In the hope of giving further relief, we again administered chloroform and drew away a large quantity of fluid. During the administration of the anæsthetic, the pulse slightly quickened and the patient commenced to sing, but the heart continued with its usual firmness.

While the patient was in this exhilarated state the operation was performed. After the removal of the fluid, and after the anæsthetic had been taken away, he moved his position and the heart suddenly stopped; the patient falling over dead. From this case, and others of similar conditions, I am convinced that the danger attending the administration of chloroform lies wholly in the manner of giving it, and, if properly handled, it is not only our quickest and safest, but in all other respects the most desirable anæsthetic we possess. If preceded by sufficient brandy to allay nervousness, and then given so slowly that no sense of suffocation is produced, a few drachms are amply sufficient, and. if care be taken to avoid choking and swallowing of the saliva that had become mixed with the vapor of the drug, little if any nausea will follow. This fact gives chloroform a decided advantage over ether, as one of the chief objections to this drug is the excessive vomiting that usually succeeds its administration. At least two cases have come under my knowledge of a fatal termination after the use of ether, through the uncontrollable vomiting that followed its use as an anæsthetic.

A few days ago I was called to perform a minor surgical operation upon a lady. I found her in a nervous, hysterical condition, through her dread of the anæsthetic. She informed me that two years ago she was anæsthetized for the extraction of some teeth. Ether was used, and it required three hours to bring her sufficiently under the influence of the drug. She complained that the sense of suffocation and strangulation was horrible, while the vomiting that followed—lasting thirty hours—was equally unbearable. A small glass of brandy was given, and chloroform was administered so gently that no sense of choking was experienced, and in eight minutes the patient was ready for the knife. So little of the drug was used that but a few minutes elapsed after completing the operation before the patient opened her eyes and asked when I was going to administer the chloroform, not realizing that it had already been given. No nausea followed, and the patient was able to relish her toast and tea an hour later.

Some months ago I was called into the country to attend a man who had accidentally shot himself in the foot, inflicting a painful wound. A young physician who accompanied me as an assistant attempted to give chloroform by saturating a napkin, placing it in a paper cone, and covering the man's face. The shock was too great, and at the fourth effort at respiration the heart stopped.

By artificial respiration and stimulants the patient was resuscitated, when chloroform was administered, slowly and gradually, as above indicated. Without a struggle or the slightest faltering of the heart the patient passed quickly, easily, and pleasantly, into perfect anæsthesia; the wound was dressed, and the man as quickly and easily returned to consciousness. These are a few of many cases that have convinced me that the only danger in chloroform lies in the first overwhelming shock produced upon the nervous system, especially the cardiac centre, by the sudden administration of the drug. Avoid this shock by giving it slowly, gently, almost imperceptibly, and you rob this grand drug of all its danger and place it where it belongs, at the head of all anæsthetics known to the profession.

Tests for Death.—It is stated by a French authority that a temperature of twenty degrees below the normal standard in the armpit, and twenty-two degrees internally, is a positive proof of cessation of life.

EXSTROPHY OF BLADDER.

By B. MERRILL RICKETS, M.D.,
CINCINNATI, O.

It isn't often that a surgeon is called upon to give relief for exstrophy of the bladder, but where the opportunity does present itself great care should be taken in selecting the appliance or operation to be adopted, as the comfort of the patient is the only consideration.

Extirpation of the bladder is impractical, as is the engrafting of the ureters to the alimentary tract. Not, however, that the latter cannot be done and the subject continue to live, but the consequences of the continuous flow of urine into the gut are more annoying than the malformation.

Of the many devices and operations suggested for this deplorable state of affairs, I have selected the following, with what I look upon as most gratifying results:

M———, nine years of age, male, white, in a very good physical condition, was brought to me in May, 1889, with exstrophy of the bladder and hypospadias. Knowing that all previous operations for exstrophy of the bladder had availed but little, I could offer but slight encouragement, and that only in mitigating the irritability which the exposed mucous membrane of the bladder produced. There was a hernia upon each side, the pubic bone being absent and fibrous tissue being substituted for it. I decided to cover the bladder with integument taken from the abdominal wall, and in that way prevent the mucous membrane from being exposed to the irritation which the clothes had necessarily produced. The opening, through which the bladder protruded, was about two and one-half inches in diameter, allowing the



Fig. 1.

bladder to be returned to the abdominal cavity. This reduction was very easily accomplished when the boy was lying upon his back. On May 9th, under the influence of chloroform, with double pedunculated lateral flaps I covered the exposed bladder, bringing the edges of the flaps in the median line and allowing the cutaneous surface of the inner flaps to form the anterior wall of the cavity containing the bladder. Primary union was secured throughout, and I congratulated myself upon the result; but I found that the small opening through which the drainage-tube passed, at the top, was not and could not be closed. At the same time I made the operation, I made a herniotomy upon the right side. This enabled the gut to be kept in the abdominal cavity. He was discharged at the end of six weeks, but returned to me in the fall, upon my suggestion, to see if the small opening could not be closed, and to relieve the hernia upon the left side. I took another flap from the abdominal wall to cover the small opening, but failed in the attempt, the flap having sloughed. At the same time a herniotomy

was made upon the left side, with most gratifying results. The bladder remains as seen in the photographs, and he experiences the greatest comfort. I am not sure that the small opening has not been a wise provision, for the urinary salts accumulate in great quantities and are washed

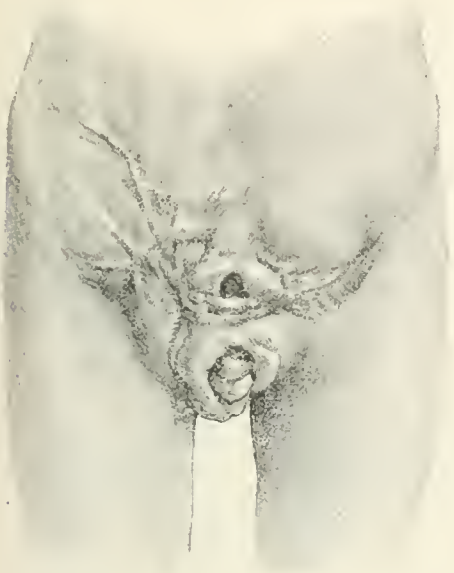


Fig. 2.

out through this opening. I believe that all of these cases should be operated upon in some way, for I am satisfied that the papillomata that so often develop upon the mucous membrane are due to the irritation of the wearing apparel. These papillomata often become malignant, as illustrated in two of the five cases of exstrophy of the bladder that have come under my observation, both of them having died from the effects of carcinoma which developed as the result of the papillomata thus formed.

The Trinidad, 137 Broadway.

PERMANGANATE OF POTASH.

The New Antidote for Morphine Poisoning from a Chemical Point of View.

By L. A. HARDING, B.Sc., Ph D.,

Fergus Falls, Minn.

Every little while the world is startled by some new and useful discovery, and at present the great agitation produced among the medical profession is the discovery of a new supposed antidote for morphine poisoning, namely, permanganate of potash. Not only the medical press, but also the lay press, has taken up the subject and heralded the merits of this wonderful remedy, and many conjectures are formed as to how much practical value is connected with this discovery. It has been known for a long time that the value of permanganate of potash depended only upon its oxidizing power and the freedom with which it is capable of yielding up its oxygen; it has been claimed that the oxygen was held in its nascent state by the permanganate and the phenomena of its oxidizing power simply revolved themselves around this fact; but whether this is a right or erroneous conjecture, the fact remains true that it will yield oxygen to almost all organic substances, with a greater or lesser degree of rapidity, though the decomposition, as indicated by Dr. William Moor, can scarcely be accepted as correct. His theory is as follows:

$$Mn_2K_2O_8 = MO_2 + MKO_4 + KHO + O_2.$$

As will be seen in the decomposition formula (if we may call it such), we have too much oxygen. But this is of no material consequence, matters of more importance demanding our attention.

The observation made by Dr. Moor, to hold a 1 to 2,000 solution in his mouth for fully five minutes without any serious deoxidation of the permanganate of potash, is no criterion of its non-decomposition in the buccal cavity or its connecting parts, for alkaline properties, or an alkalinity of the contents of any cavity favor the non-decomposition, and the decomposition of the permanganate in an alkaline fluid proceeds but very slowly. A test-tube full of water (which contained soluble organic substance) which had been made alkaline, and to which had been added a few drops of solution of permanganate of potash, did not begin to discharge its color for nearly an hour; acid solutions favor the decomposition of the permanganate, and the advice to give an acid of some kind in case of opium poisoning, or in case of any of the salts of morphia, and vinegar being advised by Dr. Moor, is erroneous beyond measure; for do not text books teach, and experience has proven, that acetic acid especially decomposes permanganate?

The action of the permanganate upon albumin and peptone, is a criterion only as far as they go, for the stomach usually contains starches, etc., in addition to albuminoids and peptones; starches especially decompose the permanganate quickly; raw starch has but little action upon it, but boiled starch in any form quickly demands its attention. We may say people do not eat much boiled starch. This idea is, however, quite erroneous, for potatoes and bread contain a large amount of starch, which is only partially acted upon by the alkaline secretion of the mouth during mastication; it lies dormant in the acid fluid of the stomach, but is converted and absorbed in the small intestines; this starch also, while it lies dormant in the stomach quickly attacks the permanganate. Were nothing to interfere, one grain of permanganate of potash would be able to oxidize more than one grain of morphia; so almost anything, if taken in doses large enough, may prove an antidote for morphia. Now suppose the morphine has entered into the circulation, would this still be counteracted by the permanganate? The advocates of this remedy may say yes, for has not Dr. Hitzig, of Halle, proven beyond doubt that morphine which has entered into circulation will return to the stomach, be secreted there by the glands and acted upon by the permanganate as fast as secreted? This is very nice in theory, but in practice, how about the glandular coating of the stomach? Will this not be partially destroyed by the continued contact with the permanganate, and thus secretion likewise be destroyed? We have grave fears of corrosion. As has been mentioned before, deoxidation would quickly take place in acid media; this assumption is without doubt true, for were it not so the permanganate would certainly be absorbed, enter the blood, and cause disturbance there. The latter not being the case, is quite conclusive evidence that oxidation of the lining of the stomach must result, and any poison having entered the circulation is sure to stay there, unless counteracted by physiological antidotes; the proposition to give hypodermic, or intra-renal, injections of the permanganate seems ridiculous, for the blood would soon annihilate it.

We will not attempt to state here, at the present, what changes would occur, but we may easily judge what might happen when we stop to consider the composition of blood, namely fibrin, serum, albumin; and we can draw conclusions as to what the probable results would be; and it seems more ridiculous when we remember that one part of permanganate of potash is soluble in not less than sixteen parts of water, and that at this state of solution it possesses very corrosive properties, and would quickly destroy any oxidizable substance; and as at the rate of dilution at which the doctor uses it by the stomach, namely two grains to the ounce, it would take quite an amount for injection, how foolish to accept this as rational.

The French Academy of Sciences at one time largely used permanganate of potash for flushing the stomach, and suffice it to say, that it required quite a number of douches successively to eject the solution in its characteristic color. This would go to show that it does not require

very much to destroy the permanganate, and we are very sceptical as to accepting any statements made in relation to the permanganate as antidote for morphine in face of the damaging evidence of its chemical behavior.

March 20, 1894.

AN EXPERIMENT WITH PERMANGANATE OF POTASH AS AN ANTIDOTE FOR MORPHINE POISONING.

By JOSEPH M. RECTOR, M.D.,

Jersey City, N. J.

Having read from various sources the experiments of Dr. William Moor, of New York, in which he claims that potassium permanganate may be a possible antidote for morphine poisoning, I beg to submit the following experiments to your notice, and would remark that my results are somewhat to the contrary of those already recorded by the reputable gentleman before mentioned.

On February 4th, in the presence of Dr. E. P. Shelby, Jr., of this city, I gave to a young dog, weighing five pounds, four grains of the sulphate of morphine with the hypodermic needle. Forty seconds after the injection the dog fell to the table with complete loss of muscular power and sphincter relaxation; the pulse was becoming very rapid and weak, so that counting it was impossible; the respiration was rapid and shallow, the "Cheyne-Stokes" type being well marked, the pupils were markedly contracted.

There was complete loss of ocular and plantar reflexes, the dog fell into a quiet sleep, and was aroused only by sudden loud noise or by thoroughly shaking him.

Two minutes after the injection, I gave to the dog five grains of the permanganate of potassium by the mouth.

After forty-five minutes, the dog showed signs of returning consciousness, and in six hours all signs of the action of the morphia were gone, except exceeding nausea, slight cerebral irritation, and in walking his hind legs were dragged as if they were semi-paralyzed, which condition did not pass off until the latter part of the next day.

February 5th, six grains of morphine sulphate were given subcutaneously to a dog weighing twelve pounds.

In seventy-five seconds the severe toxic symptoms of morphine poisoning were present, and in a similar condition to those mentioned previously.

Six minutes after the injection, I administered as an antidote eight grains of the potassium permanganate by the mouth; the results proved to be the same as observed in dog No. 1.

I thought it best at this time to consult some standard authority as regards the amount of morphia which should be required to kill an ordinary-sized dog, and in Professor H. C. Wood's excellent volume entitled, "Therapeutics: its Principles and Practice" (eighth edition), I read the following on page 159:

"In very many cases, if not in the majority, eight to ten grains of the alkaloid [morphia being understood], injected into a dog of moderate size will cause deep sleep, amounting to coma, so that the animal will remain in any position in which he may be placed." According to these instructions, on February 9th, in the presence of Dr. E. P. Shelby, Jr., I gave to the dog No. 2, twelve grains of morphine sulphate subcutaneously. No antidote was given, the dog was left entirely to himself, and complete recovery was noted in thirty-six hours.

On February 10th, I repeated the experiment with another dog, giving him fifteen grains of morphia. No antidote was given, and no medical treatment of any nature adopted, but the dog's recovery was complete.

I have given these experiments to you in response to an article on this subject written by Dr. Glenn Andrews, and published in the Medical Record of March 10, 1894. My own investigations, with those of Dr. Andrews, seem to point to the fact that such other experiments as have been previously noted and described, were undertaken with such small doses of morphine sulphate that no harm whatever would have happened to the animals, were such doses not followed by any antidote or other medical aid.

It is not my purpose to decry the experiments on the discovery of Dr. William Moor and his associates, but to bring to notice the possible fact that such investigations were too limited in numbers and the results too meagre in positive facts, for any belief in the efficacy of permanganate of potash as the possible antidote for morphine poisoning to be established.

100 Grand Street.

Clinical Department.

BLOODLESS AMPUTATION AT THE HIP-JOINT.[1]

By DANIEL STROCK, M.D.,

Surgeon to the Cooper Hospital; Lecturer on Dietetics in New Jersey Training School for Nurses, Camden, N. J.; Surgeon Sixth Regiment, N. G. N. J.

About half-past six of the evening of January 25th, F. T——, a railroad employee, was carried to the Cooper Hospital suffering with a crushed thigh. The leg had been completely severed from the body at a point just above the knee, the femur was crushed in its lower third, and the soft parts crushed and lacerated up to within an inch of the pelvis. The destruction of tissue can be better understood when it is known that before I could utilize the skin necessary for the flaps, I was compelled to dissect off about ten square inches of its connective tissue to remove the sand and cinders that firmly adhered to it. Also, at least one fourth of the edges of the flaps had to be refreshed, to remove the devitalized portion concerned in the crush.

What remained of the limb was removed at the hip-joint, and the interest in the operation centres in the manner of its performance, which was by what is known as the Wyeth bloodless method. This consists in the application of a rubber constrictor in such manner as to occlude every vessel at the level of the hip-joint, and "permitting the disarticulation to be completed and the vessels secured before the tourniquet is removed."

The technique is as follows: Two large pins are employed, which are eight or ten inches long and three-sixteenths of an inch in diameter, one of which is introduced one inch below the anterior superior spine of the ilium, and slightly to the inner side of this prominence, and is made to traverse superficially the muscles and fascia on the outer side of the hip, emerging on a level with, and about three inches from, the point of entrance. The point of the second needle is made to enter one inch below the level of the crotch, internally to the saphenous opening, and passing through the adductors comes out an inch below the tuber ischii. A piece of strong rubber tubing, or band, is then wrapped several times tightly around the thigh, above the fixation-pins, and securely tied. It is evident that this procedure secures all the vessels involved in the incisions, and the pins render it impossible for the tourniquet to slip; thus justifying the originator's claim that by this method it is possible to always perform this formidable operation without the loss of more than an ounce or two of blood. My own experience coincides with this statement. No blood whatever was lost from the vessels above the tourniquet in my case, and I feel convinced, if the constricting band is properly and tightly applied, that serious hemorrhage need never occur. Death followed within an hour after the completion of the operation.

Professor Wyeth has reported forty-one cases of amputation at the hip-joint by this method, occurring in all parts of the United States, and in every instance the amount of blood lost has been almost nil.

When we compare the simplicity and ease of this

[1] Read before the Camden (N. J.) County Medical Society, February 13, 1894.

method with the formidable and dangerous means formerly employed to control hemorrhage during hip-joint amputations, such as pressure on the aorta through the abdominal wall, or by means of an instrument in the rectum, ligation of the femoral artery, or digital pressure upon that vessel, we can readily perceive that a distinct advance has been made.

Professor Wyeth's claim that he is the originator of this method of controlling hemorrhage in this operation is disputed; and it is asserted that the idea has been advocated or put in practice by others. Be that as it may, the fact remains that he has been instrumental in calling attention to the utility of this procedure, and has popularized it to such an extent that it is doubtful if any other method is now resorted to in hip-joint amputations.

The man who rescues an obsolete operation from oblivion, and demonstrates its worth, or adds to its technique details that render its performance safer and more practical, should be accorded all the credit that is his due.

818 Federal Street, Camden, N. J.

A NEW PROOF THAT BERIBERI IS DUE TO CARBONIC POISONING.

By A. S. ASHMEAD, M.D.,

NEW YORK.

M. T.——, aged twenty-seven, a native of Bungo, for five years previous to 1888, while residing in Tokio, had beriberi every year; the disease, as usual, began in spring, and lasted until fall. In September of the fifth year, moxæ were applied to each side of the second dorsal vertebra, about three inches from the spine, three on each side; as fast as one burnt out, another one was put to the same spot, until three had been applied to the place. This was done three days in succession. In the next year, although the patient remained in Tokio, the disease did not return, and it has not reappeared since.

It has been for twenty years, that is, since my sojourn in Japan, my opinion that beriberi is due to carbonic poison. I have published in the medical papers several articles in which I endeavored to explain my idea, and to prove the truth of my theory. It has been my good fortune to discover many facts which bore it out with singular clearness, and almost evidence. But none is more striking than the case which I have just related. The moxæ, applied as I have described, directly affect the nerves of respiration, the pneumogastric, and the phrenic. The function of respiration is to introduce oxygen, and to eliminate carbonic gases. In beriberi, all these nerves are, in a measure, paralyzed, or numbed by the carbonic poison, and consequently the muscles of respiration; the direct ones which elevate the ribs, the diaphragm, and the indirect muscles, which fix the shoulders, and help the first category to act. The nerves of respiration are the pneumogastric, with its inferior motor branches, and the phrenic nerves, motors of the diaphragm. Now, the severe irritation produced by the moxæ stimulates these nerves to a degree of activity which produces deeper inspiration and expiration of the lungs, which can only be powers conducive to the introduction of oxygen and the expulsion of the poison, which in my opinion is the true cause of beriberi. On the heart the influence of the moxæ is an indirect one, because the pneumogastric nerve is the restraining nerve of the heart, its driving power being due to the sympathetic. In no other way than in the way I have described, is it conceivable that the moxæ can exercise a curative effect on the beriberi disease. If we admit that beriberi is due to carbonic poison, everything becomes clear; if not, the effect of the moxæ is inexplicable.

I have one word to add. It may be said that one swallow does not make a spring, and that one success of the moxæ does not prove that moxæ are always successful. But the fact is that, next to the altitudinal treatment, whose good effect can also be best explained by admitting the carbonic origin of the disease, no other treatment can report such frequent, such continuous successes as that of the moxæ.

SUPPURATION OF THE MIDDLE EAR DUE TO A COFFEE BEAN IN THE NOSE.

By M. D. LEDERMAN, M.D.,

NEW YORK.

ASSISTANT SURGEON, MANHATTAN EYE AND EAR HOSPITAL; INSTRUCTOR IN LARYNGOLOGY, NEW YORK POLYCLINIC; ASSISTANT LARYNGOLOGIST AND OTOLOGIST, MT. SINAI HOSPITAL DISPENSARY.

Clinical experience offers undoubted evidence that the majority of aural affections are traceable to some previously existing lesion in the nose or naso-pharynx. The essence of modern literature fully substantiates the above seemingly sweeping assertion, and personal observation certainly corroborates its importance. The number of chronic catarrhal otitis cases which have passed through sieges of politzerization, catheterization, and counter irritation, without having the immediate cause of their trouble eliminated, is indeed surprising.

It is not sufficient to test the relative aërial and bone conduction by the various methods which are recommended, and then be satisfied that the existing ratio substantiates the diagnosis of chronic aural catarrh. We must ascertain its origin, and when the initiative lesion is discovered, we can then more knowingly and successfully treat the train of symptoms which arise.

Without a doubt, chronic hypertrophic rhinitis is the most frequent causation of middle ear disease. Nasal obstruction retards a proper aëration of the Eustachian tubes and middle ear, thus creating a rarefaction, which permits a dilatation of the blood-vessels of the lining mucous membrane, giving rise to usual symptoms. We should, therefore, in such instances, direct our efforts toward re establishing an equilibrium of atmospheric pressure, by removing the hindrance to normal respiration. We cannot lay too much stress upon this subject, for many cases of middle ear catarrh remain unimproved for want of proper appreciation of the exciting factor. Again, unnecessary interference with the sensitive nasal mucous membrane may incite an atrophic process, which is not only a distressing feature *per se*, but may affect the continuous structures of the adjacent cavities as well. We must arrive at a happy mean, and avoid the possibility of becoming too heroic in our methods.

The history of my case demonstrates the intimate relationship existing between the nose and ear.

The patient, Nettie G——, aged three years, had a running ear for two months. About three months previous to my seeing the little one, the mother noticed that the child constantly picked and rubbed the nose. The parent thought she had worms, so anthelmintics were given to eradicate the parasites, without, however, relieving the constant nose picking. Prolonged elevation of temperature existed. Unilateral nasal discharge appeared, which caused an eczema of the upper lip by its incessant flow. The little girl's nose was treated by the family physician, who prescribed a cleansing spray, and diagnosed the affection as a purulent catarrh. About a month after the nasal symptoms developed, severe pain was complained of in the left ear, which deprived the child of sleep for three or four nights. Hot-water douching generated a copious discharge of pus from the ear, which greatly relieved the distressing pain, and brought about a fall of temperature. Suppuration continued until I saw the patient, two months after its first manifestation. Antiseptic douches had been diligently used, but they did not control the offensive excretion.

Inspection revealed the left auditory canal filled with foul smelling pus, together with an eczema of the auricle. On cleansing the meatus, the drum membrane was visible, presenting a perforation of the posterior inferior quadrant. A muco purulent secretion filled the left nasal chamber. Being unilateral, and recalling the previous symptoms, the thought of foreign body arose. On ex-

amining the nose, could detect some obstruction in the middle meatus, but could not appreciate its nature. The probe met with resistance unlike that felt from coming in contact with the usual hypertrophies. Introducing the tip of a Pomeroy's ear syringe, filled with a warmed boric-acid solution, into the right nostril, I exerted some little pressure and was rewarded by finding a coffee bean in the fluid returning through the left or obstructed side. The mother then remembered that the child was in the habit of playing with coffee beans, and one readily realized how frequently children introduce foreign bodies into accessible cavities.

An antiseptic nasal spray, together with a suitable cleanser for the ear, was prescribed. Four days later the young one returned, without the slightest trace of pus in the ear. The nasal discharge was not quite clear, but in a week it had assumed a normal appearance. The hearing was not materially lowered at any time, but the general condition of the patient responded promptly to the treatment. The almost immediate cessation of the aural discharge after the removal of the irritating factor, vividly pictures the importance of carefully examining the nose and naso-pharynx in all cases of aural disturbances.

1029 Park Avenue.

TREATMENT OF CHRONIC URETHRITIS.

By JOHN McGRATH, M.D.,

ASSISTANT SURGEON, ROOSEVELT HOSPITAL, OUT-PATIENT DEPARTMENT.

From results obtained in the treatment of twelve consecutive cases of chronic urethritis I am induced to present the following facts:

In the first place these were ordinary chronic cases, all presenting posterior as well as anterior urethritis. The urine showed the usual cloudiness and clap-threads, varying from foul smelling, turbid urine to that fairly clear with numerous threads present; the two-glass test being employed. The urethral discharge was in most cases slight and present especially in the morning, with the usual history of exacerbations after intercourse or indulgence in alcohol. In duration they varied from eight months to six years, the average time being between two and three years; they had all received treatment, more or less, during this time; one of the cases having been treated continuously for six months, without beneficial effect, by one of the most enthusiastic advocates of the deep injection of strong solutions of nitrate of silver, bleeding and excessive pain having often followed the injection of the strongest solutions.

Several of the cases had been complicated by one or more attacks of epididymitis. In three there were loose anterior strictures within few inches of the meatus. In none was it necessary to divide the meatus; so that these might be considered fair examples of the ordinary chronic urethritis or gleet.

The treatment consists in the use of a large quantity of a weak solution of nitrate of silver, used in the beginning every day. At first an injection of from twelve to fourteen ounces of a quarter-of-a-grain-to-the-ounce solution is used. This is introduced into the bladder through a soft-rubber catheter of small size, a No. 8 French with large bore, lubricated with glycerine, being convenient and easy of introduction; through this the solution is allowed to flow from an ordinary glass irrigating jar with rubber tube attached; the catheter is then withdrawn and immediately thereafter the patient is allowed to empty the bladder, thus washing out the bladder and whole length of the urethra. This solution is injected every day until the urine shows marked improvement, which is usually at the end of one week or ten days, and after that at intervals of two or three days. The strength of the solution need not be increased to more than a half-grain to the ounce, when the quantity of the solution may be somewhat reduced, say to eight or ten ounces.

In those cases that were complicated by stricture in the anterior urethra, a sound was introduced directly before the injection, and this continued until stricture was dilated up to usually No. 30 French. The average time occupied in obtaining the urine absolutely clear and free from threads was about one month, some in three weeks, and some going for two months. They all showed marked improvement from the start. During the treatment the patients abstained from intercourse and alcohol. The treatment for posterior urethritis, recommended by many, of injection by means of the Ultzmann syringe of small quantities of solution of nitrate of silver of gradually increasing strength, even up to twenty-five grains to the ounce, does not yield nearly such satisfactory results in this space of time, and besides often causes the patient much pain and discomfort, and even bleeding after the injections.

In some cases it would seem that an attack of epididymitis was due directly to the use of these strong solutions. It would seem that these stronger solutions were used in many cases where there was no indication for them, and where they oftentimes do much more harm than good; whereas, the use of the weak solution seems to be simple, safe, and adequate to bring about a satisfactory result in a comparatively short time without causing the patient any considerable pain or discomfort. While the number of cases may not be large enough to allow of any positive conclusions, yet the results have been invariably so satisfactory that I offer the result of my experience, and think that further practice might warrant this method of treatment in many cases of chronic urethritis which are now treated by the use of small quantities of much stronger solutions of nitrate of silver.

The act of urination immediately before introduction of the catheter cleanses the urethra sufficiently, and with usual precautions for clean instruments there seems to be no danger of causing irritation or infection.

275 Lexington Avenue.

GONORRHŒA AT THE AGE OF ONE HUNDRED AND THREE.

By A. E. ISAACS, M.D.,

NEW YORK.

INSTRUCTOR IN SURGERY, UNIVERSITY OF THE CITY OF NEW YORK, MEDICAL DEPARTMENT; VISITING SURGEON, BETH ISRAEL HOSPITAL.

The interest that may attach to the case presented herewith will be by reason of the advanced age of the patient. It is exceptional enough to meet a man who has passed his one hundredth year, but to find a man at that age suffering from an acute attack of gonorrhœa or chancroids is still more exceptional.

Some doubt may be entertained as to the correctness of the age given, but his general appearance, his open frankness in giving all particulars, and the absence of any apparent motive for falsification, go to confirm it, and a severe cross examination failed to alter any of his statements.

Although no special time is given for the decadence of the sexual functions in the male, the general impression seems to be that the sexual desire is on the wane and disappears long before the allotted "three score years and ten." Yet here is a man, aged one hundred and three, who "feels that he needs it," and in getting it is unfortunate enough to contract chancroids at the age of one hundred, and gonorrhœa at the age of one hundred and three.

In the following history the facts bearing on his age and manner of contracting this attack are given somewhat in detail, because of the possibility of doubt of the former, and to illustrate his state of mind in regard to the latter.

A. C ——, aged one hundred and three, native of Ireland, occupation formerly longshoreman, at present none, presented himself on January 30, 1894, at the Dispensary of the University Medical College, for treatment.

Examination revealed a copious characteristic gonor-

rhœal discharge, which he stated was only of a few days' duration. Genitals well developed and showing no signs of senility. Complains of painful urination; general health otherwise fair.

In answer to questions he stated as follows, given partially in his own words:

"Didn't know more than that chair about a woman" till fifty years of age, because "at home you dasn't." Then he married and shortly after left Ireland. Spent five years in the mountains of Wales, and forty-eight years ago came to this country. His oldest living son is now fifty years, and his youngest thirty-three years of age. His father lived to be one hundred and five, and his mother ninety-five years of age. His second wife died twelve years ago. This is the fourth attack of venereal trouble he has had since—the previous attack, three years ago, was chancroids, which was also treated at the University Dispensary, and of which he got well in about two weeks.

He feels that he needs a woman. He contracted this gonorrhœa from a woman whom he had befriended and assisted; her husband had died some six months previously. She frequently came to him complaining that she had no bread for her children, and he used to "throw" her fifteen or twenty five cents when he had it, because so long as he had a few cents in his pocket, he could not see her or her children go hungry. She used to come in and drink tea and take a bite, and play and joke, till it came to this that she seduced him. "That's the way she paid me off for helping her children, and I think it will be the end of me."

The following question suggests itself in connection with this case: Could there be any causative relation between the late appearance of sexual activity and its persistence to this advanced age?

168 Henry Street.

Progress of Medical Science.

Metastasis or Shifting Elimination as a Factor in Certain Skin Inflammations.—Dr. Walsh believes that certain forms of dermatitis connected with abnormal conditions of the blood may be directly due to the elimination of irritating substances. Uric acid and the scarlatinal virus may be regarded as types of unusual substances circulating in the blood which are capable of causing inflammation of one or more of the channels of elimination. Uric acid in excess being highly damaging to the epithelium of excretory organs, is able to produce, besides dyspepsia, nephritis, bronchitis, some forms of dermatitis. Metastasis is often a marked feature in gout, a typical eczema sometimes occurring during an acute gouty attack, and disappearing under treatment with colchicum. The skin trouble may alternate with bronchitis and asthma, or with diarrhœa. The scarlatinal poison, like uric acid, acts as an irritant upon the epithelium of excretory organs, and may cause dermatitis in addition to nephritis and inflammations of the respiratory and alimentary tracts. Dr. Walsh holds that if uric acid be excreted by the bowel, diarrhœa results; by the skin, dermatitis; by the kidney, nephritis; by the lung, bronchitis—these various inflammations being the result of excretory inflammation.—*The American Journal of the Medical Sciences.*

Congenital Hydronephrosis Cured by Nephrectomy.—Dr. Adler has reported the case of a child that, at the age of two years, began to show evidences of abdominal pain and distention, particularly upon the left side. After medicinal measures had been exhausted without avail, an exploratory puncture was made, and showed the swelling to be due to an accumulation of fluid containing small amounts of urea. An incision in the linea alba below the umbilicus disclosed the presence of a tumor occupying almost the entire abdominal cavity, and compressing the intestines into a small compass beneath the liver. The wall of the sac was sutured to the abdominal wound, then opened, and a portion excised. The tissue removed proved to be renal structure. Nearly a pint and a half of pale, clear fluid containing a moderate amount of urea and a small proportion of albumin, was evacuated. After the operation the child was in good condition, and the tumor slowly but gradually diminished in size, although the fistula persisted, and urine was passed but seldom (about every second day) and in small quantities, by the natural channels. Nephrectomy was not undertaken at this time, from a fear that the right kidney might not be in good condition. At a later date, however, the right kidney being detected in its proper position and not appearing of unusual size, and, further, the urine passed by the urethra being clear and without morbid constituents, while that from the fistula was turbid, albuminous, and contained renal epithelium, nephrectomy was determined upon, and with some difficulty performed. The subsequent behavior of the case was entirely satisfactory, and at the end of four weeks the wound had closed and presented but a small granulating surface. The urine was now passed by the natural channels in larger amount than before, and was of normal quality. The general condition of the child was also improved.—*Medical News*, March 24, 1894.

How Animals Practice Medicine.—It is known that animals not only treat themselves, but that they also treat each other. Animals get rid of their parasites by using dust, mud, clay, etc. When a dog has lost its appetite, it eats that species of grass known as dog grass, which acts as an emetic and a purgative. When cats are ill it is a matter of common observation that they eat grass. Animals suffering from chronic rheumatism always keep, as far as possible, in the sun. If a chimpanzee be wounded it stops the blood by placing its hands on the wound, or by dressing it with leaves and grass. A dog, on being stung in the muzzle by a viper, was observed to plunge its head repeatedly for several days in running water. Animals that have been injured in the eyes avoid the light and heat. It is also very generally known that when animals are ill they abstain from food; in fact many times this is the only way the farmer knows that his horses and cattle are ill.

Congenital Absence of Both Radii.—Dr. Krönig exhibited before the Leipzig Obstetrical Society a child, aged fourteen days, with congenital absence of both radii. There was a moderate amount of hydrocephalus, but no other disease or deformity beyond the forearms. The most remarkable feature in the case was the presence of the thumbs and the perfect development of the hands. The supinator longus was powerfully developed and inserted into the middle of the ulna. The carpal bones seemed to be perfect. The ulna was strongly bent to the radial side. There are forty-five recorded cases of congenital absence of the radius, and in twenty one the defect was bilateral. In only two were the thumb and first metacarpal bone well developed. In the great majority of cases the child was both premature and stillborn, and it seldom lived many weeks. Nearly always other defects were present in different parts of the body. In Krönig's case, contrary to the rule, the elbow and carpal articulations were freely movable.—*Centralblatt für Gynækologie.*

Fees for Graduation in Medicine in France.—By decree dated February 14, 1894, the following fees will be payable by all candidates for the M.D. degree in a French Medical Faculty after November 1, 1895: Sixteen "inscriptions" at 32.50 francs, including library subscriptions, 520 francs. Practical classes, payable quarterly for four years, 160 francs: first year, 60 francs; second, 40; third, 40; fourth, 20. Seven examinations at 30 francs, 210 francs. Seven certificates of having passed these examinations at 25 francs, 175 francs; thesis, 100 francs: certificate for thesis, 40 francs: diploma, 100 francs. The total amount payable for the degree is, therefore, 1,305 francs, *i.e.*, about two hundred and sixty dollars in our money.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street.

New York, April 14, 1894.

TUBERCULOSIS AND ANIMAL INDUSTRY.

AN important bulletin on "Tuberculosis in Relation to Animal Industry and Public Health" has recently been prepared by Professor James Law, and issued from the Cornell Agricultural Experiment Station. Many of the facts given are familiar enough to medical readers, but many new and important data have been collected, and the whole subject is treated in a very thorough and complete manner.

Accurate statistics as to the prevalence of tuberculosis in American herds are wanting, but the European figures are suggestive. Thus tuberculous cattle are said to number: In Bavaria, 0.225 per cent. (Goring); in Augsburg, 0.26 per cent. (Adam); in Baden, 0.2 per cent. (Lydtin); in France, 0.5 per cent. (Arloing); in Belgium, 0.4 per cent. (Van Hertsen); in Paris, six per cent. (Friedberger and Fröhner); in Holland, twenty per cent. (Schmidt); in Pommerania and Bomberg, fifty per cent. (Schanz, Albrecht); at Hildesheim, Hanover, sixty to seventy per cent. (Haarstick); in Leipsic, twenty per cent. (Rieck); in Edinburgh, twenty-six per cent. (Cope, McFadyean). American figures given by the Bureau of Animal Industry are for Baltimore (mostly cows) 2.5 to 3.5 per cent., and for the packing centres (among 2,273,547. mostly steers) 0.02 per cent.

In a large aggregate number of German abattoirs cows suffered in the ratio of 6.9 per cent.; oxen, 3.6 per cent.; bulls, 2.6 per cent.; and calves and yearlings, 1 per cent. In Leipsic, tuberculous cows were 26 per cent.; oxen, 19.5 per cent.; bulls, 15.4 per cent.; and calves, 9.3 per cent.

In infected breeding and dairy herds in New York, consisting largely of mature cows, Professor Law has found a maximum of ninety-eight per cent. and a minimum of five per cent.

Professor Law gives an account of the nature, causes, and symptoms of tuberculosis in cattle which is interesting, more especially to stock-breeders and veterinarians. He describes the methods of diagnosis and discusses especially the tuberculin test. The objections to this test are stated *seriatim*, and are very fully answered. He sums up his views thus:

"The tuberculin test aggravates existing tuberculosis, and is, therefore, unwarrantable for use on man or on cattle that are to be kept alive: it is, however, the only known means of detecting many occult cases of tuberculosis, and is, therefore, indispensable in any systematic effort to stamp out the disease by the purchase and slaughter of every tuberculous animal."

He next discusses the danger to the human family from using the meat and milk of tuberculous animals. He shows that the red muscle of infected animals is rarely infecting, yet is not entirely free from danger. In pigs the muscle-tissue itself may be tuberculous, and in cattle the roasts and steaks contain intramuscular lymphatics which may be tuberculous. Hence the raw meat is certainly a possible source of danger. We are not told how completely cooking destroys the bacilli. Milk is more to be dreaded than meat, because the udder is often the seat of tuberculosis. While milk is not dangerous when the udder is not involved, experiments show that we cannot always tell in the living animal whether this gland has been attacked or not. Hence Professor Law's conclusion is that a tuberculous animal, however slightly infected, is always a source of danger.

Although the cow is so undoubtedly a source of danger to man, few cases which give demonstrable evidence of direct infection have yet been reported.

In the practice of Dr. Stang, of Amorback, a well-developed five-year-old boy, from sound parents, whose ancestors on both male and female sides were free from hereditary taint, succumbed, after a few weeks' illness, with acute miliary tuberculosis of the lungs and enormously enlarged mesenteric glands. A short time before the parents had their family cow killed, and found her the victim of advanced pulmonary tuberculosis (Lydtin).

Dr. Demme records the cases of four infants in the Child's Hospital at Berne, the issue of sound parents, without any tuberculous ancestry, that died of intestinal and mesenteric tuberculosis as the result of feeding on the unsterilized milk of tuberculous cows. These were the only cases in which he was able to exclude the possibility of other causes for the disease, but in these he was satisfied that the milk was alone to blame.

A gentleman of North Hadley, Mass., a graduate of the Massachusetts Agricultural College, has stated that his only child, a strong, vigorous boy, aged one year and a half, went to an uncle's for one week and drank the milk of a cow which was shortly after condemned and killed in a state of generalized tuberculosis. In six weeks the child was noticeably falling off, and in three months he died, a mere skeleton, with tuberculosis of the abdomen. The father could trace no tuberculosis among his near ancestors, but the mother's father and uncle had both died of it. She remains in excellent health.

Professor Law makes a strong and a novel point with regard to the use of the meat or milk of slightly infected animals. He contends that every animal which has tuberculosis is more or less poisoned by the secretions of the bacilli. Hence those who eat the flesh or drink the milk are continually receiving small doses of "tuberculin." Now, if this person has no tuberculosis, the ingestion of this poison may do no harm, but if there is any latent focus of this disease, the use of the "poisoned" food stirs up the latent disease and does serious harm. This view, it will be seen, is directly contrary to that adopted when the tuberculin was first discovered. Nor is it yet certain that tuberculin properly used may not do good. Of the fact that it may do harm, however, there is no doubt.

The logical conclusion reached by Professor Law is

that the meat and milk of tuberculous animals, however slightly infected, are always a source of danger, and should be condemned.

Two enormous tasks are naturally presented to the State and to economists for solution. One is that of exterminating all tuberculosis by means of test examinations of the animals; the other is the thorough inspection at the abattoirs of every animal slaughtered for food, and the rejection of all animals which are in the slightest degree infected.

The difficulty and expense attending such work will be at first very great. But it seems to us that the course to be pursued is a plain one. Tuberculosis kills one twelfth of the population and maims many more. The most patent and serious source of danger is in the animals which supply us with milk and meat. We do not hesitate to spend millions on a navy and army which are to be used only against possible future enemies. Why should we hesitate to spend still more on an enemy which is real and which is constantly assailing us?

OUR CABLED DESPATCHES FROM ROME.

In noting from time to time the progress which has been made in American Medical Journalism we have often taken occasion to point out those well-known relations between demand and supply which form the basis of every successful business enterprise. If, in this connection, we felicitate ourselves in meeting the requirements of different situations as they present themselves, we may perhaps be excused for so doing in the confession of a reasonable enthusiasm for good and useful work successfully accomplished. The many kind words and hearty congratulations we have received concerning our recent cable despatches from Rome abundantly prove that our readers are keenly alive to the value and importance of prompt and accurate reports of important gatherings in far-away countries. The account of the International Congress in our issue of last week was not only the fullest cabled report of a scientific meeting ever published in this country, but it was the only one of the sessions at Rome which has yet appeared in any medical or lay journal. In times gone by, when it was the boast of some of the larger medical journals that the telegraph at home and the cable abroad would be freely used for promptly gathering information, the Medical Record strove, and not vainly either, to take the lead. Since then it has persistently followed this course in spite of the enormous expense which was often necessary to that end. Although at present standing virtually alone in the advocacy of such a policy, and in the execution of such plans, we are still confident that, in spite of the outlay, it pays in more ways than one to keep fully abreast to the truer interests and higher aims of advancing journalism. We have on that score such abundant evidence of the appreciation of our thousands of readers at home and abroad, that we are more than encouraged to continue in our present course, and vindicate still more effectually our claim to cosmopolitanism in everything which pertains to the editorial management of the Medical Record. By so doing we are not in any way interfering with the best interests of the hundreds of local journals that have a flourishing existence in this country and Canada. These periodicals, we are glad to learn, are receiving the substantial support they deserve. It is eminently proper that the profession in such localities should liberally encourage their own journals, as no other forms of publication can or should replace them. They are as much necessities as are the leading metropolitan weeklies. Each progressive medical man appreciates the need of a home journal to keep him informed of the doings of his particular locality, but he cannot neglect the opportunities of being in touch with the great outside medical world through the weekly visitor from the great medical and commercial centre. We trust that the Medical Record will continue to deserve the kind congratulations of its many friends, and its best answers to those so recently given are its past history and its hopeful future.

SMALL POX AND ANTISEPTIC VACCINATION.

The prevalence of small-pox in Chicago, New England, New York, and other cities is only relatively great. For the week ending March 24th the number of deaths from this disease in forty of our larger cities was 15, and this means less than a total of 100 cases. Still, the disease appears to be increasing in some cities, and its presence at all times excites especial alarm.

One of the curious features incidental to this recrudescence of variola is an unusual activity among anti-vaccinationists. They have been working especially hard in Boston, as we learn from the *Boston Medical and Surgical Journal*. At least four hearings have been given by the Legislative Committee on Public Health regarding the compulsory vaccination law. Some of the gentlemen who do not believe in vaccination devoted themselves to rehearsing the same old arguments and statistics that have been in evidence since the century began. Others presented a number of cases illustrating the danger of vaccination. We do not know whether or not lurid pictures of the horrors of syphilis and leprosy were presented; they probably were; but if the propagandists simply limited themselves to a description of the ordinary accidents and sequelæ of vaccination they might have made something of a case. This case, however, would be not against vaccination but against a careless performance of the operation. There is no donbt that some physicians still neglect to vaccinate aseptically. If they do, it is most reprehensible. In vaccinating a child the skin should be carefully sterilized, the hands of the operator clean, his instruments aseptic, and the water used for moistening the quill should be boiled. The wound should finally be carefully protected. If all this be done, cases of erysipelas or other forms of infection will be very rare.

The Practice of Medicine in Maine.—A correspondent sends us the following clipping from the Rockland (Me.) *Courier Gazette*, concerning the social and financial status of the physician in one of the small island towns: "There is talk of getting up a time to raise money to help keep our doctor here another year. He cannot stay on what practice he gets, and we cannot afford to have him go. The most of us know what it is to go to the main and Carver's Harbor for doctors. Let's wake up and get up a good time, and raise what money we can for the good cause!"

News of the Week.

A Professional Centenarian.—Dr. E. G. Roberts, of Fair Haven, Vt., writes: "In a Welsh newspaper of recent date it was announced that Mr. W. Reynold Salmon, M R.C.S., of Penllwyn Court, Pontfaen, S. Wales, had attained his one hundred and fourth birthday on March 16, 1894. It states that there are indisputable proofs of his having been born on March 16, 1790."

The International Congress.—The following was received by cable too late to be used in our previous issue: The next meeting of the International Medical Congress will be held in Russia, the choice between Petersburg and Moscow to be decided by the Czar. Kocher's address, delivered Wednesday, was on gunshot injuries, but Cajal's address was not delivered. Dr. Juhel Renoy, who died recently in Paris from typhoid fever, was to have read a paper at the Congress on the value of cold baths in the treatment of this affection. Another physician attending the Congress died suddenly in Rome, a few days before the meeting, while riding in an open carriage.

Hospital Saturday and Sunday Fund.—Up to date the sum received for this purpose is $58,400.

Migraine.—In our issue of March 24th, the dose is spoken of as 1.1 gr., which quantity contains 0.09 gr. of caffeine. The "gr." in this instance naturally refers to grammes, as anyone, we think, would see at a glance, but since the question has been raised we wish to call attention to it.—Ed.

A Bill to License Quacks.—The New York Medico-Legal Society, says *The Medical Standard,* has some decidedly queer legal members. One of these, ex-Judge Abram Daly, recently appeared in advocacy of a bill emasculating the Medical Practice Act in favor of "Christian scientists," clairvoyants, etc. He advanced the following "reasons:" "If 'Christian science' did not cure, at least it did no injury. It was as unjust for the Legislature to say how a man should be cured, as it was for a railroad company to say that a man should travel on their road. He said that one daughter of his had been cured by a clairvoyant, who had diagnosed her case after a physician had failed. He mentioned another case, of a daughter who had died because of an incompetent physician. He was in favor of the bill because of the freedom of practice it accorded. The fighting among doctors was such that it was necessary that more freedom be had." We presume it is the same gentleman who has had introduced into the Assembly a bill providing that any person may freely contract for the services of whomsoever he considers competent to alleviate suffering or prevent or heal disease, and that it shall be lawful for persons so employed to attend, treat, nurse, and endeavor to heal the employing patient, and receive compensation therefor, subject to the laws of the State relative to malpractice. It is in the interest of "Christian science," clairvoyants, etc.

Physicians' and Surgeons' Instruments are Mechanical Implements.—The Board of U. S. General Appraisers at New York hold, in a decision of theirs rendered December 30, 1893, that, following a fair construction of the language of the Supreme Court, instruments used by the physicians and surgeons of a hospital, for the purpose of carrying on their professions, are mechanical implements—implements for carrying on the professions of medicine and surgery—and cannot be classed as either philosophical or scientific instruments or apparatus, for the assessment of duties, when imported, and cannot be admitted free.

The Sentiment in Favor of the Bill for Establishing a Bureau of Public Health grows rapidly.—We have indeed seen no unfavorable criticism of the bill.

Agnew Memorial Hospital.—The widow of the late Professor D. Hays Agnew has given $25,000 to the University of Pennsylvania. The money will be used in erecting an extension to the hospital.

Beaumont Hospital Medical College, it is reported, will consolidate with the St. Louis College of Physicians and Surgeons.

Mütter Lectureship of the College of Physicians of Philadelphia.—The next course of ten lectures, under the bequest of the late Professor Thomas Dent Mütter, M.D., LL.D., "On Some Point or Points Connected with Surgical Pathology," will be delivered in the winter of 1896–97, before the College of Physicians of Philadelphia. The compensation is $600. The appointment is open to the profession at large. Applications, stating subjects of proposed lectures, must be made before July 1, 1894, to William Hunt, M.D., Chairman of Committee on the Mütter Museum, Northeast corner Thirteenth and Locust Streets, Philadelphia, Pa.

A Substance of Extraordinary Antiseptic powers, yet practically innocuous, has recently been described by Hans Aronson (*Münch. Med. Woch.*, March 20, 1894). He calls it paraform and says that it is a combination of several molecules of formaldehyde. It is a polymerized formaldehyde, and an insoluble powder, having sixteen times the antiseptic power of Beta-napthol. Unfortunately it is generally found that some enterprising German drug firm is behind all these wonderful antiseptics.

An Artificial Horseback Ride.—An ingenious Londoner has invented a saddle arrangement which gives to the person astride it all the motions of a horseback ride. By varying the adjustment, one gets a trot, a gallop, or a walk.

The Approaching Congress of Physicians and Surgeons bids fair to be interesting. The programme of the public meetings embraces a number of subjects of general interest, and the discussions will be participated in by men from whom the profession is usually glad to hear. National meetings of this kind, in which the leaders of medical thought are fairly represented, ought to have, one would think, a beneficent influence upon the general tone of the profession. No junketing, no politics, no sectionalism, but only earnest interchange of thought and experience are good, even somewhat novel, bases upon which to erect a congress in which all physicians shall feel an interest.

Cremation.—Such has been the growth of popular opinion in favor of the sudden disposition of the dead by heat that there are now in the country eighteen incorporated cremation societies, and during the past ten years about three thousand cremations have taken place.

The Fourth Dermatological Congress will be held at Breslau, Germany, on May 14th, 15th, and 16th. An invitation has been extended to all members of the American Dermatological Association.

Cholera in Constantinople.—Cholera of a most malignant type has become so prevalent throughout the city as to cause general alarm. The disease has hitherto been confined to the poorer districts. The Greek legation has been removed to Therapia, about seven miles distant, and it is probable that other foreign representatives will seek temporary quarters outside the city. The Turkish authorities are taking active measures to prevent the further spread of the disease.

Dr. Newton Whitehead, of 218 East Forty eighth Street, whose advertising cards have been so freely and regularly mailed to physicians in this vicinity, has been held in $1,500 bail, in the Essex Market Police Court, charged with having performed an illegal operation on Agnes Berthold, aged twenty nine, of 95 Seventh Street.

An Illinois News Item.—Our school is still closed on account of the teacher's confinement. Mumps.—*Schiller Sun.*

The Association of Military Surgeons meets in Washington on May 1st. Six army surgeons will be sent as delegates to the meeting.

Favoring the Bill for a National Bureau of Health.—The New York Chamber of Commerce Committee on Quarantine, appointed last year to co-operate with the Health Officer in protecting this port against cholera, have reported a resolution, which was adopted, favoring the bill in Congress to establish a Bureau of Public Health in the Interior Department.

The Middleton Goldsmith Leeture of the New York Pathological Society, for 1894, will be delivered at the New York Academy of Medicine on Saturday, April 28th, at 8.30 P.M., by Professor William H. Welch, of Johns Hopkins University. Subject: "Mixed and Secondary Infections."

The Merritt H. Cash Prize.—The Medical Society of the State of New York offers a prize of $100, payable from the Merritt H. Cash Prize Fund, for the best original essay on any medical or surgical subject. The conditions are: That the competitor shall reside in the State of New York, and shall be a member of a county medical society; that the essay shall be either printed or type-written; that each essay shall be designated by a motto on the title-page, and accompanied by a sealed paper bearing the same motto and enclosing the name of its author, in order that the name of the successful author alone may be ascertained; and that all essays shall be sent to the Chairman of the Committee on Prize Essays, prior to January 1st next. The Committee on Prize Essays are: Dr. Franklin Townsend, Jr., 2 Park Place, Albany; Dr. A. Walter Suiter, Herkimer; Dr. Charles Stover, Amsterdam.

The Late Dr. J. H. Sinnett.—At a meeting of the medical staff of the Demilt Dispensary, held March 22d, the following preamble and resolutions were adopted:

Whereas, We have learned with the deepest regret of the untimely death of Dr. John H. Sinnett, incurred in the discharge of duty,

Resolved, That the Medical Staff of the Demilt Dispensary desire to place on record their appreciation of the high standing of their late colleague, their feeling of loss sustained by the profession in this early death, and their heartfelt sympathy with his bereaved wife and family;

Resolved, That a copy of this resolution be forwarded to the New York Medical Record, the *New York Medical Journal,* and to his family.

Henry D. Chapin, M.D.,
John Dorning, M.D.,
Joseph E. Winters, M.D., *Committee.*

Examinations for the United States Army Medical Corps.—In view of the possibility of the reduction of the Medical Corps from one hundred and twenty-five to ninety Assistant Surgeons, by action of Congress at its present session, and to save possible loss of time and expense to candidates if such action be taken, the examinations appointed for April, 1894, will, by order of the Secretary of War, not be held until further notice. It is probable that if the Corps should not be reduced, the Examining Board will be convened in the fall of 1894. Of this, notice as early as possible will be given.

Five Hundred and Sixty five Quarts of Beer for each man, woman, and child in the city is the amount annually consumed in Munich.

The Pope Tries Hydrotherapy.—Father Kneipp, the German priest and preacher of hydrotherapy, was consulted, on the occasion of a recent visit to Rome, by Leo XIII. for the relief of certain ailments, due to advanced age, from which his Holiness is suffering. The Pope was advised to apply cold compresses to his knees and the back of his neck, and did so with rather disastrous results. He caught quite a severe cold, and both knees became so swollen that he was forced to call upon his own physician to combat the consequences of the experiment. Monsignor Kneipp is not thought so much of in the Vatican as he was.

Medical College Commencements.—The Medical Department of the University of Wooster, Cleveland, O., held its Commencement exercises March 21st, and conferred the degree of M.D. on ten graduates.

The University Medical College of Kansas City held its Commencement March 20th. There were nineteen graduates.

The Cleveland University held its Commencement March 20th, and conferred the degree of M.D. on thirty graduates. Four graduates received the degree of D.D.S.

The Kansas City Medical College, at its twenty-fifth annual Commencement, March 22d, awarded diplomas to thirty two graduates.

The Barnes Medical College of St. Louis, Mo., held its Commencement March 20th, and forty-two graduates received the degree of M.D.

The Long Island College Hospital held its thirty-fifth annual Commencement March 21st. There were fifty-four graduates.

The Wisconsin College of Physicians and Surgeons at Milwaukee graduated two students March 26th.

Typhoid in Montclair, N. J.—There is an epidemic of typhoid fever in Montclair, N. J., traceable to contaminated milk supplied by a particular dealer to his customers. The cows of the dairy drank from an infected spring, and the milk-cans were washed in the same.

Reviews and Notices.

The After treatment of Cases of Abdominal Section. By Christopher Martin, M.B. (Edin.), F. R. C S. (Eng.), surgeon to the Birmingham and Midland Hospital for Women. London: Simpkin, Marshall, Hamilton, Kent Co. 1894.

This is an excellent little work, abounding in practical minutiæ as to the after treatment of cases of abdominal sections, and is the outcome of an experience with a thousand cases. The author having been an associate with Lawson Tait, believes in the purgative plan for preventing peritonitis, and virtually says if you can get a passage from the bowels you can save your patient. His descriptions of the technique of dressing, management of post operative hemorrhage, and other complications, are admirably clear and thoroughly orthodox. For the man who does abdominal surgery it is almost indispensable.

Notes on Nursing in Eye Diseases. By C. S. Jeaffreson, M.D., F.R.C.S. (Eng.), etc. Bristol: John Wright & Co. 1894.

This small volume is a handbook of eye nursing based upon the every-day experience in the Newcastle Infirmary, and contains descriptions and illustrations of eye bandages, eye pads, drop bottles, the management of the operating theatre, the selection and care of instruments, and many other matters necessary for junior practitioners and nurses who give their attention to eye diseases.

Congenital Affections of the Heart. By George Carpenter, M.D. (Lond.) London: John Bale & Sons. 1894.

The author gives us a very condensed and systematized description of the pathological conditions and associated clinical signs of the more important cardiac malformations, which will be duly appreciated by the advanced student and practitioner.

Report of the Society of the Lying-in Hospital of the City of New York. 1893.

In 1890 the Midwifery Dispensary began its work of providing medical men and students of medicine with practical instruction in obstetrics, by making use of the large amount of material supplied from the poor of New York, who had previously depended upon the services of midwives. In 1892 they were amalgamated with the Society of the Lying-in Hospital of the City of New York, thereby increasing their income and making it possible for them to enlarge the field of their work.

Each year they have published a report, the last of which has just come to hand. The report includes 186 pages of printed matter, including numerous temperature charts and cuts illustrating the text. It covers a period of fifteen months, during which time they cared for 2,583 women, mostly Russians of the very poorest class. The report is to be commended as being a new departure in hospital reports. It presents not only the statistics for the past fifteen months, but also several original articles based upon the work of the hospital.

The leading article is a report of the cases of fever occurring in the service of the hospital during a period of three years.

In 3,737 puerperal cases, they find 591 cases of fever, including fever from all causes. It is to be noted that during this period many of the cases were taken as postpartum cases from midwives.

In a series of 2,283 cases, all of which were confined by the hospital, the percentage of fever was 12.7 per cent., of which 3.82 per cent. was due to septic infection. The percentage of death in all fever cases was 0.2 per cent.

The second article is a modification of Crede's method of expressing the placenta, by calling attention to the angle existing between the uterine canal and the vagina.

There follows a report of three successful cases of symphyseotomy, and a case of Cæsarean section also successful.

The reports of special departments, such as the orthopedic surgeon, and a very scholarly article on the development of the alimentary canal by the embryologist, close the report of this institution.

A Manual of General Histology. By William S. Gottheil, M.D., Professor of Pathology, American Veterinary College, New York, etc. Pp. 148. New York: Sabiston, Murray & Co. 1894.

In this manual, which is freely illustrated with remarkably good woodcuts for a volume of its size, the author lays down the general principles of histology in a very plain and simple manner. It is essentially a primer upon the subject from which mere theories and mooted points are excluded, and the explanations of the structure of the body are reduced to their simplest possible terms. It contains no directions whatever for the preparation of specimens, etc., and for this omission it is to be criticised. It will answer as preliminary reading for laboratory work, but cannot serve as a satisfactory guide for the student in his actual work of examining normal tissues.

The Microscope and Microscopical Methods. By Simon Henry Gage, Associate Professor of Anatomy, Histology, and Embryology in Cornell University. Fifth edition. Pp. 165. Ithaca: Comstock Publishing Co. 1894.

This new edition of Professor Gage's work on the microscope remains in general plan like that of former editions, that is, definitions and discussions are followed by laboratory experiments in which the student makes the demonstrations for himself. It is printed only on the left-hand page, thus leaving the right blank for notes. The figures have been increased from about fifty to one hundred and three, and have been distributed in the text in stead of being collected into plates. In matter, the book has been increased from 96 to 165 pages. This increase is due in part to the elaboration of the old text, and in part to a wholly new chapter "On Photo Micrography, and on Photographing Natural History Specimens in a Horizontal Position with a Vertical Camera."

The purpose of the book is thus briefly given by the author in the preface: "It is hoped that the book as it now appears may, while remaining strictly elementary, still more fully meet the needs of those who wish to use the microscope for serious study and investigation. The aim has been to produce a book for beginners in microscopy, such as the author himself felt sorely the need of when he began the study."

The present volume, Part I., treats especially of the microscope and histology. It will be of great service to the beginner in laboratory work, and is especially worthy of commendation for its accuracy and inculcation of true scientific methods in research.

A Manual of Minor Surgery and Bandaging. By Christopher Heath, M.D., Surgeon to University College Hospital, London, etc. Tenth edition. Pp. 389. Philadelphia: P. Blakiston, Son & Co. 1894.

Previous editions of this manual have been favorably noticed in these columns. The present embodies the results of the latest knowledge regarding antisepsis, and is a useful guide for house-surgeons and junior practitioners. Its contents cover every possible surgical emergency.

The Discovery of Modern Anæsthesia. By Whom was it made? A Brief Statement of Facts. By Laird W. Nevins, M.D., New York. Pp. 111.

The author has collected in this volume all the reliable historical data concerning this much discussed question. Nothing new is mentioned, as the ground has been so thoroughly covered in the discussions of the last ten years. Dr. Nevins gives with considerable detail the life stories of Long, Wells, Riggs, Morton, Jackson, and

Simpson, all of whom contributed to the discovery of modern anæsthetics. It is to be regretted that a narrative of this historical value should be marred by the thinly disguised attempt of the author at self-advertising.

Clinical Lectures on Pediatrics Delivered in the Vanderbilt Clinic during the Session of 1892–93. By A. Jacobi, M.D. Stenographic Reports. New York: Bailey & Fairchild. 1893.

This little book comprises about 195 pages. It is filled with practical points in the treatment of the most common diseases of children, as seen in a large dispensary and general practice. Dr. Jacobi has been too long before the profession to need introduction as a master of pediatrics, for this little volume clearly indicates that the latest and most modern theories have not been disregarded, and due weight and consideration given to all details of the present methods aimed at making the proper diagnosis in a given case. Pathology, bacteriology, and dietetics, even gymnastics, are mentioned in the brilliant article on Pulmonary Tuberculosis on pages 189–91.

Lectures on Auto-intoxication in Disease; or, Self-poisoning of the Individual. By Charles Bouchard, Professor of Pathology and Therapeutics; Member of the Academy of Medicine, and Physician to the Hospitals, Paris. Translated with a Preface by Thomas Oliver, M.A., M.D., F.R.C.P. Philadelphia: The F. A. Davis Company. London: F. J. Rebman. 1894.

This volume embraces a series of translations of thirty-two lectures. These lectures may therefore be regarded as an inquiry into the operation of poisons introduced from without or generated within the body of man, and the part they play in health and disease. No subject demands more serious study. Death frequently carries off in a few hours or days individuals who are in the prime of life and in apparent good health, and at whose post-mortem the most careful examination fails to reveal alterations of structure such as can explain the fatal stroke.

Especially interesting are the lectures on antisepsis of the internal medium relating to typhoid fever. The clear style is one of the numerous advantages offered in reading this volume, and it will repay all desiring modern views concerning medicine of to-day to study it carefully.

The Conduct of Ordinary Labor through External Examinations Solely.—Drs. Leopold and Spörlin make a warm plea for limiting examinations made in the course of ordinary labor to the external parts, and adduce the advantages of such a course. Infection is thereby avoided: the natural sense of modesty of the parturient is not offended; and careless rupture of the membranes is avoided. Skill in external examination is acquired with reasonable readiness. In the large majority of cases such examination alone is sufficient for the recognition of the position and presentation of the fœtus, and for the study of the course of an ordinary labor. As there can be no objection to its frequent exercise, abnormalities of parturition may the more readily be detected early, and means of correction promptly employed. Experience soon teaches the difference in the position of the fœtus assumed in case of pelvic contraction on the part of the mother. The position and presentation having been recognized by external examination, internal examination for the determination of possible pathologic conditions of the birth canal need be but brief, and can be conducted with great care. For the attainment of this desirable result it is essential that the obstetric pupil familiarize himself thoroughly with the conditions of normal labor as determined by physical external examination, as well as with the physiology of normal labor. Obstetric operations are principally to be taught upon the phantom.—*Medical News.*

Society Reports.

ELEVENTH INTERNATIONAL MEDICAL CONGRESS.

Held in Rome, Italy, March 29, 30, and 31, and April 1, 2, 3, 4, and 5, 1894.

SECTION ON PRACTICAL MEDICINE.

Double Abdominal Aspiration.—Dr. Giuseppe Amalfi, of Naples, read a paper on this subject. The apparatus employed consists of, 1, an aspirator similar to that of Dieulafoy: 2, a Y-tube, each branch of which is provided with a stop cock opening or closing communication with the main tube; 3, an ordinary œsophageal tube; 4, an elastic tube with walls of the same thickness as the preceding, but double the length; 5, a piece of perforated vulcanite; 6, an ordinary rectal cannula. The main trunk of the Y-tube is attached to the aspirator, one of its arms being connected with the open end of the œsophageal sound, the other with one of the extremities of the elastic tube. The rectal cannula is fastened to the other end of this elastic tube by means of the piece of vulcanite. The apparatus is employed in the following manner: The œsophageal sound is passed into the stomach, and the rectal cannula into the lower bowel; both stop cocks are then opened and the aspirator is put in action. If it be desired to act solely upon the upper or the lower end of the digestive tract, one of the stop-cocks is closed. By a reversed action of the aspirator an injection of gas into either the stomach or the rectum may be effected. The apparatus renders great service in the treatment of the various forms of colic.

Treatment of Small-pox.—Dr. Oreste Gamba, of Rome, has found sulphide of calcium to be the most efficacious remedy in the treatment of small pox. As the complications of the disease are seen most frequently in the respiratory organs, he insisted upon the necessity of a well-aired and disinfected sick-room. He urged the utility of revaccination, as repeated observations had shown that the immunity against variola resulting from vaccination disappeared after a certain time. Mortality statistics demonstrate that the prognosis is bad in patients from one to fifteen years of age, is fairly good between the ages of sixteen and thirty, and become serious again in patients from thirty-one to sixty years of age.

Salipyrin.—Dr. Artur Henning, of Königsberg, read a paper on this drug, which he believed to be the best antirheumatic and antineuralgic yet known, and also a most excellent antipyretic, especially in pediatric practice. In cases of rheumatism, when given in the early stages, it is most efficacious in relieving the pain and reducing the swelling of the affected parts. In simple colds and acute coryza it exerts a very favorable influence upon the headache and general malaise. Its action in influenza must be regarded as almost specific. In cases of uterine hemorrhage, not due to the presence of tumors, or occurring in childbirth, salipyrin is much more efficacious than any other known remedy.

The drug is absolutely safe, and gives rise to no unpleasant after-effects. It is best given in the afternoon, in rather large doses, repeated at short intervals. The total daily dose ranges from 7½ grains to 2 drachms, according to the age of the patient and the disease. The remedy has no cumulative effect, nor do those taking it acquire a habit.

Muscular Contracture in Myopathies.—Dr. R. Lépine, of Lyons, said that the muscular contractures noted by Landouzy and others in cases of myopathic atrophy, may exist under various forms in the atrophic or pseudo-hypertrophic myopathies of the lower extremities, and may be one of the chief causes of the interference with the power of locomotion.

Direct Transfusion of Blood from the Dog to Man.—Dr. Nicola de Domenicis, of Naples, presented a communication on this subject, the conclusions of which

were that direct arterial transfusion of the blood of a dog into the human subject was not only well tolerated but was also very beneficial. He thought that this measure ought to be recognized as a useful therapeutic agent.

Morphological Examination of the Individual.—Dr. Achille de Giovanni, of Padua, read a paper with this title, in which he said that the scope of the examination was the determination of the individuality, in order to be able to recognize, through the individual differences, the cause of the clinical differences observed in the same disease. The examination consists in the mensuration of the body and of all its parts, the determination of the proportional development of the viscera, and of the individual's corporal and mental powers.

A Classification of the Causes of Diseases, for Practical Use in the Examination of Patients.—Dr. T. Churton, of Leeds, England, presented the following scheme, which he had drawn up for the guidance of hospital internes:

Investigation of Causation.—1. Find the limit of working power of the muscles, cord, and brain of the person in health, thus: *a*, greatest weight he could lift; *b*, greatest distance walked or run with ease in a day, in an hour, in a minute; *c*, greatest number of hours of daily work; α, storing impressions, visual, auditory, etc.; β, thought or invention; γ, output, muscular work, speaking, writing, governing; *d*, control of sensori-motor mechanism; time-limit of attention to one subject, curiosity, interest in society, politics, etc.; altruism (regard of other persons' interests, conditions, and sentiments).

2. Find date of first impressions of loss of energy or faculty of any kind—receptive, retentive (memory), active, inventive, social; also the date of first symptoms of disorder in subservient organs (digestive, etc.).

3. Find the causes which were, at the dates given, operating to produce these changes.

Causes of Disease.—1. Original constitution of organs, shown by: *a*, history of parents, grandparents, brothers, sisters, uncles, aunts—their ages, energies, diseases (especially nervous diseases, syphilis, gout, rheumatism, tubercle, hemorrhages, kidney and skin diseases), modes of death; *b*, diseases of members of the family whom the patient most resembles.

2. Acquired changes in constitutions of adults may be shown by the children (if any) of the patient.

3. Conditions, remote or recent, of (*a*) quantity or (*b*) quality of the patient's "necessaries of life"—*a*, food: animal, vegetable, mineral; drink: oxygen, supply by day and by night; *b*, clothing: by day and by night (including bedroom); house: drainage, water-supply, dryness, etc.; *c*, work, rest, sleep.

4. Adverse influences: *a*, animal—struggle for existence and luxury, emotions, anxiety, disappointment, shock; *b*, parasites—worms, insects, microbes introduced through food or air, or through skin, uncleansed or abraded; gonorrhœa, syphilis, ague, rheumatism, tuberculosis, fevers; *c*, plants—ipecac, rhus toxicodendron, etc. (which produce unusual effects in certain persons); *d*, chemical substances derived from (α), animals—sewer emanations, odors (*e.g.*, of rabbits causing asthma); (β), plants—tea, tobacco, opium, etc.; (γ), minerals—arsenic, lead, sulphur, etc., dust (meteoric, telluric), adulterations of carelessness (as of chloride of tin in some sugar) or of design; (δ), artificial—alcohol, fusel oil, antipyrin, chloral, paraffin, and other common articles of commerce; *d*, forces in excess or defect—(α), heat or cold, dry or wet; (β), electricity (? weather changes and climate); (γ), light; (δ), mechanical—injuries, external or internal, resulting from diseases of other parts (atrophy, hypertrophy, inflammation, new-growths, foreign bodies, functional disorders), compression (fracture), strain, rupture, stretching.

Studies and Observations on Protoplasm.—Dr. Angelo Ceconi, of Padua, read a paper recounting some researches made by him upon the bone marrow and subcutaneous connective tissue, the results of which led him to accept wholly the granular theory of protoplasm advanced by Altmann. The bioblasts of this author are really living forms possessing the activities of the cell, such as the absorption of fats and of albuminoids, secretion, etc. Pathology must henceforth occupy itself with the biomorphic granules of protoplasm, which must be regarded as the fundamental unit of living matter.

A Modified Method of Physical Diagnosis.—Dr. Bendersky, of Kieff, described a method of physical examination of the internal organs, especially of the stomach and intestine, which he regarded as novel. It consisted in auscultation with a modified otoscope or flexible stethoscope, while at the same time percussion was made. The limits of the abdominal organs can thus be mapped out more accurately than by percussion alone. A demonstration of the method, which was simply the well-known auscultatory-percussion, was made in the meeting.

Toxalbumins of Cancer.—Dr. Boinet, of Marseilles, presented a communication recounting the bacteriochemical experiments which he had made in various forms of cancer (melanosis, lymphadenoma, epithelioma, and mammary carcinoma). He had made a number of inoculations in rats, guinea-pigs, and rabbits with cultures, pieces of malignant tumors, and cancer juice. The author dwelt especially upon his chemical experiments, describing his method of extraction of the toxalbumins and ptomaïnes, their chemical reactions, and their physical characteristics. The phlogogenic action of these toxalbumins was slight; there were noticed tremors, accelerated respiration, pulmonary, renal, cerebral, and bulbar congestion; when given in smaller doses a cachetic emaciation was induced. A sort of vaccinal attenuation was noted in some animals which had been previously inoculated with fragments of carcinomatous tissue, cancer juice, or the toxalbumins of lymphosarcoma or cancer. Such animals were able to resist doses of the toxines twice as strong as those which killed in a few hours non-protected animals.

Motor Troubles in Malaria.—Dr. Boinet, of Marseilles, said that, while resident in Tonkin, and also in the hospitals of Marseilles, he had observed a great variety of motor troubles of malarial origin, which he grouped under the following heads:

I. *Paralysis.*—1. Transitory. These forms were associated with the febrile paroxysm, passing away when that subsided, or at most persisting only a few days; they yielded to the action of quinine. They usually have the characteristics of cortical paralysis. The aphasic variety may appear in simple malarial fever, but is more common in the pernicious forms; it rarely occurs alone, but is more commonly associated with hemiplegia, monoplegia, or paraplegia; hemiplegia occurs with aphasia in about two-thirds of the cases. Facial paralysis is rather unusual. 2. Monoplegia is sometimes confined to very limited groups of muscles, being restricted in one case cited to the district supplied by the ulnar nerve. These paralyses are usually limited, not progressive, transitory and curable, varying frequently, however, in seat and in intensity, possessing, in a word, all the characteristics of cortical paralysis. Nevertheless, they may in certain cases be persistent, generalized, and attacking successively the four extremities, being then of medullary origin. Maillot has found, indeed, marked congestion, softening and hemorrhagic foci in the medulla in these forms. 3. Malarial paraplegia may be accompanied by atrophy and present the characteristics of beriberi; it is not gradually progressive, like dysenteric paralysis, but is often sudden and complete in its onset, being most pronounced at the periphery; as a rule, the bladder and rectum are not involved. There are neuralgic pains, sometimes fulgurant, at the outset, and cutaneous hyperæsthesia is often present, though anæsthesia may exist from the start. Muscular hyperæsthesia, with atrophy, was present in one case reported. Sometimes the paraplegia is persistent; this occurs in the pernicious forms of malarial disease, or may be seen in intermittent fever following a

succession of transitory attacks of paraplegia. 4. Muscular atrophies sometimes appear suddenly, and sometimes follow contractures. These atrophies of medullary origin exist *en masse*, involving at times an entire segment of a limb. The atrophy may also be dependent upon peripheral neuritis (sciatic or ulnar). Certain forms of pseudo-tabes are likewise associated with these peripheral neurites.

II. *Convulsive Troubles.* — 1. Tremor: Rhythmic movements may be induced only by attempts at voluntary motion, or they may persist during periods of repose. They may be limited to the upper extremities. 2. Choreic form: This is often a toxic hysteria of malarial origin. There may also be tremors resembling in type those occurring in paralysis agitans or in pseudo-sclérose en plaques; the author had observed one case of pseudo-tabes of malarial origin. 3. Athetosic movements of the right hand: one such case was seen after an attack of pernicious remittent fever. 4. Spasmodic contractions of the left upper extremity. 5. Intermittent tetanus, tetany. 6. Convulsions limited to the thoracic extremities. 7. In one case there was contraction of the upper extremities.

Prognosis.—The cortical paralyses, often hysterical, are the most transitory; the myelopathic paraplegias are the most grave, since well-defined lesions of the medulla have been found here. In cases of multiple neuritis the prognosis is more favorable, but is apt to be serious when atrophy occurs rapidly. Finally the prognosis is good in the case of those motor troubles which are often associated with toxic hysteria arising under the influence of malarial poison.

Caffeine in Malarial Fevers.—Dr. Federico Biscini, of Montecompatri, Italy, said that physicians in ancient and modern times had used coffee with good results in the treatment of malarial fevers. Black coffee, with the addition of lemon juice, is used in intermittent fevers in places as remote as Morocco and Mississippi, and many authors regard it as one of the most efficacious remedies in these affections. The French army surgeons in Algiers resort to it whenever their supply of quinine gives out. Douzin (Bouchardat's *Annales de Thérapeutique*) lauds a decoction of unroasted coffee in periodic fevers. We find it recommended by Murray and also by Paldames, who prefers the powder of raw coffee, and by Weber, who uses the alcoholic tincture. Delioux gives a decoction of coffee in doses of one to two ounces every hour before the paroxysm, and looks upon it as one of our most powerful febrifuges. Many others also have spoken of it in the highest terms. To Grindel, however, is due the credit of a thorough experimental study of this remedy, and he regards it as one of the best succedanea of quinine. He made these studies in Dorpat, Russia, and among a large number of cases of intermittent fever found very few which resisted the action of coffee. Others have succeeded in curing by this remedy many cases which had proved rebellious to quinine. Contani, Niemeyer, and others speak in the same terms of the remedy. Since so many clinicians have obtained excellent results with coffee, why should we not make experiments with caffeine? The author desired to recommend the experiments with caffeine and its salts, including the arseniate, to the members of the Congress, himself not having had enough cases to enable him to come to a definite conclusion as to their value, his practice being in a district where but little malarial fever was encountered.

Cardiometria.—Dr. Espina y Capo, of Madrid, presented a communication on the measurements of the heart, in which he presented the following conclusions: 1, In order to trace the limits of the cardiac area one should start from previously known data; 2, the author took, by preference, the lines of Traube and of Friedreich; 3, in order to map out distinctly the borders of the heart we must employ both strong and light percussion; 4, in pathological cases we should always previously mark the normal area of the heart for the purposes of comparison.

The Determination of the Size of the Heart in the Living Subject.—Dr. W. Ebstein, of Göttingen, has employed for the past twenty-five years the method of palpatory percussion to determine the form and size of the heart, and to map it out on the anterior thoracic wall; that is, he endeavors, by means of the feeling of increased resistance which is experienced over the heart, to determine its position and size. The author gave a practical demonstration of this method, which he believed to be the most exact as well as the most easily executed, and one which served the purposes of the scientific diagnostician and of the practising physician in equal measure.

Electricity in the Study of Cardiac Arythmia.—Dr Luigi Bordoni, of Sienna, said that certain forms of cardiac irregularity, especially those seen in bigeminism, disappear upon electrical stimulation (continuous current) applied to the neck. It is admissible, therefore, to suppose that moderate excitation of the vagus may be useful for the relief of some of these forms, while, on the contrary, strong stimulation (as already shown by various writers) may favor their occurrence. From this the author concluded that the mode of reaction of the various forms of cardiac arythmia to electrical applications might be useful clinically as a means of distinguishing the nervous varieties from those of mechanical or myocardic origin.

Cardiac Arythmia in Infectious Diseases and Sclerosis of the Heart.—Dr. Bordoni also read a paper on this subject, the conclusions of which were that the analysis of various forms of arythmia in these affections was useful in the discussion of the functional nature of the cardiac ganglia, and favored the view that certain motor centres were present in the heart itself.

Periodic Cardiac Rhythm.—The same author then related two cases in which a long pause occurred regularly in the procession of heart-beats. Both patients were subject to epileptiform attacks, and the speaker referred the phenomenon to a supra-excitation of the vagus.

Nature of the Cardiac Ganglia.—In a fourth paper Dr. Bordoni spoke of a number of clinical experiments he had made, which would seem to show that the cardiac ganglia were not exclusively sensitive. They are connected with the motor centres, and if they are not strictly necessary to the production of the rhythmical contractions of the heart, they are at least auxiliary to the regularity of the cardiac rhythm and aid in a special manner the ventricular contractions.

Dissecting Aneurism of the Aorta.—Dr. Cerchez, of Berlad, Roumania, reported a case of dissecting aneurism of the aorta which had destroyed almost the entire anterior wall of the thorax, and showed a cast and photographs of the lesion. He said the case was interesting because of—1, its volume and the destruction which it had caused; 2, the perforation of the chest wall during life, the patient having survived this destruction for a long period notwithstanding repeated and copious hemorrhages; 3, the mode of death, which resulted from compression of the larger bronchi and trachea, and from syncope induced by the hemorrhages.

The Hepatic Pulse.—Dr. Giuseppe Dagnini, of Bologna, said that he had observed, in a patient suffering from mitral stenosis and insufficiency, a presystolic hepatic pulsation so strong as to simulate the pulsation found in tricuspid insufficiency. The curve of this pulsation corresponded in form to that resulting from the changes in pressure in the cardiac ventricles. At the end of the descending line of the curve there was a slight undulation corresponding to the beginning of the ventricular diastole. During the presystolic period, in the time of the expansion of the liver, there was noted a depression of the thoracic wall over the level of the right auricle, a strong pulsation in the jugular, and, after a brief interval, a pulsation in the crural vein. These phenomena indicated a considerable dilatation and hypertrophy of the right heart, together with an insufficiency of the orifice of the vena cava, and an obstacle to the emptying of the corresponding ventricle. He had seen other cases of

presystolic hepatic pulse, but none so strongly marked as the one reported.

A Ptomaïne Obtained from Hydatid Cysts of the Liver.—Dr. Boinet, of Marseilles, had extracted a ptomaïne from hydatid cysts of the liver which was obtained in the form of long, silky, prismatic crystals, arranged in the shape of fern leaves; the crystals were translucent and soluble in water. Three milligrammes of this ptomaïne injected under the skin of a mouse caused death in five minutes: five centigrammes injected into the veins of a rabbit gave rise to symptoms of hydatid intoxication, convulsions, first accelerated then retarded respiration, rapid action of the heart, dilatation of the pupils, collapse, and a reduction of temperature to about 80° F. Death was preceded by a few convulsive attacks. A patient with hydatids of the liver succumbed with symptoms of rapid respiration and convulsions, followed by paresis of the lower extremities very similar to those observed in the animals experimented upon. This toxine is found more abundantly in cases in which puncture and electrolysis have modified the vitality of the hydatids, transforming the clear fluid into a yellowish, turbid, sirupy liquid, rich in albuminoid matters. It resembles the mytilotoxine of mussels, and results probably from the reduplication of the albuminoid matters. In conclusion, the author said that this ptomaïne seemed to exercise a toxic action upon the still intact hydatid vesicles, causing their aseptic necrosis and death.

Cirrhosis of the Liver.—Dr. Alessandro Cantieri, of Sienna, read a paper entitled "Clinical and Anatomico-pathological Studies on Hepatic Cirrhosis." This condition, he said, consists solely in proliferation, hyperplasia, and hypertrophy of the perivenous connective tissue, having its origin most frequently in an endophlebitis, which extends by continuity to the outer surface of the vessels; the irritation and chronic inflammation surrounding the vena porta extends throughout the portal perivascular connective tissue (exophlebitis, periphlebitis).

With this chronic connective-tissue inflammation, which often spreads to the suprahepatic veins, there may also arise, contemporaneously or later, a phlebitis of these vessels, which in its turn gives rise to a connective-tissue hyperplasia, the condition being then a bivenous hepatic cirrhosis. With whichever form we have to deal the effects are the same—compression of the acini and lobules, increase of the connective tissue and of the delicate intercellular trabeculæ, leading to destruction of the hepatic cells, shrinking of the organ, and almost total abolition of its functions.

The irritation and chronic inflammation of the connective tissue may have another origin. Thus it may arise from an endo-angiocholitis passing through the walls of the vessels and becoming an exoangiocholitis, and then, following the pericanicular connective tissue, the hyperplasia may extend to the entire organ, causing a hypertrophic biliary cirrhosis. This increase in size of the liver is due to the great increase in the connective tissue, to the dilatation and new formation of the biliary canaliculi, and to the fact that the hepatic cells remain intact and increase in size, or, as some maintain, even become more numerous. It is only the peripheral cells of the lobule which are compressed or at times destroyed.

The new-formed interstitial connective tissue is the only constant cause of hepatic cirrhosis. The anatomical distribution of this tissue and its destructive action upon the hepatic cells explains sufficiently the anatomical alterations of the organ, and at the same time the clinical and physiological changes, the increase or decrease in weight and volume.

The distinction which has been made between the several varieties of cirrhosis seemed to the speaker to be superfluous, for the disease always consists in a connective-tissue hyperplasia caused by an infection or intoxication. The most common causes are the abuse of wine or spirituous liquors, or the habitual ingestion of too highly seasoned food; the closure of the common duct by a calculus: the penetration of intestinal micro-organisms into the organ by means of the blood of the portal vein or through the stagnant and altered bile filling the canaliculi; or poisoning by the biochemical microbic products present in quantity in the intestines or blood. In malarial cirrhosis we find in the liver a great number of pigment granules, the remains of the red blood-globules destroyed by the plasmodium, and also other minute corpuscles which are believed to be the scoriæ of the plasmodia. All these corpuscles collected in the liver, which can no longer exercise its epurating functions, remain there as inert bodies, but they inflame the walls of the portal vein which brings them there, and also perhaps the bile-ducts, a result of which is that malarial cirrhosis partakes of the clearly marked characters of neither venous nor biliary cirrhosis.

The other forms, whether with fatty or amyloid degeneration, tuberculosis or cancer, are all varieties of cirrhosis, either venous or biliary or mixed; the other diseases or forms of degeneration are merely accidental complications which cannot of right give their name to the hepatic disease.

In concluding the author said that his experiments were still in progress, and it might be that the results of them would lead him eventually to modify to some extent the views here expressed.

Icteric Pruritus.—Dr. Bouchard, of Paris, read a paper with this title, in which he said that the cutaneous pruritus, so common in jaundice from retention, may also appear and persist a long time before the icterus is evident. This precocious pruritus is observed especially in those cases in which the obstruction to the flow of bile is caused by a neoplasm situated somewhere along the course of the biliary passages.

The Treatment of Jaundice.—Dr. M. Alivia, of Viterbo, read a paper on this subject, of which the following were the conclusions: 1. Long-continued biliary stasis, compromising the secreting cells of the parenchyma of the liver and producing a certain anæmia of the organ, markedly reduces, and sometimes suppresses, the secretion of the biliary acids. The gravity of the phenomena described under the name of biliary intoxication, does not therefore depend upon the action of these acids. 2. The scarcity or absence of bile in the intestinal canal modifies very seriously the chemical processes there taking place. 3. One of the most common of the gastric changes in icterus is the suppression of hydrochloric-acid secretion. 4. There is little or no loss of carbonate of sodium in these cases. 5. The reaction of the contents of the stomach is usually alkaline, less often neutral or faintly acid. 6. The physiological activity of the bile and of the pancreatic juice in the intestine is retarded. 7. The chlorides in the urine are increased, the reaction of the fluid is often alkaline, there is a diminution of urea with an abundance of products of the aromatic series. 8. The more marked are these characters so much the more grave are the disease and its clinical manifestations. 9. Alkaline treatment does not modify these conditions. The effect of the acid treatment is, however, to diminish the chlorides, to restore the normal acidity of the urinary reaction, to increase the excretion of urea, and to reduce that of the aromatic products; and at the same time there is a progressive increase in the weight of the body.

The Causal Treatment of Tuberculosis.—Dr. E. Klebs, of Karlsruhe, read a paper with this title. In order to obtain curative substances from the culture fluids of tubercle bacilli, those parts which are soluble in alcohol must be removed. The matters left after treatment with alcohol belong to the class of albuminoids and peptones. Among these we find toxalbumins which are precipitated by a sodium bismuth-iodide solution and may in this way be removed. These substances only are useful in a diagnostic sense, for which purpose a solution containing only a third part of the toxalbumins is employed. The albuminoses which are not precipitated by the sodium bismuth-iodide solution are called collectively "tuberculocidin," since they are directly fatal to the tubercle

bacilli. The solution of these albuminoses remaining after the removal of the bismuth and iodine salts is known as "antiphthisin."

Through the action of this antiphthisin a complete cure of tuberculosis may be obtained in the lower animals and in man. This cure takes place in consequence of the destruction of the tubercle bacilli and of the resolution of the tubercular tissues. It is accomplished without any fever or inflammatory reaction. An elevation of temperature occurs only when the destruction of the tubercle bacilli has been effected too rapidly, and therefore in very severe cases the remedy must be administered in gradually increasing doses.

During the process of destruction of the bacilli and resolution of the tuberculous tissues, there occurs a slight leucocytosis and an exudation of fluid containing globulin from the blood-vessels. The extravasated leucocytes are probably the carriers of the therapeutic agent, and also contain the material necessary for the conversion of the tubercle-cells, which are poor in chromatin, into normal cells. The exudate containing globulin furnishes the material for the reconstruction of the cell-body.

The antiphthisin must be administered in such a way as to bring it as close as possible to the diseased parts. When it is desired to act through the blood a rectal injection will suffice, but in other cases a local application, varying according to the seat and nature of the diseased parts, is to be preferred. In the case of pulmonary phthisis an injection into the trachea (up to the limit of 3 c c. at a dose) is to be made; in other cases, where the affected part is directly accessible, as the joints, bones, glands, or skin, an injection *in situ* is indicated. Where there is a special collection of tubercular tissue in an accessible region, as for instance, in lupus or caseous infiltration of the bones, a removal of the diseased part by surgical means is to be recommended.

The dosage of antiphthisin is estimated by T. C. units, by which term is to be understood the amount of tuberculocidin, the active substance contained in 1 c.c. of the original tubercle culture fluid. As a rule, when fever is present, we must begin with one T. C. unit and, according as the pyrexia increases or diminishes through the reaction caused by the destruction of tubercle bacilli, gradually or rapidly increase the dose up to 50 T. C. units per diem, administered partly locally and partly through the circulation, by means of rectal injections. In the first month from 100 to 200 T. C. units may be given in twenty five injections, in the second month from 300 to 400, and in the third from 500 to 1,000. In the milder cases a cure may be obtained by a total dose of about 1,000 T. C. units given in the course of three months. After this, during a second period of treatment, the maximum dose may be administered once or twice a week.

In other cases, when cavities are present in the lungs, and when there is an evident tendency to recurrence, a second course of treatment may be undertaken after an interval of at most two months. An indication of improvement is the degeneration and decrease of tubercle bacilli in the sputum, as well as a bettering of the general condition and an increase of weight.

Treatment of Tuberculosis.—Dr. Antonino Fienza, of Naples, read a paper with this title, of which the following were the main points: 1, The hemocine of the blood of the dog, administered hypodermically, in cases of pulmonary tuberculosis relieves the most troublesome symptoms, and may even cure the disease itself; 2, the injection of goat's blood also palliates the symptoms of pulmonary tuberculosis, without, however, curing the disease: 3, the injection of aristol, or of aristol and creosote in almond oil, may retard the progress of the affection, and may also cure it; 4, in tuberculosis of the bones or of the skin, aristol by injection, or in the form of ointment or powder, is often efficacious in curing the affection; 5, salol and essence of peppermint, administered internally or by inhalation, are also of practical value in the cure of pulmonary tuberculosis.

Treatment of Tubercular Peritonitis.—Dr. Carl Beck, of New York, read a paper with this title, the conclusions of which were as follows: 1, A diagnosis of tubercular peritonitis in the early stages is possible only in exceptional cases; 2, the injection of an iodoform-glycerine mixture (1 to 10) into the abdominal cavity has a specific anti tubercular action; 3, as this treatment is useful in other peritonitic troubles, it is particularly indicated in all doubtful cases; 4, the employment of iodoform in powder or solution is indicated after laparotomy whenever it is desired to limit secretion; 5, the absorption of the products of streptococci appears to be made less virulent in its results by the co absorption of iodoform. Of five cases of general peritonitis treated in this way, only one resulted fatally.

The Topical Treatment of Acute Articular Rheumatism.—Dr. Antonino Fienza, of Naples, said that acute articular rheumatism is one of the infectious diseases which yield to local treatment. The best application is an ointment containing a large proportion of salicylate of sodium and iodoform, with or without hyoscyamus. Under such treatment the disease yields in a short time, provided we can avoid, or render less intense, the consequences or the often dangerous localizations of the disease.

Treatment of Acute Rheumatism.—Dr. Domenico Franco, of Naples, read a paper, entitled "A New Contribution to the Treatment and Pathogenesis of Acute Rheumatic Affections," of which the conclusions were as follows:

1. Resting upon old time clinical empiricism as well as upon the results of the most recent investigations, we may say that the most rational treatment of acute rheumatism is the hyperexcitation of the cutaneous secretion. The means hitherto employed to this end are insufficient, hence the excuse for the author's recommendation of dry heat in the bed of the patient.

2. From the excellent results obtained by this method we may be allowed to modify the prevailing theory of the nature of acute rheumatism, which is at the onset an autoinfection, giving place later to a microbic infection.

Gonorrhœal Rheumatism.—Dr. Cerchez, of Berlad, Roumania, read a paper on this affection and its treatment, of which the following were the points touched upon: 1. The various forms of the disease. 2. The differences found in some cases between gonorrhœal rheumatism and rheumatism *a frigore*, and the resemblances which exist in other cases. 3. In none of the cases observed by the author were any cardiac symptoms noted. 4. Up to the present time no specific treatment has been found for this affection at all comparable in its efficacy to salicylate of sodium in acute articular rheumatism.

Purpura Hæmorrhagica.—Dr. Ignazio Carrieri, of Grottaglie, Italy, reported a case of purpura hæmorrhagica occurring in the course of chronic articular rheumatism, which was complicated also by a grave form of iritis. His experience in this case proved that purpura may be associated with chronic as well as acute rheumatism.

Treatment of Rheumatic Tetanus.—Dr. Enrico de Pietra-Leone, of Piazza Armerina, Sicily, reported three cases of rheumatic tetanus, two of opisthotonos and one of pleurosthotonos, in which he had obtained most happy results by means of Neapolitan ointment and alcoholic extract of nux vomica applied to the dorso-lumbar region, combined with the internal administration of the protoiodide of mercury. The latter was given when opportunity offered by the momentary cessation of trismus, but was suspended when salivation appeared.

(To be continued.)

The Island of Mauritius has been visited with an epidemic of small-pox, while cholera has appeared in vessels lying in the port.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

DARWINISM IN EXCELSIS.

London, March 29, 1894.

The Milroy lectures of the Royal College of Physicians were this year intrusted to Dr. Berry Haycraft, professor of physiology at University College, Cardiff, and he has succeeded in arresting the attention of many beyond the audience that usually attends our college lectures. It must be admitted that some of these functions are dreary enough, and it is not surprising that the faces of presidents and councillors sometimes look weary—not to say bored.

Dr. Haycraft took it for granted that all biologists accept Darwinism—a rather large assumption considering the utterances of Virchow, Agassiz, and many others. He holds that "selection" has produced the races of men, animals, and plants, and is the most powerful means of producing further changes; and so we ought to review our efforts to help humanity from this biological point of view. Education, charity, criminal legislation, marriage, etc., are all to be looked at from this standpoint. Selection, he says, "is fact, every bit of it, and no mere theoretical improved fancy." The only question is, How far may this law be applied? One wonders that thinking men had not, before Darwin and Wallace's time, "noticed the operation of this law as bearing upon racial change;" but it appears, on a careful examination of many of their works, that the law was indeed known to many, and he named Malthus and Frankland. Romanes tells us that the idea occurred to Dr. Wells in 1813, and to Mr. Patrick Matthew in 1831. If we grant the operation of natural selection as affecting race change—now we are told universally admitted among biologists—there yet remains the questions, How much race change has been due to selection? Is there also a concomitant transmission of acquired inborn characters (Lamarck's view)? Darwin thought there was, and founded on it his theory of pangenesis.

Here we may pause to remark that long before Darwin "selection" had been relied on by both breeders of animals and gardeners to produce certain variations in animals and plants. The "cow with the crumply horn" of the nursery rhyme, as well as her hornless sister, were familiar enough, as were the varieties of roses and tulips on which many had lavished fortunes. The tameness of domestic animals is considered by biologists as caused by selection, not by inheritance of the result of taming, and Dr. Haycraft remarked that this selection must be going on at the present time. This is obvious; savage dogs are continually being destroyed, and house dogs are in most cases selected from those that are docile and of good temper. One that does not possess these qualities can have no place in town or village life, and so, by continual extermination of the unfriendly, the "friend of man" has gradually been evolved, he added. It must be admitted that there are many cases about which no explanation can be given from the selective point of view, such, for instance, as the effect of climate upon the wool of sheep. In these cases, however, the information we possess is often of a slight nature, so that judgment can hardly be given at present, and all we can say is that, the closer these cases are studied, the greater is the number which suffer a ready explanation as being cases which have been brought into existence through selection. This being so, the direct evidence we possess that experimentally induced changes, such as the effects of mutilations and compressions of various parts of the body, are in no cases transmitted, while we can vary an animal or plant almost at will by selective agencies, points strongly to selection as being the prime producer of racial change, while the direct action of the environment and the transmission of its effects is of little if any account.

It has also to be admitted that changes in the blood may affect the germ-cells, as they live on that fluid, and therefore constitutional variations may be transmitted, although local changes cannot. Environment may act in two ways, argued the lecturer: it may give a preference to certain innate qualities of certain members of the race, and it can undoubtedly vary the size and general well-being of a race through the parental blood. So poisons or micro-organisms introduced into the blood may cause qualitative changes in the germ-cells which will appear in the individuals which develop from them as disease or as predisposition to disease. "This is a position which would, I believe, find acceptance with every biologist, and we shall now have to see how these views apply in the social life we see around us." The application of statements generalized chiefly from the animal world to man and his conditions of life has, of course, to be made with caution, and at most we must look upon these generalizations as giving us a clew to what may be. But the lecturer held that general truths of heredity, applicable to the whole animal and vegetable world, may also apply to the *genus homo*. If men dreamed in former times of the elimination of disease and evil dispositions and incapacity, with a view to the betterment of humanity, they had not, said Dr. Haycraft, "the slightest idea as to how that change might surely be brought about. They thought that by the transmitted effects of good hygienic conditions, education, and kindly treatment this could be effected, and in that belief, as we have already partly seen, they were profoundly mistaken;" and he concluded his first lecture as follows: "The pages of history are full of stories of vast empires which, starting full of hope and vigor, have crumbled away in time and are no more. We read of these and, maybe, often wonder at the apparent waste—whole races swept away amid a million hardships, with a bare record of a page or two. We often wonder, too, whether this must be so with us, whether, as with man, a nation has its allotted time to live. From the biological standpoint we may emphatically affirm that this is not so, and that a race may be preserved and developed without catastrophe, without the terrible suffering which we have learned to regard as inevitable; that we are as everlasting as life itself."

At the second lecture we were once again with the ubiquitous microbes and their war with phagocytes, for Professor Haycraft proceeded to consider the subject of disease in relation to selection, and a rather grim prospect he presented; for while admitting that it is conceivable that immunities may be transmitted from the parents when the blood is affected, and therefore, through it the germinal cells, he held that a better explanation of the fact is that the microbes kill the patient whose phagocytes are defeated, while those whose phagocytes are victorious recover; and thus the weaker perish, and the selective agency of the microbes improves the race.

As we may explain these cases by selection, he thinks it unnecessary to assume that the germ cells are affected. Thus the microbes of infectious diseases, including, say, measles, small-pox, chicken-pox, scarlet fever, typhus fever, and typhoid fever, living in a healthy body, in an uncomplicated case pass away and leave no trace behind except upon the quality of the phagocyte army, and the race is altered in respect to the particular microbe to which it is rendered partially immune. If, then, as he thinks, "it is extremely probable, say, in the next hundred years, we shall altogether banish this group of microbes from Europe, we must not expect to see any racial improvements—nay, rather the reverse. During an attack, for instance, of measles, although life or death may depend chiefly on the power of the phagocytes to resist and destroy the microbes, any concomitant weakness may decide the case, so that these diseases to a certain extent are race-improvers, inasmuch as they prevent a larger number of weak than of strong children from growing to maturity and contributing to the production of the next generation. There are other microbes which, in addition to the production of blood-changes, have a profound and lasting effect upon many of the tissues of the body.

Such are the microbes of leprosy." Another example mentioned is tubercle. Sufferers from phthisis are prone to other diseases, such as pulmonary and bronchial attacks, so that, over and above the vulnerability to this one form of microbe, they are to be looked upon as unsuited not only for the battle of life, but especially for parentage and for the multiplication of the conditions from which they themselves suffer. The phthisical, too, are attractive in personal appearance on account of their rich skin and hair coloring, and their frequent brightness and vivacity, and their obvious delicacy elicits a feeling of pity and wish to protect them. In consequence of this they easily marry, and they are also very fertile.

This phthisical type is very common, and it appears to be an innate variation to which our race is liable. So people with the tuberculous variation who, even under the present circumstances, manage to contribute their quota to the population, would, were the bacillus tuberculosus altogether exterminated, contribute more than their share, and the type would become more common. But this type, apart from the action of the bacillus, being a delicate and fragile one and liable to other affections, the effect of giving it any advantage in the struggle for life would imperil the well-being of the future of the race; and so, Dr. Haycraft concluded, had the Koch cure proved "as efficient as the more sanguine were led to expect, it would be terrible to contemplate the eventual suffering that would have resulted from the constantly increasing numbers of the phthisical type that would have been born with each generation. The bacillus tuberculosus is a friend of the race, for it attacks no healthy man or woman, but only the feeble." He went on to say it attacks not only the poor, ill-fed, and ill conditioned, but also those who live well. It is a disease of all, and those who live in well-ventilated rooms, and who conform to every sanitary regulation, may still belong to the type who fall a prey to it. It is certain, therefore, that, improve the external conditions of life how you will, this type will remain. It is also certain that, by giving the type a better chance than it has already, by preventing infection or by delaying the disease, it will be more and more prevalent as each generation comes to life. It comes out pretty clearly, from our short study of the infective diseases, that some of the microbes that cause these, such as the bacillus of tubercle, only feed on unhealthy human tissue, while the greater number of them kill, if anything, the weak rather than the strong. They are, on the whole, our race friends rather than our foes, and if we attempt seriously to do away with their selective influence—viz., the elimination of the weak and the preservation of the strong—we must supply this selective influence by something else, or the race will tend to deteriorate. Therefore, continued he, "*pari passu* with our endeavor to prevent these diseases must be our efforts to procure that human reason and care to avoid suffering shall all be enlisted in such selection as shall necessitate the birth of future generations from the healthiest and best. As selection is the race changer, we must replace selection by the microbe by the selection of human forethought." The case put by the lecturer is strong as far as it goes, but many will exclaim that it is very partial. Is robustness or physical strength the one good for us to seek? It is easy to see that such statements would have great weight so far as they concern the necessities of uncivilized communities depending for existence on hunting and fighting. Romans, with whom virtue meant courage in fight and in endurance, might rejoice in such a philosophy; but are we, in the nineteenth century, to place physical strength before all other qualifications? Are not the mental endowments of what these biologists call the weak types of some value? Poets and thinkers of all classes have often been feeble, sickly, diseased, yet what should we have been without them? A Napoleon may think the first duty of woman is to give birth to food for powder, and biologists may fancy that progress means the development of a race of giant athletes; but surely such views will find little echo in that profession, the nobility of which is to save the weakest and relieve the suffering.

But we must pass on. The case of the insane need not detain us. The hereditariness of the neurotic type is admitted. As to the drunkard, it seems the effects of alcohol are transmitted, and in any community where the vice is universal the lecturer thought a case for prevention was made out; but if there remained facilities for marriage the removal of alcohol would remove a selective agency, and so tend to deteriorate the race.

How, then, are we to improve the race? Dr. Haycraft says that we have absolutely no foundation for assuming that, because the average longevity has increased during the last half-century, we are more robust than we were. "The evidence is quite the other way." And he adds that "in innate qualities, whether of mind or body, we are dealing with something which suffers transmission, and if, as all admit, the general conditions of life have improved, and the sickly are kept alive as they were not formerly, it follows that these sickly ones have contributed in our century a greater proportion of their qualities to the race than in any previous century of our history. We are absolutely safe in assuming this, for up to the present time almost the only factors which have determined marriage have been mutual regard and social considerations."

People with strong strains of insanity or phthisis marry freely, and there is at present almost no strong public feeling against such a course. The fact of the matter is that, in less advanced times than the present, an abundant and ever-recruited population was almost the determining condition of a nation's existence. The depopulation produced by war and zymotic disease was so dreadful that nations with great fertility alone survived. Thus it came about that all minor differences were overlooked in the one great necessity, that of keeping up a population large enough to resist extinction or to make conquest. The problem of sickly, diseased offspring had not arisen, for all such died in infancy, and the man was most blessed who had the greatest number of children. No sin or disgrace was attached to the begetting of children destined to incapacity, was dreamed of. Now the conditions are changed, we are not liable to the black death, or a war of extermination, and this alone alters for us the problem of child production. The sickly and diseased have married when they would, "without let or hindrance, and may with certainty be assumed to have by so much the more produced a race deterioration among us."

The tendency of events is, therefore, to remove selective agencies, whereby people escape death and live in greater numbers through the child-bearing period into their forties. And as this has been going on in the past and is continuing, we cannot "shirk the fact that preventive medicine and civilization between them have already deteriorated in a marked degree the healthy vigor of our race." He holds, therefore, that if things continue in their present course it is fair to assume that "in a hundred years or so, the wretched products of our race—embodiments of every constitutional disorder, transmitted by ancestry from whose ranks the diseased have not been weeded out before the child-bearing period was over by those natural agencies hitherto free to act—will drag out their lives, martyrs to surroundings which they have tried to mould; they who, as a race, should have been moulded by their surroundings. People hardly realize that, as regards freedom from selective agents, no race of animals or men have ever been in the condition in which we find ourselves to day. The civilizations of Greece and Rome, redundant in art and philosophy, were hotbeds of disease, war, and famine, while among our ancestors there was added to these selective agencies the exposure to the rigors of a northern climate. Preventive medicine is trying a unique experiment, and the effect is already discernible —race decay. But the experiment has gone quite far enough, and it should be modified to produce a different result. Why should the microbe select? Why not public humanity and public reason, since selection there must be? This appears to me to be the only possible solution

of the difficulty, for it is not to be desired that preventive medicine should cease making war upon the microbe, provided at the same time that other selective agencies are used to replace them. Is it not our duty, by boldly facing facts and publicly stating them, to endeavor to bring about such strong public opinion as will force people to look upon the act of giving birth to a diseased child as one of the most cruel sins?"

Having considered the position of the criminal and incapable classes, carefully separating the deserving poor, whose misfortune was treated with kindly sympathy, the Milroy lecturer concluded his course with his suggestion for improving the race—and here it must be confessed he did not push to their logical conclusion the statements he had submitted. The complexity of social problems is too great for the biologist. We cannot prevent marriage—we might perhaps segregate for life the habitual criminal as we do the dangerous insane. But how can we say to the consumptive, the delicate, the non athletic—some of them the most attractive, the most intellectual members of the race—you shall not marry, because you are not robust? Our biologists and Darwinians tell us your physical inferiority will deteriorate our race, and the lecturer at the College of Physicians indorses their statements. Might not the frail thinker reply: Well, the strong of body have ever been the tyrants; set up your standard and secure a fine breed of men from the animal side, but know for all that, your boasted improvement of the race may not be progress; the animal is not all the man, big bone and hard muscle do not imply powerful brains; ancient giants and modern strong men have not done much for your race, poets and philosophers from their sick-beds have given "thoughts that run and words that burn," the influence of which is better than all the doings of the burly sons of Anak. As for the doctors, some of the very best of them are fragile fellow-sufferers, and if you like I will give you a list of the dead or the living who have been or are neurotics, consumptives, or otherwise fragile of body, but grand contributors to human happiness.

Professor Haycraft properly called attention to the slovenly use of the word "poor," and said that in the scriptures it obviously means the deserving and unfortunate, but certainly not the habitually idle and vicious. He quoted with approval on this point, St. Paul's, "if a man will not work neither shall he eat," and "he that does not provide for his own house is worse than an infidel." Yet the apostle's physique would not have met with the approval of Darwinian biologists, for he tells us himself that his "bodily presence was contemptible;" and how much poorer would the race have been without this grand thinker. How can the followers of Him who came to seek and save the lost, abandon their work and give up the effort to reclaim the vicious and raise the lowest? It is right to say the lecturer did not ask this, and guarded himself against some other deductions; but the trend of the argument is in this direction, and the conclusion, to look to public opinion as the selective agent which must replace the microbe is, to say the least, feeble, even if reinforced by legislation, as was in fact suggested; for he declared that when the consequences of transmission to the offspring are realized, if the feeble and diseased marry "they will do so in face of public opinion—perhaps of public rule." He thinks that when the public conscience is aroused on the subject, the sickly and feeble will, with difficulty, find mates, and selection in the form of marriage will play a more important part, having more largely in view the quality of the progeny. Pride of family and race we have, and he would see more of it, but on a biological footing; "marriage not with a view to the amassing of acres, but for the perpetuating of fine physique;" and on these lines he believes we may reasonably expect to see an improvement in the well-being of the race.

He concluded the course as follows: "Man's present surroundings may safely be improved, and the sickly may have a longer life, but this consideration to the individual can only be given provided the race continues to be produced from the most robust and capable."

Now if this be so, are we not in a desperate case, considering in what a miserably diseased and degraded state we are to be in another one hundred years, according to the previously stated estimate? For the action of public opinion is very slow, as is the effect of selection itself. Most of us have been asked often enough by engaged persons as to the wisdom of the contemplated marriage, but few will deny that advice offered is seldom followed; on the contrary, those who ask have usually made up their minds to follow their inclination. Marriages, say lovers, are made in heaven, and it is futile to expect that the opinions of biologists, even if reinforced by the whole faculty of medicine, will in a single century subvert the practice of all the ages. The biologists, therefore, may as well resign themselves to the deterioration they predict, and plume themselves that when their prophecies are fulfilled there will be no Darwinians to take up the burden.

THE EYE-TREATMENT OF EPILEPSY.

To the Editor of the Medical Record.

Sir: In your issue of this date an editorial headed "The Treatment of Epilepsy by Glasses," concluded with the following paragraph:

"Curiously enough, Mr. Dodd seems to be quite unaware of the extensive labors of American ophthalmologists and neurologists upon this subject. And he does not refer at all to the muscular conditions of the eye, upon which so much stress is laid by some. Still *his results seem to be just about as* good *as those obtained by the* use of *prisms and tenotomies*." (Italics my own.)

As this editorial follows closely upon an extended and critical review of this field in medicine published by myself in the *New York Medical Journal* (January and February, 1894), and as it contains a criticism of Mr. Dodd's work very similar in tone to paragraphs in my own article, I trust I may be allowed space in your journal for a reply to what I deem an unwarranted conclusion respecting the results that have been obtained in epileptics by the "eye-treatment" alone.

In the first place, of the twenty-five clinical histories reported by me with full details of the treatment employed, *not one patient took bromides* while under the eye-treatment. (All of Mr. Dodd's cases seemed to have continued the use of bromides.)

Again, most of the cases reported by me were *chronic cases that had been drugged with bromides for years without any curative effects* upon the epilepsy, and with decided detriment to the general health, in many instances.

Thirdly, in some of the cases reported by me, all attempts to discontinue the use of bromides (prior to the correction of muscular anomalies of the orbit), had been followed by such an alarming increase in the fits as to necessitate an immediate return to the bromides. *After the correction of the eye-muscles, the withdrawal of bromides was not followed by any alarming results.*

Fourthly. It can hardly be called a purely accidental occurrence, or a fortuitous circumstance, when a patient having an average of ten attacks daily under bromides, enters upon his second year of entire freedom from attacks without bromides or other drugs after "eye-treatment;" when another victim to epilepsy and bromides for twenty-four years, enters upon his seventh year without epileptic seizures and the withdrawal of all drugs; when a third case continues in perfect health without drugs, when in the past a padded room was needed in which to place him during his violent paroxysms; and when a fourth patient, who required a constant attendant when under bromides, is now entering upon his fourth year of perfect health without drugs, was lately married, and has been for three years an active partner in a large business house.

It is needless to multiply examples of this kind here, to demonstrate that eye-treatment can and often does afford marked and permanent benefit in epilepsy. The

literature of this subject is sufficiently extensive to day, I think, to demonstrate that the reflex causes of epilepsy and other kindred neuroses are worthy of investigation and removal.

Respectfully yours,

AMBROSE L. RANNEY, M.D.

April 7, 1894.

THE ROYAL VICTORIA HOSPITAL, MONTREAL, CANADA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Recently the old time and historic city of Montreal celebrated its two hundred and fiftieth anniversary. That event, and the formal opening of the Royal Victoria Hospital in that city in December last, have made the year 1893 particularly memorable for Canadians. On June 20, 1891, the foundations were laid for the large buildings now known under the collective name of the Royal Victoria Hospital.

The inception of the idea of an hospital on a large scale is interesting. In 1887, or the queen's jubilee year, Lord Mount Stephen, then Sir George Stephen, and Sir Donald Smith, of Montreal, agreed to found an hospital, by the truly princely gift of $500,000 each, or $1,000,000.

The city of Montreal gave a site at the base of Mount Royal, or above Sherbrooke Street—not far from the many buildings composing the University of McGill College—the latter an educational centre under royal charter, that has steadily grown in importance and strength under the able guidance of Sir John William Dawson, C.M.G., F.R.S., etc. The bequests to McGill within a few years are estimated at $2,000,000. The site donated by the city was not large enough for the purposes of three main buildings and outbuildings. The founders again came to the front and purchased from private proprietors adjoining properties to the value of $86,000, when a large and perfect site was the property of the hospital. The location is a classic one; from it a perfect view may be had of Maisonneuve's old city, to-day with a population nearly three hundred thousand, the noble St. Lawrence, the islands in the river, the Victoria Bridge, and the distant Lachine rapids.

An act of incorporation was secured in 1887, when the Royal Victoria entered on its legal existence with the necessary board of directors, etc.

The founders are both Scotchmen by birth, but Canadians and Montrealers. They have amassed large fortunes in Canadian trade and enterprises. They wisely determined to make their gift during their lifetime, when they in person could see that their wishes were given form and substance.

The Royal Victoria Hospital, happily named in commemoration of Her Britannic Majesty's jubilee year, 1887, or the fiftieth anniversary of her reign, consists of three large and separate buildings, as well as a series of outbuildings. The main buildings are built of the fine blue limestone for which the island of Montreal is famous; as seen from the city the buildings appear as one. They cover three sides of a large square, with the usual central court or entrance. The central building faces the city and has two buildings, practically wings, built at right angles to it.

The buildings are as nearly fireproof as skill and science can make them, but to reduce all fire risks to a minimum, the separate or detached building has been adopted, to make "assurance doubly sure."

The central building is the administrative block, occupied solely by the resident staff for residences, offices, etc. The wing toward the east, or toward McGill University, is the medical wing or side, while that opposite, to the west, is exclusively surgical.

The architecture is exceedingly picturesque, and the effect is greatly enhanced by the commanding site occupied by the buildings. The style selected was Scottish baronial. The façade of the main building resembles that of Fyvie Castle, in Aberdeenshire, near Haddo House, the seat of Lord Aberdeen, the present popular and indefatigable Governor General of Canada. The round towers flanking the wings not only recall Scotland, but fair Normandy. They add a quaintness that is novel and attractive in this New World of ours; while they increase the architectural effect, their interiors are useful, as will be shown.

The designer was Mr. Henry Saxon Snell, F.R.I.B.A., of London. In Great Britain, and abroad, Mr. Snell is a recognized authority on hospitals and hospital construction. He built the St. Marylebone Hospital, London, accommodating six hundred patients, an hospital in Aberdeen, as well as others in the United Kingdom. It is said that Mr. Snell's long and honorable career, owing to age, is advancing to a close, and that in the Royal Victoria Hospital he has concentrated all his skill, experience, and knowledge, in a building worthy of its noble founders, a credit alike to the city of Montreal and the broad and prosperous Dominion of Canada.

The main building is connected with the wings by bridges. A description of a single ward will suffice for all, as they are nearly identical in general appearance. Let us consider one in the western or surgical wing. It is a long narrow room, with a lofty ceiling. The walls are white and hard, polished floor. Broad windows on both sides, or due east and west. They admit abundance of light. The windows are specially devised for thorough ventilation without draft. The ward contains thirty-two cots or beds, all of the latest hospital pattern. Beside each is a table of iron and glass. Ward heated by steam. The heating and ventilating apparatus in the walls provides for a constant stream of pure air from without, heated within, and again ushered outward. No foul air is possible. Length of ward, 125 by 27 feet. In the surgical wing, now under consideration, there are three wards of the above type. There are three in the east or medical wing. Apart from these there are private wards, medical and surgical, and an admirable ward for children on the medical side.

The four flanking towers, making the front ends of the wings, are divided up for bath-rooms, closets, etc. Each ward has a nurses' kitchen, where warm food may be had at any hour. Every inch of space has been utilized.

The enemy of man, as well as of medical and surgical science, the germ, that hopes to propagate in the Royal Victoria, certainly has calculated without his host; there his disease-producing and death-dealing mission has had special consideration. No habitat has been provided for him; the wards are without corners where dust and germs may lodge. The floor rounds up to the hard-finnished walls, and the walls round up to the ceilings above, and the walls round to each other. The whole admitting of instant and perfect cleaning—cleaning in the extended sense of modern sanitary science. No lurking place for germs anywhere. The iron and glass tables are constant reminders that germs and the Royal Victoria have nothing in common, the hospital's watchword is unrelenting hostility to germs of all kinds.

The operating theatre will seat three hundred students. It is in strict keeping with everything else in the building. A huge pane of glass, 8 by 20 feet, makes the window or opening opposite the operating-table; the room may be lighted by electricity.

Any extended notice of this, the latest of modern hospitals, is impossible, owing to the space allowed me. All that experience, sound judgment, sanitary science call for, are in evidence in the buildings. Ventilation perfect, without draft, an abundance of sunlight. The buildings have elevators in the wings for patients, bed and all if necessary, and an elevator to the hospital kitchen. The latter, just under the roof, can cook for a regiment. The buildings have the electric-light system, as well as a perfect system of telephones, the latter connecting every part with every other part, and all with the administrative building A concrete system in strict keeping with

all the advances in medical and surgical science, under the guidance of sanitary knowledge—the latter, a *sine qua non*. The whole, a harmonious blending of our *fin de siècle* knowledge.

The Royal Victoria was formally opened with appropriate ceremonies early in December. It did not receive patients until January. The Governor-General of Canada opened the building; he was accompanied by Her Excellency, Lady Aberdeen, who nobly seconds His Excellency in all that advances Canadian interests, and the bettering of mankind.

While it is true that cities larger than Montreal have larger hospitals, the Royal Victoria to day stands second to no hospital in the Old World, or the New. There Canadian students will be educated in our truly noble calling. A mission common to physicians and surgeons the world over—that noble brotherhood devoid of nationality—a mere amplification of the work of the Great Physician, or "that which He, who suffered with and for man, commanded His disciples to practise, when He sent them out into the world to carry out the work He laid the foundation of."

The names of Lord Mount Stephen and Sir Donald Smith will become a part of the present and of the future, as men whose work will be a perpetual benefaction to the sick and suffering. May their noble example find many followers here as well as in Canada.

The *Montreal Gazette*, from which this article, in a large part, has been compiled, intimates that the noble and titled founders have intimated their intention of endowing what they have created.

Wolfred Nelson, C.M., M.D., F.R.G.S.
New York.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 7, 1894.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	4	6
Scarlet fever	168	21
Cerebro-spinal meningitis	0	0
Measles	324	25
Diphtheria	204	52
Small-pox	24	5
Cholera	0	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0

What Becomes of Women Medical Students.—A correspondent of *The Lancet* writes as follows on this subject: The figures quoted from the *Revue Scientifique* with regard to lady medical students at Geneva, have led me to examine the statistics of the London School of Medicine for Women, and the comparison may not be without interest. In the first fifteen years from the foundation of the school, 1874 to 1888 inclusive, 190 students entered for the full course. Of these, 159 have qualified, 32 abandoned their studies, and 9 are still students. Of the students who entered in the two following years, 1889 and 1890, the majority have not yet had time to qualify, but the statistics are as follows: 64 students entered—6 of these have fallen from the ranks, 7 have already qualified, and the remainder are still working for their examinations. Thus, in all, 38 students, or fourteen per cent. of the whole number, have given up work—14 did so on their marriage, 6 from ill-health, and the remaining 18 for various reasons. Of the 166 students who have qualified, 9 have died, 129 are known to be in practice, and 28, or about fourteen per cent., have relinquished their profession. It would be interesting to know what relation these figures bear to those of other medical schools. In Sir James Paget's well-known article, "What becomes of Medical Students?" in St. Bartholomew's Hospital Reports, I find that of the 1,000 students whose history has been investigated by him, eight per cent. never qualified, and at least eight per cent. of those who qualified left the profession within twelve years. These percentages are, it is true, considerably smaller than the corresponding ones for the London School of Medicine for Women, but, considering the different conditions which apply to women, and how frequently marriage or the claims of relations are impediments to further progress, it can hardly be said, whatever may be the case at Geneva, that women medical students in England are lacking in steadfastness of purpose or devotion to the work they have undertaken.

Statistics of the Profession.—The British "Medical Directory" for 1894, gives the following as the numbers of the medical profession for the year 1894: In London, 5,590; in the provinces, including Wales, 14,897; in Scotland, 3,107; in Ireland, 2,485; registered practitioners resident abroad, 3,209; Naval, Military, and Indian Medical Services (excluding those which appear also in other lists), 2,426; "too late" list—additional names, 58. The total number of practitioners in the "Directory" for 1894 is 31,772, as against 30,759 in the previous year. This shows an increase in the twelve months of 1,013. The obituary list, which seems to be wonderfully complete, gives the deaths as 639. The above figures give one medical practitioner in London for every 750 of the population; in the provinces, one in 1,650; in Scotland, one in 1,300; in Ireland, one in 1,900; and in the United Kingdom generally one in 1,450. According to the official statistics published recently in Austria, there were in that country 6,057 physicians holding the diploma of M.D. in the year 1891, and 6,565 in 1892. In the former year there were also 1,588 surgeons of the old surgical schools, but in 1892 this number had been reduced by death to 1,582. The total number of medical practitioners in Austria in 1892 was 8,097, against 7,645 in 1891. The figures for 1893 have not yet been published. According to the *Annuario Statistico Italiano*, under the authority of the general direction of statistics at Rome, the total number of medical practitioners in Italy in 1892 was 19,120, being a proportion of 6.2 per 10,000 of population. The ratio varied in different parts of the kingdom, from 11.1 per 10,000 in sixty-nine chief towns of provinces, to 5.3 in the rural communes. The following figures show the number of practitioners and the proportion to population per 10,000 in several of the principal cities: Rome, 510 (11.6); Naples, 1,506 (28.3); Milan, 374 (8.8); Turin, 292 (8 8); Palermo, 225 (8.2); Genoa, 255 (12.0); Florence, 258 (13.1); Bologna, 144 (10.2); Venice, 127 (8.5); and Catania, 114 (9.5). Between 1878 and 1892 the absolute number of doctors increased by rather more than 1,000 (19,120 as against 18,044), but the relative number decreased from 6.5 to 6.2 per 10,000 of population. It is quite clear from these figures that in no part of the world is the proportion of physicians to the population as great as in the United States.

The Czar's Physician.—Since the death of Professor Botkin, of St. Petersburg, the title of the "first physician in Russia" has been transferred by the public to his old rival, Professor Zakhärin, of Moscow. The latter is in every respect a very interesting personality. He is now about sixty-five years of age, and has been professor of clinical medicine in the Imperial University of Moscow for the last thirty-five years. He received his medical education in Russia, afterward completing it by visiting some of the German universities. He was the first in Russia to introduce exact clinical examination and treatment, and he very soon acquired a large and important practice in the Old Capital of Russia. So successful has he been that he is believed to be worth 5,000,000 roubles

(half a million sterling), the bulk of which has been earned by the practise of his profession. Zakhärin has not written much. He has throughout his career chiefly concerned himself with the practical side of medicine, and especially with the details of treatment. To his consulting-room patients are sent by their medical attendants from all parts of Central and Southern Russia and from Siberia. Success, however, has engendered some peculiarities of character, or perhaps rather of manner, in Professor Zakhärin, which, though possibly in place in Russia, would hardly be suited for other countries. He is fond of showing his power in a manner which is sometimes inconvenient to the people who require his services. Special arrangements must be made in every house in which he sets foot; all dogs must be kept out of the way; all clocks must be stopped; all doors must be thrown wide open. The professor on entering begins a process of gradual undressing, leaving his furs in the hall, his overcoat in the next room, his goloshes in the third, etc. He insists on perfect silence on the part of the afflicted relatives, except in reply to his questions, when their speech must be literally "Yea" and "Nay." His demeanor toward practitioners with whom he happens to be unacquainted makes him greatly feared by them. The learned professor is a man of many "humors," as Ben Jonson would have called them. His fear of over-exertion almost amounts to a monomania. He has a theory as to idiopathic hypertrophy of the heart, which forms a rule of life for him. A maxim which he is fond of repeating is "Take a rest before you are tired," and accordingly he sits down every eight or ten steps. His eccentricities have naturally been the subject of a good deal of unfriendly comment, and some eight years ago a kind of public agitation was got up in opposition to him, in which many hundreds of doctors took part. Resolutions were passed and addresses were presented, and echoes of the gathering storm made themselves heard in the press. These manifestations of feeling were speedily repressed in a way characteristic of Russia. The then General-Governor of Moscow, Prince Dolgoroukoff, sent for the editor of the medical journal in which the addresses were printed, and told him that if he published a word more about Zakhärin he would have to leave Moscow in twenty-four hours' time. It must be admitted, however, that this medical despot can be as courteous and considerate to his patients as possible if he likes, and certainly he is very thorough in his methods of treatment. He never orders or prescribes anything—except, of course, in urgent cases—unless he knows his whole past, his mode of life, his habits, his diet, and his whole social environment, and often by a trifling change in the habits he cures a very chronic ailment. He keeps his patient often two or three hours under examination, and he never sees a patient without a doctor, even if he comes from a distance, and he never prescribes himself. Zakhärin is an individualist; he has no printed diet sheets, and no cut and dried prescriptions: every case is treated in accordance with its particular circumstances.—*British Medical Journal.*

Incompatibles.—Dr. James Kennedy, Professor of Pharmacy, University of Galveston, Tex., says: "A mixture of antipyrine and nitrous ether will deposit green crystals if allowed to stand, providing there is not sufficient water present to keep the new substance in solution. Acetate of lead and sulphate of zinc are frequently ordered in combination for use in the treatment of inflammatory affections of the genital mucous membranes under the impression that the constringing power of these drugs is enhanced by so doing. This is a mistake. Double decomposition occurs when these two salts are dissolved together; sulphate of lead is precipitated as an inert substance, while the acetic acid is transferred to the zinc to form zinc acetate. Strychnine is sometimes prescribed in combination with the bromides or iodides. This is a dangerous practice, for the reason that after the mixture has been allowed to stand for some time the bromide or iodide of strychnine will crystallize and be deposited in the bottom of the vial, and as the last dose of the medicine is taken the greater portion of this powerful drug contained may be swallowed, and perhaps with fatal results. Illustrations of chemical incompatibility might be multiplied *ad infinitum*. The following rules should be borne in mind: Acids should never be prescribed with alkalies or their carbonates. Alkaloids should never be prescribed in combination with alkalies or alkaline carbonates. Salts of the alkaline earths, *i.e.*, magnesium, calcium, barium, and strontium should not be prescribed with soluble carbonates, tartrates, or oxalates, and in the case of the three latter elements they should never be combined with soluble sulphates, phosphates, arsenates, phosphoric or sulphuric acid. The heavy metals, such as iron, manganese, lead, mercury, silver, and zinc should never be prescribed in conjunction with the alkalies, their carbonates or oxalates. Silver should never be prescribed in combination with chlorides, bromides, iodides, or hydrochloric acid or organic matter (substances of vegetable or animal origin). The soluble salts of lead should never be combined with chlorides, hydrochloric, hydrobromic, hydriodic or sulphuric acid."

Vinegar as a Remedy Against Vomiting After Chloroform Narcosis.—Immediately after having performed the operation and placed the patient in bed, Warholm applies a handkerchief moistened with vinegar in front of the nose, letting it remain there until the patient returns to consciousness, or longer if it agree well with him. Of thirty cases experimented upon by the author, the majority were benefited. In most of them the effect was absolute. In two cases the remedy did not succeed; one of these was an alcoholist. The patient should also have a small phial, filled with vinegar, standing at his bedside, to smell as the demand arises. *Hygiea*, lv., 10, Stockholm, 1893.—*The Clinic.*

The Charities of London.—According to the nineteenth annual *Directory to Metropolitan Charities*, over $27,000,000 are spent in a year in carrying on the work of 759 societies and institutions. Of these latter there are 206 in which the medical profession is interested. Their respective number and object, together with their income stated in English values, are given as follows: "Twenty-five charities for the blind, £74,299; seven charities for deaf and dumb, £20,565; five charities for incurables, £51,527; two charities for idiots, £59,165—£205,556. Sixteen general hospitals, £351,247; eight consumption hospitals, £70,235; five ophthalmic hospitals, £15,876; three orthopædic hospitals, £5,462; five skin hospitals, £8,487; sixteen hospitals for women and children, £88,825; four lying in hospitals, £13,942; twenty-nine miscellaneous special hospitals, £119,884—£673,958. Twenty-nine general dispensaries, £29,083; thirteen provident dispensaries, £9,321; six institutions for surgical appliances, £38,599; twenty six convalescent institutions, £64,449; seven nursing institutions, £11,708—£153,160."

Castration of Sexual Perverts.—Dr. F. E. Daniel concludes a paper on this topic as follows: While we cannot hope ever to institute a sanitary utopia in our day and generation, it would seem within the legitimate scope and sphere of preventive medicine, aided by the enactment and enforcement of suitable laws, to eliminate much that is defective in human genesis, and to improve our race mentally, morally, and physically; to bring to bear in the breeding of peoples the principles recognized and utilized by every intelligent stock raiser in the improvement of his cattle; and in my humble judgment the substitution of castration, as advocated above, for the useless and cruel execution of criminals, is the first step in the reformation. I predict that in twenty years the beneficial results of castration for crimes committed in obedience to a perverted (diseased) sexual impulse will be established and appreciated. Rape, sodomy, bestiality, pæ-

derastia, and habitual masturbation should be made crimes or misdemeanors, punishable by forfeiture of all rights, including that of procreation; in short, by castration, or castration plus other penalties, according to the gravity of the offence. It is to be hoped that the medical profession will no longer neglect the investigation of a psychological state fraught with so much significance to criminal jurisprudence. The meaning of every phase of perverted sexuality should be understood, not only by physicians, but by jurists. A more free and unreserved intercourse between the two learned professions should be fostered, when, with a better understanding of the subject in its relation to crime, they can co-operate to secure a modification of existing unsatisfactory laws, and the enactment of others consonant with a more advanced state of medico-legal knowledge. This we owe to ourselves, if we would not merit reproach; to posterity, if we would secure to future generations the full fruits of sanitation in the practice of the great science of preventive medicine.—*Daniel's Medical Journal.*

A Certain Sign of Death.—M. Nicati has invented an ophthalmotonometer, by the aid of which he has discovered that the tension of the globe of the eye, which is normally from eighteen to twenty one grammes, may oscillate, in the physiological state, between fourteen and twenty-five grammes (T. = 0.4 to 1). This tension diminishes with the cessation of the heart beats to twelve grammes, and the lowering of tension, interrupted by rebounds never exceeding twelve grammes, is afterward progressive, until after the lapse of half an hour it has sunk to from one to three grammes. In two hours it is *nil.* The enucleated eye replaced in the orbit presents the same phenomena. The usefulness of this method in medico legal medicine is self evident, and M. Nicati claims for his instrument a further field of usefulness in general medicine, seeing that it can be employed in determining the blood pressure, the amount of which always bears a constant relation to that of the aqueous humor.

A New Clinical Society.—The staff of the Brooklyn Central Dispensary has organized a clinical society, for the purpose of holding a monthly interchange of views on medical and surgical subjects. Reports of the more important cases occurring at the dispensary clinics will be presented and preserved. The name of the organization is the Central Clinical Society of Brooklyn. Among the members are Dr. Barber, Dr. Lucas, Dr. Yorke, Dr. Anderson, Dr. Cochrane, Dr. Jelliffe, and Dr. Wood. The meetings will be held on the fourth Thursday of each month.

Muller's Fluid. T. R.—This fluid, which is perhaps the most commonly employed liquid for hardening pathological specimens, is made by the following formula:

Potassium bichromate	2 parts.
Potassium sulphate	1 part.
Water	100 parts.

The Relation of the Medical Profession to the Abolishment of Prostitution.—In a paper read before the Military Tract Medical Association, Dr. J. F. Percy, of Galesburg, Ill., discusses the causes of prostitution, and gives his views as to the attitude which the medical profession should take toward it. He says: "There can be but one answer to this question. Reform the individual. But when the individual is ignorant of the fact that he needs reforming, what are we to do? Enlighten him! And who can do this but medical men? If we look at this subject from every possible point of view, individual reformation will be found to be the most important means through education of throttling this great public shame which permits of the enslavement of women, and, at the same time, protects the libertinism of men. In other words, 'we must pay more attention to the individual; to the private conscience.' That public agitation of questions like this is of value when rightly presented, I will not deny. But it must be done by men and women who are qualified first by a deep knowledge of the subject, combined with a practical common sense that will be explicit enough to leave no doubt of the meaning intended, yet so guarded as not to offend in its application; above all, there must be a deep and pure love of all that is best for the human race. First, then, individual reformation is to be accomplished, whenever opportunity offers, by a process of pure education on all matters relating to sexual life. Again, to do all possible to establish a custom that will, at least, 'care for our young until after eighteen years,' for before that time thoughtless ignorance and blind impulse of the physical beings are generally stronger than their intellectual and moral faculties. And in this line I plead with you to do all possible to change the pernicious fashion in our American life that permits the mischievous relations between the sexes after the engagement, which is supposed to be the prelude to a happy and healthful marriage. The American parlor after dark is the open door to the possibility of all forms of sexual excess. Young women, leaders in our prayer-meetings, shining lights in the Christian Endeavor Societies, do not think it wrong to sit in the laps of their best young men until the small hours of the morning. They do this under the mistaken, but hellish notion that it is love. Our relation to its abolishment comes into the line of our individual duty as educators, and in no one thing is our responsibility greater. I refer to what the French, who, when they speak of American women, hold up their hands in horror, pointing the finger of scorn at what they are pleased to call the American sin, viz.: abortion. On the other hand we, in America, have only a contempt for our sister who lives across the broad waters when we hear of the number of her illegitimate children. The measure of the sin in its inception is the same in both cases. The difference is that in our own case the innocent life is destroyed before our neighbors know of its existence, while with our sisters in France the life is not destroyed at all. We have not done our whole duty, when we refuse to produce an abortion. We must educate the world up to the point where it will know that to do a thing like this is a most heinous crime. 'Physicians meet in practice women who would scorn to speak evil against a neighbor, who are tender and kind, leaders in social and even religious life, who are above suspicion as to chastity, yet who do not hesitate to murder their own children, providing only they be small enough They do this not only once but repeatedly; and not only do they commit this crime, but talk about it very unconcernedly, or engage in disseminating a knowledge of the work among friends as earnestly as they would work for a supper for the benefit of a hospital, kindergarten, or the far-distant heathen. They would fear to reverse the hands of their watch, but would break the laws of nature in their own human mechanism, a hundred-fold more delicate, complicated, and precious.'

And in the distressing cases where, through ignorance, some girl, confiding in the promises of the fellow she has been taught by custom to call her lover, is betrayed, let us remember that there are State laws that will look after the betrayer, to protect her, and it is our duty to give this information. I know of a number of happy homes, as the world goes, that have grown out of compulsory marriages like these. Again, to abolish prostitution from our land, let us strive with all the power of our might to break down that hellish idea that because a woman has once stepped from the paths of virtue, she has no more claims on our sympathetic charity. This kind of Puritanism has driven and is driving scores of women into the ranks of prostitution."

A Sick Chinaman Never Sneezes.—Dr. Lucy H. Hoag, of Chinkiang, China, writes: "The question was recently discussed in THE RECORD in a humorous way, 'Do sick people ever sneeze?' It is a generally accepted belief among the Chinese that a very sick person never sneezes, simply because the nasal passages are occluded. I add this to the collection of items for what it is worth."

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 45, No. 16.
Whole No. 1224.

NEW YORK, APRIL 21, 1894.

$5.00 Per Annum.
Single Copies, 10c.

Original Lectures.

DIGESTIVE PROTEOLYSIS.

THE CARTWRIGHT LECTURES FOR 1894.

BY R. H. CHITTENDEN, PH.D.,

PROFESSOR OF PHYSIOLOGICAL CHEMISTRY IN YALE UNIVERSITY.

(Continued from page 453.)

LECTURE II.

PART I.—PROTEOLYSIS BY PEPSIN-HYDROCHLORIC ACID.

GASTRIC digestion is essentially an acid digestion. As a proteolytic agent pepsin can act only in the presence of acid, and we have every reason for believing that the enzyme and the acid form a compound, which in turn combines with the proteid undergoing digestion; or, what amounts to much the same thing, that the acid perhaps forms first a compound with the proteid, to which the pepsin can then unite to form a still more complex compound capable of undergoing hydration and cleavage. Pepsin-proteolysis, therefore, is strictly the proteolysis produced by pepsin-acid. In view of this fact, we may well give a moment's thought to the nature and origin of this acid.

Without attempting any statement of the gradual development of our knowledge regarding the acid of the gastric juice, we may accept the now well-established fact that the acid is hydrochloric acid, and that it has its origin in the parietal, or so called border-cells of the gastric glands. That the acid is derived from the decomposition of chlorides is practically self-evident, but Cahn[1] has added experimental proof which removes all shadow of doubt, through his study of the gastric secretion in animals deprived for many days of salt; the gastric juice in such cases being perfectly neutral in reaction, but normal as regards its content of pepsin.

The way in which the specific gland-cells manufacture free hydrochloric acid out of material contained in an alkaline medium is somewhat doubtful. There are, however, at the present day two theories worthy of special notice. The first is based upon observations made by Maly[2] many years ago, which tend to show that certain mineral salts present in the blood are capable of reacting upon each other with formation of hydrochloric acid. Thus, while the blood is an alkaline fluid, it really owes its alkalinity to the presence of two acid salts, viz., sodium bicarbonate ($HNaCO_3$) and disodium hydrogen phosphate (HNa_2PO_4). This latter compound, acted upon by the carbonic acid of the blood, is transformed into a dihydrogen sodium phosphate with simultaneous formation of acid sodium carbonate, as shown in the following equation:

$$Na_2HPO_4 + CO_2 + H_2O = NaH_2PO_4 + HNaCO_3.$$

This acid sodium phosphate dissolved in a fluid containing sodium chloride, gives rise to free hydrochloric acid by a very simple reaction:

$$NaH_2PO_4 + NaCl = Na_2HPO_4 + HCl.$$

It is also to be noted that the disodium hydrogen phosphate may, likewise, give rise to hydrochloric acid through its action on calcium chloride, as indicated by the following equation:

$$2\,Na_2HPO_4 + 3CaCl_2 = Ca_3(PO_4)_2 + 4NaCl + 2HCl.$$

It is thus evident that hydrochloric acid may originate in the inter-reaction of these several salts which are known to be present in the blood; but obviously, the above reactions cannot take place in the blood itself, and we must look to the selective power of the epithelial cells of the gastric glands, as suggested by Gamgee,[1] for the withdrawal of the needed salts from the blood. Once present in the acid-forming cells, and perhaps aided by the inherent qualities of the protoplasm, the necessary chemical reactions may be assumed to take place, after which the newly formed acid may pass from the gland cells into the secretion of the gland.

A later theory regarding the formation of the acid of the gastric juice emanates from Liebermann.[2] This investigator claims the existence in the mucous membrane of the stomach of an acid-reacting, nuclein-like body, which is apparently a combination of the phosphorized substance lecithin with a proteid. To this compound body Liebermann gives the name of lecithalbumin. It is apparently located in the nuclei of the gastric-cells, is strongly acid in reaction, and, according to Liebermann, is an important agent in the production of the free hydrochloric acid of the gastric juice, although its action is somewhat indirect. According to this theory, the free acid is formed in the mucous membrane of the stomach from sodium chloride, through the dissociating action of the carbonic acid coming from normal oxidation. The thus formed acid then diffuses in both directions, viz., through the lumen of the gland into the stomach cavity, and in part in the opposite direction into the veins and lymphatics. It is the assumed function of the lecithalbumin to react with the alkaline sodium carbonate, produced simultaneously with the hydrochloric acid. This naturally gives rise to the liberation of carbonic acid and to the formation of a non-diffusible sodium-lecithalbumin compound, which is retained for the time being in the body of the cell. When the circulation of the blood, accelerated by the digestive process, returns to its ordinary pace, this latter compound is slowly decomposed by carbonic acid with formation of the readily diffusible sodium carbonate, which passes into the blood-current. The rate of this latter reaction is impeded, or perhaps regulated, by the swelling up of the lecithalbumin-containing cells, thus rendering the imbibition of the carbonic acid a slow process. The rate of production of the hydrochloric acid by this hypothetical process depends primarily upon the blood supply, and the oxidative changes by which carbonic acid is formed.

There is much that might be said for and against this theory,[3] but we cannot stop to discuss it here. Like the previous theory, it implies the production of hydrochloric acid from a chloride or chlorides, through chemical processes taking place in the stomach mucosa, and presumably in the large border-cells of the peptic glands. This hydrochloric acid, as you know, in the act of secretion, reacts upon the pepsinogen with which it may come in contact,

[1] Die Magenverdauung im chlorhunger. Zeitschr. f. physiol. Chem., Band 10, p. 522.

[2] Untersuchungen über die Quelle der Magensaftsäure. Annalen d. Chem. u. Pharm., Band 173, p. 227.

[1] Physiological Chemistry of the Animal Body, vol. 2, p. 113.

[2] Studien über chemische Processe in der Magenschleimhaut. Pflüger's Archiv f. Physiol., Band 50, p. 25. Neue Untersuchungen uber das Lecithalbumin. Liebermann, Ibid., Band 54, p. 573.

[3] See discussion by Plósz and Liebermann in Jahresbericht für Thierchemie, Band 22, p. 260.

transforming it into pepsin. It also has the power of combining with all forms of proteid matter, not excepting the products of proteolytic action, to form acid compounds in which the so combined acid, although equal quantitatively to the original amount of free acid, is less active in many ways. Thus, it does not possess in the same degree a destructive action on the amylolytic ferments;[1] it does not play the same part in aiding the proteolytic action of pepsin, and its antiseptic power is far from equal to that of a like amount of free acid.[2]

With relatively large amounts of proteid, we may have half or even quarter saturated proteid molecules, in which the weakness of the combined acid is far more pronounced than in the case of the fully saturated molecule. Such a condition of things must obviously exist in the early stages of gastric digestion. With an excess of proteid matter in the stomach, some time must elapse before the secretion of hydrochloric acid will be sufficient to furnish acid for all of the proteid matter present, yet pepsin-proteolysis does not wait the appearance of free acid. Indeed, the proteid matter may not have combined with more than half its complement of hydrochloric acid before digestive proteolysis is well under way. I have made many analyses of the stomach contents after test meals, and under other conditions, where no free acid could be detected by the tropaeolin test, or better, by Günzburg's reagent (phloroglucin vanillin), although phenolphthalein as well as litmus showed strong acid reaction, and yet not only could acid-albumin be detected in the filtered fluid, but likewise proteoses and peptones. In other words, pepsin-proteolysis can proceed in the absence of free hydrochloric acid, although not at the same pace. Hence, proteoses and even peptones may make their appearance in the stomach contents at a very early period of digestion, *i.e.*, the final products of proteolysis may be found in a mixture containing even a large proportion of wholly unaltered proteid, and obviously at an early stage in the process. Expressed in other language, a portion of the first formed acid-albumin or syntonin may be carried forward by the digestive process to the secondary proteose and peptone stage, before the larger portion of the ingested proteid food has even combined with sufficient acid to insure the complete formation of acid-albumin. This introduces another factor, to be referred to later on, viz , the relative combining power of different forms of proteid matter, especially the proteoses and peptones, as contrasted with native proteids.

In proof of the statement that pepsin-proteolysis can proceed in the absence of free hydrochloric acid, provided combined acid be present, allow me to cite one or two experiments bearing on this point. A perfectly neutral solution of egg albumin, containing 0.8169 gramme of ash free albumin per 10 c.c. of fluid, was employed as the proteid material. In order to completely saturate the proteid contained in 20 c.c. of this neutral albumin solution, 50 c c. of 0.2 per cent. HCl were required. Two mixtures were then prepared as follows:

A. Twenty c.c. of the neutral albumin solution + 50 c.c. 0.2 per cent. HCl + 30 c.c. of a weak aqueous solution of pepsin, perfectly neutral to litmus. This mixture gave only the faintest tinge of a reaction for free acid when tested by Günzburg's reagent.

B. Twenty c.c. of the neutral albumin solution + 25 c.c. 0 2 per cent. HCl + 30 c.c. of the neutral pepsin solution. In this mixture, the proteid matter was obviously only half saturated with acid.

The two solutions were placed in a bath at 40° C., where they were allowed to remain for forty-four hours, a little thymol being added to guard against any possible putrefactive changes. At the end of this time the amount of undigested albumin was accurately determined. The 20 c.c. of original albumin solution contained 1.6338 gramme of dry coagulable albumin. At the end of the forty-four hours, *A* contained only 0.5430 gramme of unaltered albumin, or acid-albumin, while *B* contained 1.2225 gramme. That is to say, in the mixture *A*, where the acid existed wholly in the form of combined acid, but with the albumin completely saturated, 1.0908 gramme of the proteid were converted into soluble albumoses and peptones. In *B*, on the other hand, where the albumin was only half saturated with acid, 0.4113 gramme of the proteid was converted into soluble products. This difference in action is made more striking by the statement that where the proteid was only half saturated with acid, 25.1 per cent. of the albumin was digested; while with a complete saturation of the proteid, 66.7 per cent. of the albumin was digested.

To give emphasis to this matter, a second experiment may be quoted as follows: The proteid used was the same neutral solution of egg-albumin containing 0.8169 gramme of albumin per 10 c.c. Two mixtures were prepared as follows:

A. Ten c.c. of the neutral albumin solution + 21.7 c.c. 0.2 per cent. HCl, the amount needed to completely saturate the proteid, + 40 c.c. of a weak solution of pepsin, perfectly neutral.

B. Ten c.c. of the albumin solution + 10.9 c.c. 0.2 per cent. HCl + 40 c.c. of the pepsin solution, making a mixture half saturated with acid.

These two solutions were warmed at 40° C. for seventeen hours. The extent of digestive action was then determined, when it was found that in *A* only 0.1638 gramme of the proteid was undigested, while in *B*, 0.6088 gramme remained unaltered. In other words, where the proteid was completely saturated with acid, but with an utter lack of free acid, 79.9 per cent. of the albumin was converted into albumoses and peptone, while in the mixture half saturated with acid only 25.4 per cent. was digested.

These two experiments thus give striking proof that free acid is not absolutely essential for pepsin-proteolysis. Digestion is, to be sure, more rapid and complete when free hydrochloric acid is present, but proteolysis is still possible, and even vigorous, when there is a marked deficiency of free acid. Further, as we have seen, proteolysis may proceed to a certain extent even though the amount of acid available is not sufficient to combine with more than half the proteid matter present.

These facts at once raise the question whether the products of proteolysis may not have a stronger affinity for acid than the native proteids; an affinity so strong that they may be able to withdraw acid from the acid-albumin first formed. One of our conceptions regarding pepsin-proteolysis is that acid is necessary for every step in the proteolytic process. A primary albumose, for example, cannot be further changed by pepsin, unless there is acid present for it to combine with. This being true, it is clear, in view of the fact that even peptones may appear in a digestive mixture containing an amount of acid insufficient to combine even with the albumin present, that the products of proteolysis must withdraw acid from the acid-albumin first formed. In regard to the first point, my own experiments certainly tend to show that the products of gastric digestion do combine with larger amounts of hydrochloric acid than undigested proteids; and further, that of the several products of proteolysis, the secondary proteoses combine with a larger percentage of acid than the primary proteoses, while true peptones combine with still larger amounts. In other words, the simpler and more soluble the proteid, the larger the amount of acid it is capable of combining with; a statement which accords with results obtained by other workers[1] in this direction. Further, another factor of considerable importance in connection with the natural digestive process is that a dissolved proteid, such as protoalbumose for example, will combine more readily with free acid than an insoluble proteid: from which Gillespie[2] is led to infer that in pepsin-proteolysis where

[1] Chittenden and H. E. Smith: Studies in Physiol. Chem., Yale Univer., vol. i., p. 18.

[2] Compare F. O. Cohn: Ueber die Einwirkung des künstlichen Magensaftes auf Essigsäure- und Milchsäuregährung. Zeitschr. f. physiol Chem., Band 14, p. 74.

[1] See especially Gillespie: Gastric Digestion of Proteids. Journal of Anat. and Physiol., vol. 27, p. 207.

[2] Loc. cit.

there is no free acid present, only acid-albumin proteoses may be formed to a limited extent at the expense of some of the acid of the acid albumin, a portion of the latter being perhaps reconverted into albumin. The ability of the proteoses, however, to withdraw acid from its combination with a native proteid is perhaps best indicated by Kossler's[1] experiments, which show that a solution of acid-albumin containing only enough hydrochloric acid to hold the albumin dissolved, on being warmed at 40° C. for some hours, with addition of a neutral solution of pepsin, may undergo partial conversion into albumose or peptone.

In spite of these facts, there is some evidence that while proteoses and peptones have the power of combining with more acid than a like weight of native proteid, the latter, leaving out all action of the pepsin, has a stronger affinity for the acid; in fact, the firmness or strength of the union appears to diminish as the products become simpler.[2] Hence, a peptone separated from a digestive mixture, will part with its combined acid somewhat more readily than acid-albumin for example, although on this point there is not complete unanimity of opinion.[3] In digestive proteolysis, however, where the pepsin is accompanied by a minimal amount of hydrochloric acid, insufficient perhaps to even half saturate the proteid present, the formation of proteoses and peptones must be accompanied by a withdrawal of acid from its combination with the native proteid.

In illustration of some of these points, and especially of the statement that the products of gastric digestion have the power of combining with more hydrochloric acid than the original proteid, allow me to cite the following experiment: 10 c.c. of a neutral solution of egg albumin containing about 0.82 gramme of pure dry albumin, free from mineral salts, required 23.8 c.c. of 0.2 per cent. hydrochloric acid to completely saturate the proteid matter. A mixture was then prepared as follows: 10 c.c. of the albumin + 24 c.c. 0.2 per cent. HCl + 30 c.c. of a neutral pepsin solution, the mixture showing a faint trace of free acid when tested by Günzburg's reagent. This solution was placed in a thermostat at 38° C., and from time to time a drop of the fluid was removed and tested for free acid. If no reaction could be obtained, 0.2 per cent. hydrochloric acid was added to the mixture, until Günzburg's reagent showed free acid to be again present. The following table shows the rate of disappearance of free acid, and the amounts of 0.2 per cent. HCl required to make good the deficiency. The mixture was placed at 38° C. on February 6th, at 11.30 A.M., and, as stated, contained a trace of free acid, 24 c.c. 0.2 per cent. HCl having been added to accomplish this result.

Time.	Acid added to show trace of free acid.
February 6, 11.30 A.M.	
" 2.15 P.M.	4.5 c.c., 0.2 per cent. HCl.
" 5.00 P.M.	1.0 " " " "
February 7, 8.45 A.M.	3.0 " " " "
" 2.00 P.M.	1.0 " " " "
" 5.00 P.M.	1.5 " " " "
February 8, 8.30 A.M.	1.0 " " " "
" 2.30 P.M.	0.0 " " " "
February 9, 8.30 A.M.	3.0 " " " "
February 10, 9.30 A.M.	2.0 " " " "
	17.0

From these results several interesting conclusions may be drawn, in conformity with the statements already made. Thus, as soon as proteolysis commences, the products formed begin to show their greater affinity for acid by withdrawing acid from its combination with the native proteid, a supposition which is necessary to account for even the starting of the proteolytic process. Further, it is evident that proteoses and peptones combine with a far larger equivalent of acid than the native albumin is capable of: 17 c.c. of 0.2 per cent. HCl being required in the above experiment to satisfy the greater combining power of the newly formed products. This doubtless depends upon the cleavage of the large proteid molecule into a number of smaller or simpler molecules, each of the latter, perhaps, combining with a like number of HCl molecules. This view of the relationship of the individual proteoses and peptones is one more or less generally held, and is supported by many facts.[1] However this may be, it is evident that the products of pepsin proteolysis combine with a larger amount of hydrochloric acid than the mother proteid, and that the transformation of the latter, at least under the conditions of this experiment, is a slow and gradual process. In the living stomach, on the other hand, where the secretion of acid is progressing with ever-increasing rapidity, it is easy to see that the process of proteolysis would naturally be much more rapid.

Just here we may recall the theory advanced by Richet[2] quite a number of years ago that the acid of the gastric juice is a conjugate acid, composed of leucin and hydrochloric acid, a theory which has found little acceptance. Klemperer,[3] however, assumed that solutions of leucin hydrochloride with pepsin would not digest albumin, but Salkowski and Kumagawa,[4] have shown by experiments that leucin and other amido acids, as glycocoll, may be dissolved in hydrochloric acid, in such proportion that the solution is practically composed of leucin hydrochloride, without interfering with the digestive action of pepsin acid on blood-fibrin; the solution is physiologically active, although Günzburg's reagent shows an entirely negative result for free acid. If the matter is studied quantitatively, however, it will be found that the amido-acids combining in this manner with the hydrochloric acid of the gastric juice do give rise to some disturbance of proteolytic action;[5] *i.e.*, digestion may be less rapid, especially on egg-albumin, a conclusion which Salkowski[6] has lately confirmed. Still, under such circumstances, digestion does go on and at a fairly rapid rate; hence, if there is a combination between the acid and these organic bodies, as is indicated by Günzburg's reagent, the acid is still active physiologically, even more so than in the compound formed by the interaction of proteid and acid. In other words, many of these neutral organic bodies that may originate in the stomach through fermentation processes, or otherwise, and which tend to combine with the acid of the gastric juice, do not, as a rule, impede pepsin-proteolysis to the same extent that an excess of proteid matter may. In fact, in artificial digestions long continued, pepsin-acid solutions containing considerable leucin, for example, may accomplish as much in the way of digesting proteid matter as the same amount of pepsin-acid without leucin; but the inhibitory action of the amido-acid is there, and may be shown during the first few hours of the experiment, when less proteoses and peptones are formed than in the control experiment without leucin.

It is foreign to our subject to discuss here methods for the detection of so called free and combined hydrochloric acid in the stomach contents, or the special significance of such findings in health and disease. I cannot refrain, however, in connection with what has been said above, concerning the proteolytic action of pepsin in the presence of combined acid, from saying a word concerning the usual deductions drawn from the absence of free acid in the stomach contents. As Langermann[7] has re-

[1] Beiträge zur Methodik der quantitativen Salzsäurebestimmung im Mageninhalt. Zeitschr. f. physiol. Chem., Band 17, p. 93.

[2] Compare Blum: Über die Salzsäurebindung bei künstlicher Verdauung. Zeitschr. f. klin. Medicin, Band 21, p. 558.

[3] See Sansoni: Beitrag zur kenntniss des Verhaltens der Salzsäure zu den Eiweisskörpern in Bezug auf die Chemische Untersuchung des Magensaftes. Berliner klin. Wochenschrift, 1893, Nos. 42 and 43.

[1] See Gillespie: On the Gastric Digestion of Proteids. Journal of Anatomy and Physiology, vol. 27, p. 209.

[2] Le suc gastrique chez l'homme et les animaux, ses propriétés chimiques et biologiques. Paris, 1878.

[3] Zeitschr. f. klin. medicin, Band 14, Heft 1 and 2.

[4] Ueber den Begriff der freien und gebundenen Salzsäure im Magensaft. Virchow's Archiv, Band 122, p. 235.

[5] Rosenheim: Centralbl. f. klin. Medicin, 1891, No. 39. F. A. Hofman, ibid., No. 42.

[6] Ueber die Bindung der Salzsäure durch amidosäuren. Virchow's Archiv, Band 127, p. 501.

[7] Virchow's Archiv, Band 128, p. 408.

cently expressed it, we have methods for discriminating between free and combined acid; we can, moreover, determine the amount of free acid, but is it not equally important to be able to say something definite concerning the amount of combined acid in the stomach contents? Even in the absence of free hydrochloric acid there may be a sufficient amount of HCl secreted to answer all the purposes of digestion, and yet at no time may there be any free acid present to be detected by the various color-tests ordinarily made use of. I am aware that in ordinary examinations of the stomach contents after a test meal the results are essentially comparative, and possibly all that are necessary for clinical purposes. What I wish to emphasize, however, is that in order to pass conclusively upon the sufficiency or insufficiency of the gastric secretion, it is wise to know not only the total acidity of the stomach contents and whether there is free acid or not, but to know more about the amount of combined acid present. Thus, there is a natural tendency to divide the fluids withdrawn from the stomach into three groups, viz., those which contain free acid in moderate amount, those which contain free acid in excess, and those in which free acid is entirely absent; but in the latter group, there may be very marked differences in the amount of acid combined with the proteid and other material present. It appears to me that one of the questions to be answered is whether there is sufficient combined HCl present to meet all the requirements for digestion. If there is, that gastric juice may be just as normal as the one containing free mineral acid, and yet, according to our present tendencies, we should be inclined to call the juice containing no free acid abnormal, although there may be sufficient combined acid present to meet all the requirements for digestion. Hence, in examination of the stomach contents, it is well to consider the use of those methods which tend to throw light upon the amount of combined acid present, for in my opinion it is only by a determination of the total amount of combined acid that we can arrive at a true estimate of the extent of the HCl deficiency. Obviously, in simple clinical examinations of the stomach contents after a test meal, where proteid matter is not present in large amount, free acid may reasonably be expected to appear after a definite period; but in any event, it is well to remember that free hydrochloric acid is not absolutely indispensable for fairly vigorous proteolytic action, and that in the presence of moderate amounts of proteid matter a large quantity of acid is required to even saturate the albuminous material.

Consider for a moment the amount of acid a given weight of proteid will combine with. before a reaction for free acid can be obtained. Thus, Blum[1] has stated that 100 grammes of dry fibrin will require 9.1 litres of 0.1 per cent. hydrochloric acid to completely saturate it. Hence, with a daily consumption of 100 grammes of proteid, there would be needed for gastric digestion 4.5 litres of 0.2 per cent. hydrochloric acid daily, and even this would not suffice to give any free acid, assuming that none of the acid is used over again. The results I have already given for egg albumin tend to show that 1 gramme of pure albumin, free from inorganic salts, when dissolved in a moderate amount of water will combine with about 30 c.c. of 0.2 per cent. hydrochloric acid. Consequently, on this basis, 100 grammes of dry egg-albumin will combine with 3 litres of 0.2 per cent. HCl, and not until this amount of acid has been added to such a mixture will reaction for free acid be obtained with Günzburg's reagent. Hence we can easily see, in view of these figures, that the production of hydrochloric acid by the gastric glands may at times be very extensive, without the stomach contents necessarily containing free acid.

While I am by no means willing to agree with Bunge[2] that the chief importance of the acid of the gastric juice is its action as an antiseptic, I am decidedly of the opinion that the lack of free hydrochloric acid in the stomach contents is more liable to cause disturbance through the consequent unchecked development of bacteria than through lack of proteolytic action, assuming, of course, the presence of a reasonable amount of combined HCl. The hydrochloric acid of the gastric juice unquestionably plays a very important part in checking the growth and development of many pathogenic bacteria, as well as of less poisonous organisms, which are taken into the mouth with the food. On all, or at least nearly all of these organisms, free hydrochloric acid exerts a far greater destructive action than when it is combined with proteid matter. As Cohn[1] has plainly shown, both hydrochloric acid and pepsin-hydrochloric acid quickly hinder acetic- and lactic-acid fermentation, but when the acid is combined with peptone, for example, it is no longer able to exercise the same inhibitory influence. It is also important to note that the lactic acid ferment is not so sensitive to hydrochloric acid as the acetic-acid ferment. Consequently, when lactic-acid fermentation is once developed a comparatively large amount of HCl is required to arrest it. Hence, as we all know, a diminished secretion of hydrochloric acid renders possible acid fermentation of the stomach contents, as well as putrefactive changes which would not occur in the presence of free HCl, and which are very incompletely checked when the acid is over saturated with proteid matter.

Pepsin-proteolysis, however, may proceed, to some extent, at least, even though a small amount only of combined acid is present. The combined acid, however, must be hydrochloric acid, if proteolysis is to be at all marked. To be sure, pepsin will act in the presence of lactic acid, as well as in the presence of other organic acids and inorganic acids, likewise, but such action at the best is considerably weaker than the action of pepsin-hydrochloric acid.[2]

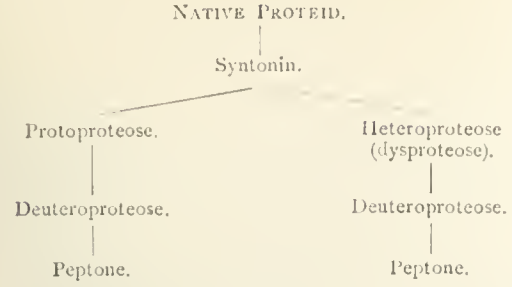
The ferment pepsin can exert its *maximum* action only in the presence of free hydrochloric acid. There must be sufficient HCl to combine with all of the proteid matter present, and the products of proteolysis as fast as they are formed, if digestion is to be rapid and attended with the formation of a large proportion of the final products of proteolysis. It is under such conditions that our study of pepsin-proteolysis is usually conducted. Further, it is to be remembered that our knowledge of the products of such proteolytic action depends almost entirely upon data accumulated by artificial digestive experiments. In no other way can we be absolutely certain of the conditions under which the proteolysis is accomplished, for it is a significant fact, perhaps plainly evident from what has already been said in the preceding lecture, that the character of the products resulting from ordinary proteolysis is dependent in great part upon the attendant circumstances. Thus, with a relatively small amount of acid, and perhaps also of pepsin, the initial products of proteolysis are especially prominent, while with an abundance of both pepsin and free acid, coupled with long continued action, the final products predominate. Between these two extremes there are many possible variations, as was, I think, made clear in the previous lecture. At the same time, it is to be noticed that these differences are mainly differences in the proportion of the several products, rather than in the nature of the resultant bodies.

In a general way, the products of pepsin-proteolysis may be divided into three main groups, viz.: bodies precipitated by neutralization and represented mainly by the so called syntonin or acid-albumin; bodies precipitated by saturation of the neutralized fluid with ammonium sulphate and represented by proteoses; bodies non-precipitable by saturation with ammonium sulphate and represented by amphopeptones. The relationship of the individual products may be clearly seen from the follow-

[1] Zeitschr. f. klin. Medicin, Band 21, p. 558.
[2] Physiologische und Pathologische Chemie p. 153.

[1] Ueber die Einwirkung des künstlichen Magensaftes auf Essigsäure-und Milchsäure gährung. Zeitschr. f. physiol. Chemie, Band 14, p. 75. See also Hirschfeld: Pflüger's Archiv f. Physiol., Band 47, p. 510.
[2] Chittenden and Allen: Influence of Various Inorganic and Alkaloidal Salts on the Proteolytic Action of Pepsin-Hydrochloric Acid. Studies in Physiol. Chem., Yale University, vol. 1., pp. 91, 94.

ing scheme, arranged after the plan suggested by Neumeister.



It is, of course, to be understood that this is not intended to represent anything more than the order of formation of the several bodies, no attention being paid here to the hemi- or anti-character of the several products, or classes of products. Thus, proto and heteroproteose are primary bodies formed directly from the initial product syntonin by the further action of the ferment. In the same sense, deuteroproteose is a secondary proteose, being formed by the further hydration of the primary body. Lastly, peptones, the final products of pepsin-proteolysis, are the result of the hydration and possible cleavage of deuteroproteoses. Further, in almost every gastric digestion there is also formed a small amount of antialbumid, a product insoluble in dilute hydrochloric acid and which consequently appears as an insoluble residue. This body is very resistant to the action of pepsin-acid when once formed, but may be slowly converted, in part at least, into a soluble antialbumose and thence into antipeptone.

All of these bodies can be readily identified in any digestive mixture containing them by a few simple reactions. Thus, after having removed any acid-albumin or syntonin present by neutralization, the concentrated fluid can be tested at once. If primary proteoses are present, the neutral fluid will yield a more or less heavy precipitate on addition of crystals of rock-salt, precipitation being complete only when the fluid is saturated with the salt. Further, if the proteoses are present in not too small quantity, nitric acid added drop by drop to the neutralized fluid will produce a white precipitate, readily soluble on application of heat but reappearing as the solution cools. If primary proteoses are wholly wanting, then no precipitate will be obtained by acid unless the fluid is saturated with salt, in which case a portion of the deuteroproteose will be precipitated. The two primary proteoses differ from each other especially in solubility; protoproteose being readily soluble in water alone, while heteroproteose is soluble only in salt solutions, dilute acids, and alkalies. Hence, when these two bodies are precipitated together by saturation with salt, they may be readily separated by dissolving them in a little dilute salt solution and dialyzing the fluid in running water until the salt is entirely removed; heteroproteose will then be precipitated, while the proto-body remains in solution.

By long contact with water, and even with concentrated salt solutions, heteroproteose tends to undergo change into a semi-coagulated form, named dysproteose, insoluble in dilute sodium-chloride solutions. This body can be reconverted into heteroproteose, in part at least, by solution in dilute acid, or alkali, and reprecipitation by neutralization.

As a class the proteoses are characterized by far readier solubility in water than native proteids, by a far greater degree of diffusibility, by non-coagulability by heat and by alcohol, although precipitable by the latter agent. Further, nearly all proteose precipitates are exceedingly sensitive toward heat, tending to dissolve as the fluid is warmed and reappearing as the solution cools. In fact, this peculiarity often serves as a means of identification. Potassium ferrocyanide and acetic acid, picric acid in excess, and likewise cupric sulphate, all precipitate the primary proteoses, while deuteroproteose is only slightly affected by these reagents, or indeed not at all.

In order to separate the secondary proteose from the primary bodies in the absence of peptones, the fluid is neutralized as nearly as possible, and then, after suitable concentration, is saturated with sodium chloride for the partial precipitation of the primary proteoses. To the clear filtrate, acetic acid[1] is added drop by drop as long as a precipitate results, the latter being composed of a mixture of protoproteose and deuteroproteose. That is to say, protoproteoses are not completely precipitated from neutral solutions by saturation with salt alone; a little acid is required to complete it, but this tends to bring down a certain amount of deuteroproteose. From this filtrate, however, the deutero-body can be separated in a pure form by dialyzing away the salt and acid, and then concentrating the fluid and precipitating with alcohol. When the proteoses are mixed with peptones, the former must first be separated collectively by saturation of the fluid with ammonium sulphate. Peptones are especially characterized through non-precipitation by the ordinary precipitants for proteid bodies, and especially by the fact that they are wholly indifferent to saturation with ammonium sulphate either in neutral, acid, or alkaline fluid. This reaction, which constitutes the main, and perhaps the only absolute, method of separating peptones from proteoses must be carried out with great thoroughness in order to insure a complete precipitation of deuteroproteose. The latter stands midway between primary proteoses and peptones in many respects, and seems to share with peptones something of a tendency to resist precipitation by the ammonium salt. Indeed, as Kühne[2] has recently pointed out, the last traces of deuteroproteose can be precipitated from the fluid only by long-continued boiling of the ammonium sulphate-saturated fluid, and even then it is seldom complete unless the reaction of the fluid is alternately made neutral, acid, and alkaline, and the heating continued for some time after each change in reaction. Under such circumstances the last portions of deuteroproteose separate from the salt-saturated fluid and float on the surface in the form of an oily or gummy mass, while the true peptone remains in the fluid absolutely non precipitable by the salt.

In this filtrate, peptone can be detected by adding to a small portion of the fluid a very large excess of a strong solution of potassium hydroxide, followed by the addition of a few drops of a very dilute solution of cupric sulphate. If peptone is present, a bright red color will appear, the intensity of which, with the proper amount of cupric sulphate, will be proportional to the amount of peptone present. If it is desired to separate the peptone from the ammonium-sulphate-saturated fluid, there are several methods available, of which the following is perhaps the most satisfactory: The fluid is concentrated somewhat, and allowed to stand in a cool place for crystallization of a portion of the ammonium salt. The fluid is then mixed with about one-fifth its volume of alcohol, and allowed to stand for some time, when it separates into two layers—an upper one, rich in alcohol, and a lower one, rich in salts. The latter is again treated with alcohol, by which another separation of the same order is accomplished. Finally, the lighter alcoholic layers containing the peptone are united, and exposed to a low temperature until considerable of the contained salt crystallizes out. The fluid is then concentrated, and after addition of a little water is boiled with barium carbonate until the fluid is entirely freed from ammonium sulphate. Any excess of baryta in the filtrate is removed by cautious addition of dilute sulphuric acid, after which the concentrated fluid, reduced almost to a sirupy mass, is poured into absolute alcohol for precipitation of the peptone.

So separated, the peptone formed in gastric digestion is exceedingly gummy, but can be transformed into a yellowish powder, very hygroscopic, of more or less bitter taste, and, when thoroughly dry, dissolving in water

[1] Saturated with sodium chloride.

[2] Erfahrungen über Albumosen und Peptone. Zeitschr. f. Biol., Band 29, p. 2.

with a hissing sound and with considerable development of heat, like phosphoric anhydride.[1]

I have introduced these dry chemical facts, none of which are especially new, because I deem them of considerable importance and because they are not very generally known. In fact, there seems to be a tendency on the part of many who are more or less familiar with the advances made in our knowledge of the products of pepsin proteolysis to question the existence of these different bodies, or to show at least a spirit of indifference toward these recent facts which have been gradually accumulated, and I may say accumulated at the expense of considerable labor. The time is past for calling the products of gastric digestion peptones; it is time for a full recognition of the fact that pepsin-proteolysis is synonymous with the production of a row of bodies, chemically and physiologically distinct from each other, each endowed with individuality enough to admit of certain detection, and all bearing a certain specific and harmonious relationship to their neighbors, the other members of the series.

Further, it is not enough to admit the formation of a single intermediate body, midway between syntonin and peptone. The so-called propeptone of the past is simply a mixture of proteoses, of ever changing composition, varying with each change in the proportion of the component proteoses. Each of these proteoses can be detected, under suitable conditions, in the products of every artificial digestion as well as in the stomach contents, and no better measure of the proteolytic power of the natural stomach secretion can be devised than a study of the character of the individual bodies present in the stomach contents after a suitable test meal. The proper tests and separations can be made with a small amount of the filtered fluid, and much light thrown upon the digestive power of the secretion by even a rough estimate of the proportion of primary and secondary proteoses and peptones formed in a given time after the ingestion of a certain amount of proteid food.

In pepsin-proteolysis we have to deal, in my opinion, with a series of progressive hydrolytic changes in which peptones are the final products of the transformation. Commencing with the formation of acid-albumin or syntonin, hydrolysis and cleavage proceed hand in hand, under the guiding influence of the proteolytic enzyme, and each onward step in the process is marked by the appearance of a new body corresponding to the extent of the hydrolysis; each body, perhaps, being represented by a row or series of isomers, all externally alike, but differing in their inner structure, according to the proportion of hemi- and anti-groups contained in the molecule. As opposed to this theory, we have the older views of Maly,[2] Herth,[3] Henninger,[4] and others based upon observations which tend to show that peptones do not differ in chemical composition from the proteids which yield them. As a matter of fact, the products then analyzed were not peptones at all; they were merely the primary products of pepsin-proteolysis, *i.e.*, what we now term primary proteoses, and it is time we stopped using such data to enforce the theory that peptones are polymers of the proteids from which they are derived.

In 1886, the writer, in conjunction with Professor Kühne, commenced a study of the various cleavage products [5] formed by the action of pepsin-hydrochloric acid from the better characterized and purer proteids, this being a continuation of our earlier work on the proteoses and peptones formed from blood-fibrin, serum albumin, etc. This work I have continued in my laboratory up to the present time, with many co workers, and as a result we have to-day a series of observations gradually accumulated during these last seven years, some the results of work carried on this last year, which speak in no uncertain way of the character of both the primary and secondary products of pepsin-proteolysis. Furthermore, in attempting to settle this question once for all, I have selected for study examples from the various classes of both animal and vegetable proteids; and as representatives of the latter have had carried out two lengthy series of experiments on the crystallized proteids which occur so abundantly in some seeds, on the assumption that these crystalline bodies would furnish a certain guarantee of purity which might naturally be lacking in the amorphous proteids of animal origin. Some of these results are now placed together in the following tables, a study of which reveals some very interesting facts:

COMPOSITION OF PROTEOLYTIC PRODUCTS FORMED BY PEPSIN-HYDROCHLORIC ACID.

Proteolysis of Blood-fibrin.

	Mother Proteid.	Protofibrinose.[1]	Heterofibrinose.[1]	Deuterofibrinose.[1]	Amphopeptone.[2]
C	52.68	51.50	50.74	50.47	48.75
H	6.83	6.80	6.72	6.81	7.21
N	16.91	17.13	17.14	17.20	16.26
S	1.10	0.94	1.16	0.87	0.77
O	22.48	23.63	24.24	24.65	27.01

[1] Kühne and Chittenden: Zeitschr. f. Biol., Band 20, p. 40.
[2] Kühne and Chittenden: Studies in Physiol. Chem., Yale Univer., vol. ii., p. 40.

Proteolysis of Paraglobulin.[1]

	Mother Proteid.	Protoglobulose.	Heteroglobulose.	Deuteroglobulose.
C	52.71	51.57	52.10	51.52
H	7.01	6.98	6.98	6.95
N	15.85	16.09	16.08	15.94
S	1.11	25.36	24.84	25.59
O	23.24			

[1] Kühne and Chittenden: Studies in Physiol. Chem., Yale Univ., vol. ii., p. 12.

Proteolysis of Coagulated Egg-albumin.

	Mother Proteid.	Protoalbumose.[1]	Heteroalbumose.[1]	Deuteroalbumose.[1]	Hemipeptone.[2]
C	52.33	51.44	52.06	51.19	49.38
H	6.98	7.10	6.95	6.94	6.81
N	15.84	16.18	15.55	15.77	15.07
S	1.81	2.00	1.63	2.02	1.10
O	23.04	23.28	23.81	24.08	27.64

[1] Chittenden and Bolton: Studies in Physiol. Chem., Yale Univ., vol. ii., p. 153.
[2] Kühne and Chittenden: Zeitschr. f. Biol., Band 19, p. 201.

Proteolysis of Casein from Milk.

	Mother Proteid.	Protocaseose.[1]	Heterocaseose.[2]	α Deuterocaseose.[1]	β. Deuterocaseose.[1]
C	53.30	54.58	53.88	52.10	47.72
H	7.07	7.10	7.27	6.93	6.73
N	15.91	15.80	15.67	15.51	15.97
S	0.82	22.52	23.18	25.46	29.58
O	22.03				

[1] Chittenden: Studies in Physiol. Chem., Yale Univer., vol. iii., p. 89.
[2] Chittenden and Painter: Ibid., vol. ii., p. 195.

Proteolysis of Myosin from Muscle.[1]

	Mother Proteid.	Protomyosinose.	Deuteromyosinose.
C	52.82	52.43	50.97
H	7.11	7.17	7.42
N	16.77	16.92	17.00
S	1.27	1.32	1.22
O	21.90	22.16	23.39

[1] Kühne and Chittenden: Studies in Physiol. Chem., Yale Univ., vol. iii., p. 147.

[1] Kühne and Chittenden: Ueber die Peptone. Studies in Physiol. Chem. Yale University, vol. 2, p. 14.
[2] Ueber die chemische zusammensetzung und physiologische Bedeutung der Peptone. Pflüger's Archiv f. Physiol., Band 9, p. 585.
[3] Ueber die chemische Natur des Peptones und sein Verhältniss zum Eiweiss. Zeitschr. f. physiol. chem., Band 1, p. 277.
[4] De la Natur et du rôle physiologique des peptones. Paris, 1878.
[5] Globulin and Globuloses. Studies in Physiol. Chem. Yale University, vol. ii., p. 1.

Proteolysis of Elastin.[1]

	Mother Proteid.	Protoelastose.	Deuteroelastose.
C	54.24	54.52	53.11
H	7.27	7.01	7.08
N	16.70	16.96	16.85
S, O	21.79	21.51	22.96

[1] Chittenden and Hart: Studies in Physiol. Chem., Yale Univ., vol iii. p. 37.

Proteolysis of Gelatin.[1]

	Mother Proteid.	Protogelatose.	Deuterogelatose.
C	49.38	49.98	49.23
H	6.81	6.78	6.84
N	17.97	17.86	17.40
S	0.71	0.52	0.51
O	25.13	24.86	26.02

[1] Chittenden and Solley: Journal of Physiol., vol. xii., p. 33.

Proteolysis of Phytovitellin[1] *(Crystallized) from Squash Seed.*

	Mother Proteid.	Protovitellose.	Deuterovitellose.
C	51.60	51.52	49.27
H	6.97	6.98	6.70
N	18.80	18.67	18.78
S, O	22.63	22.83	25.25

[1] Chittenden and Hartwell: Journal of Physiol., vol. ii., p. 441.

Proteolysis of Phytovitellin[1] *(Crystallized) from Hemp Seed.*

	Mother Proteid.	Protovitellose.	Deuterovitellose.	Peptone.
C	51.63	51.55	49.78	49.40
H	6.90	6.73	6.73	6.77
N	18.78	18.90	17.97	18.40
S	0.90	1.09	1.08	0.49
O	21.79	21.73	24.44	24.94

[1] Chittenden and Mendel: Not heretofore published.

Proteolysis of Glutenin[1] *from Wheat.*

	Mother Proteid.	Protoglutenose.	Heteroglutenose.	Deuteroglutenose.
C	52.34	51.42	51.82	49.85
H	6.83	6.70	6.79	6.69
N	17.49	17.56	17.43	17.57
S	1.08	1.34	1.59	0.80
O	22.26	22.98	22.37	25.09

[1] Formerly called gluten-casein, and the products gluten-caseoses. Chittenden and E. E. Smith: Journal of Physiol., vol. xi. p. 420.

Proteolysis of Zein.[1]

	Mother Proteid.	Protozeose.	Deuterozeose.
C	55.23	53.29	51.31
H	7.26	6.87	6.88
N	16.13	16.10	16.27
S	0.60	1.54	1.08
O	20.78	22.20	24.46

[1] Chittenden and Williams: Not heretofore published.

In considering these results, it is to be noticed that there is general unanimity of agreement except in the case of the albuminoid gelatin. In the proteolysis of this body, for some reason not explainable, the digestive products show no marked deviation from the composition of the mother proteid, but in every other instance there is to be traced a distinct tendency toward diminution in the content of carbon, proportional to the extent of proteolysis. In the primary bodies, proto and heteroproteoses, the percentage of carbon is only slightly lowered; indeed, in some few cases, notably in elastin and casein, the primary products show a slight increase in their content of carbon, but in most instances there is a slight falling off in the percentage of this element. In the deuteroproteoses, however, the loss of carbon is very marked. The percentage loss, to be sure, varies with the different proteids, doubtless dependent in part upon the nature of the proteid itself, and also, I think, upon the strength of the proteolytic agent employed and the duration of the proteolysis. It is to be further noticed that peptones, whenever analyzed, show a still further loss of carbon and also a marked loss of sulphur. In nitrogen there is no constant difference.

(To be continued.)

Original Articles.

GREEK AS THE INTERNATIONAL LANGUAGE OF PHYSICIANS AND SCHOLARS IN GENERAL.[1]

By ACHILLES ROSE, M.D.,

NEW YORK.

All those who attend the International Medical Congresses notice an unpleasant circumstance, which becomes more and more marked with every succeeding assemblage. It is the inconvenience caused by the want of one language understood by all. There are some members who understand and fluently speak the official languages; they can easily take part in every debate, no matter which official language is used by the speakers. But few such members can be found; the majority of the participants, and among them frequently some who are most prominent in their specialties, understand but one language, and thus lose about two-thirds of everything spoken during the meeting. They are often unable to enter upon the discussion of a question because they cannot understand the subject mentioned; and if they speak on some subject, as a rule it is not understood by at least two-thirds of the participants in the congress.

An illustration of the difficulty thus presenting itself on account of the polyglot condition of these medical assemblies, is found in a letter written by a prominent German surgeon, dated December 28, 1892, to the President of the American Surgical Association, concerning the Pan-American Medical Congress.

The languages of the congress were the Spanish, French, Portuguese, and English. The German was excluded, probably because it is nowhere in America recognized as official.

The surgeon says in his letter: "I do not believe that the physicians of Germany will be able to take an active part in the transactions of this Pan-American Congress, unless they are enabled to use the German language in delivering their lectures."

The difficulty in this case was overcome by changing the statutes, by allowing lectures to be delivered in any language, provided that the authors of lectures in other than the official languages transmit to the general secretary a synopsis, of not more than six hundred words, before a certain date in advance of the date of the congress. A further condition was that a manuscript of each lecture of this kind was to be delivered, before or during the session, to the recording secretary of that section before which the essay was to be read. Remarks on articles read could be made in any language, provided the member making such remarks handed them in, before the close of the meeting, written in one of the official languages. I enumerate these details in order to illustrate how complicated the difficulties of a polyglot congress are. Everybody can complete this chapter either from personal experience or by meditation.

One might think the remedy in this dilemma would be the adoption of an universal language, and indeed, this idea has already for a long time occupied the minds of the greatest thinkers, above all, of Leibnitz. His attempt was based on the supposition that every act of thinking might successfully be reduced to an arithmetical

[1] Read before the New York Academy of Medicine, March 15, 1894.

basis, if it were possible to discover symbols for the most simple comprehensions and for the combination, as well, of such symbols, as, for instance, is done in mathematical science. Already in his youth he aimed at this purpose in a well-developed plan, maintained up to old age, of a "*Characteristica universalis*," or "*ars signum et lingua philosophica*." However, this plan was never realized. As far as his idea was correct, it has been carried out by the signs of the mathematical and chemical sciences. A world-language, so far, exists only in the telegraphic marine code.

As the attempts of Leibnitz failed in the seventeenth century, so also have failed those of the eighteenth century.

During the nineteenth century the means of communication increased in gigantic proportion, international commerce became of far more importance than ever before, and the attempts at creating a world language have been resumed. The best known of these is the Volapük of the Rev. Mr. Schleyer, and the partial success obtained for some time by this artificial language proves the existence of a great desire for an international means of communication.

Whatever may have been the object of Volapük, it could never have been the intention of the inventor, nor could it have been expected of him, to make it an international language for scientific purposes.

It was an idea of King Maximilian of Bavaria, to transmit to history a reminder of his reign. He instructed the architects of Germany to design a new style to be named after him. Such a style of Maximilianesque was created. I have seen, in Munich, houses built after this plan. An architect—it was Semper, if I be not mistaken—when asked to take a part in this creation of the so-called Maximilian's style, answered, that such a thing could not be made to order, that a style of building is the consequence of the history, the culture, life, and doings of a great period of a people. If such be the case with a style of architecture, how much more must it be the case in regard to language.

The history of this style of Maximilian's is, that it has no history. This short history is also that of the attempts to create a new world-language.

While an universal language, sufficient to satisfy the intellectual want of every people and of every time, can be as little imagined as the equality of all mankind, still such an uniformity is possible in a restricted part of human society, viz., in that aristocracy formed by art and science. It is not the masses who need such an universal language, but the men of science.

Since Latin is no more used as an international scientific language, the want of such a language makes itself more and more felt as science extends. I do not know if any, and what, serious attempts have been made in regard to this desideratum. I read that the American Philosophical Society has proposed that the question of the creation or adoption of an international scientific language should be considered at a congress which was to be held at Paris in connection with the last Exhibition. I read further that the Société de Médecine Pratique had taken up the question, and a commission, consisting of representatives of the principal scientific associations in Paris, had been appointed to study the matter. As far as I have learned, these associations set their face absolutely against Volapük.

Just at present there is much agitation in France for reform of instruction and examination in medicine. The Ministry of Instruction propounded quite recently questions in this direction, to be decided upon by the medical faculty of Paris. A commission of five professors and the rector of the faculty have considered these questions, the principal of which was whether the study of the classical languages should be abandoned. The commission in its answer said: The physician is obliged to use a terminology which is derived from the Greek and the Latin. Although he may, without having been instructed in the classics, in the course of time acquire a superficial knowledge of the expressions, still there will remain in such a case a sentiment of inferiority because he does not know their origin. In the interest of the dignity of the profession, this sentiment should be spared to the future physician. The commission further said it would be absolutely necessary that, in addition to the knowledge of the classical idioms, the knowledge of one of the modern languages should be required, namely the German. In the present condition of the medical science, which derives its elements from all parts of the world, every physician ought to be somewhat of a polyglot.

The rivalry of the nations is against the employment—as an international language—of one of those principally spoken in the civilized world, such as English, French, or German. In addition these languages are insufficient for the expression of new ideas and for the composition of words. Even as it is now, the English, French, and German scholars have one thing in common; they borrow from one and the same language when new words have to be formed for new things. They borrow from the Greek, from that language which has many claims to be preferred to every other in the selection of an universal language for scholars.

In choosing the Greek no mutual rivalry need be taken into consideration. It is the old, old idiom of a small nation and of a small country. The language is rich and is musical, clear, and precise, and especially abounding in combinations. It is able to render every modern idea completely, and already it has, in this regard, given life to thousands of words. In thousands of schools, and in every university, it forms a necessary part of instruction. Not only do we use a multitude of Greek words in our daily intercourse, but our entire medical terminology, also the general terminology of the arts and of sciences, is, for the most part, dominated by the Greek language.

The magnificent structures of the ancient Greeks, their equally splendid works of sculpture, have been so little approached by us, that nobody, in the whole world, would entertain the possibility of a comparison in our favor when modern achievements are contrasted with the masterpieces of Greek art. The Temple of the Olympian Jupiter, the Acropolis of Athens, the Venus of Melos, the Hermes of Praxiteles, are proofs that the Greeks had a much better developed sense of beauty than any other people of a later age.

Greek art is still alive, for it affords the highest examples for our architects and sculptors. Everybody knows this to be a fact.

The Greek language still lives, the same old Greek which is taught in our schools—taught, however, by the eye only. It is spoken by seven million people, and it is more beautiful and noble than any other language, just as Greek art is more beautiful and more noble than any other. There are, however, but few who seem to be aware of this fact.

Greek has once before now been the world's language. Its use was extended over a larger territory than the Latin. "*Græca leguntur in omnibus fere gentibus. Latina suis finibus*," says Cicero. "*La langue grecque deviendrait la langue universelle*," Voltaire wrote. The humanists at the end of the Middle Ages thus caused its Renaissance.

Let us hope that a second Renaissance and a brilliant period of the study of the Greek language will ensue, the final purpose of which can only be the greatest possible extension of genuine science and culture.

The colleges have sprung from the Latin schools of the Mediæval Age; they have, on this account, inherited a steady preference for that language. The general use of the Latin on the part of the learned profession, has, in the easiest manner, facilitated the learned intercourse of all. This has now, however, altogether changed. The national languages have obtained their natural rights, and should always maintain them, even if an universal or international language for scholars shall have

been adopted. We must concede that it is impossible to reinstate the old relation the Latin has held—when all the lectures on any subject whatever at the universities were delivered in Latin. Neither would such be desirable.

Virchow says, in his inaugural address as rector of the Berlin University: "It was from the beginning a weak side of humanistic educational institutions to favor the Latin language. It must be conceded that they could not do otherwise. They found the Latin the universal language of church and law. They were all Latin schools. They only continued what had become a general practice in consequence of the habit transmitted for a thousand years. But for this reason they had accepted an element of weakness. For the classical writers of Rome were in their works way behind the Greek authors. Indeed, the best among them are indebted to their Greek antecedents for their education. The school of Athens formed the background of all learned activity. Our own Western civilization has adopted from the Greek literature the really moving thoughts and the facile forms. Homer, Aristotle, and Plato have continued to be, up to our time, the teachers of mankind.

"Since the Greek authors have again been read in the original, the active interest in the Latin language has been reduced. Still, the Latin remained the principal object of information. But it steadily accomplished less. As the use of the language as such became gradually less, rhetoric was omitted, restricting the study more and more to the grammar. Indeed, instruction in grammar gradually so overpowered everything that even the Latin essay became a pium desiderium."

The Latin, as an international and scientific language, loses every day more of its importance. Indeed, it might almost be said that it is only kept alive in purely philological and theological literature. Latin is a dead and restricted language, insufficient for the present time.

The number of Latin scientific terms, with the exception of the vocabulary for law matters, is inferior to the number of words from the Greek. Moreover, we possess only the written Latin language; the language of daily commerce has not been transmitted. The Latin of the church, of the learned, is an artificial, a forced language. It can easily be understood why, under these circumstances, the instruction in Latin became more and more purely grammatical; but why the Greek, a living language, a language just as living as our own, has been treated alike in our schools, is a question which should be addressed to all the learned world, in order to expose a wrong that has been committed and kept up for centuries.

"Grammatical schooling," says Virchow, "is not that auxiliary means of progressive development which is needed by our youth. It does not cause that desire for learning which is a presupposition of independent further development; but, on the contrary, it is manifest that many scholars, as well as their parents, regard it with hatred."

Professor John Williams White, of Harvard College, says: "High grammar, philological research concerning forms and laws of construction, should be undertaken by no one until he is well on his course, and, it may well be, by the majority of men never at all. The study of the classics is an effective means of mental discipline, but theoretical grammar does not furnish the best field for its exercise."

Study, like almost everything else in our times, and especially in this our country, must be done at high pressure; and no time is to be lost, since many things have to be learned. It is true the Boston Latin School does not do what it did forty years ago—teach boys for a whole year the forms, rules, and exceptions of Latin grammar without even a single sentence of illustration; the "Method of Classical Study," by Dr. Taylor, of Andover, in which he asks seventy-six questions upon the first three lines of Xenophon's "Anabasis," and one hundred and twenty-seven upon the first three verses of "Æneid," I suppose is not in use any more; yet radical change of instruction in the classical languages, especially in Greek, is needed, whether we consider either of these languages as an international medium or simply as a means of mental discipline.

In order to command a language, it is above all necessary to know how the people speak. The every-day language must be familiar to us. Whoever knows the conversational language of a nation has the key to the understanding of its writings like the people themselves.

The Attic boy needed for reading the Greek poets, the Attic farmer for the theatre or a public meeting, only the knowledge of the Attic conversational language in its most simple form. It enabled them to understand the tragedies of Sophocles and the speeches of Pericles.

It has often been claimed that there are remarkably few words and sentences which suffice for the common man in speaking his native language, and which enable him to understand even that, which to him is a new formation. The every-day language must first be known before acquiring the art language.

Macaulay and others recommend, while learning a language, to lay aside the grammar, as the laws of speech will be easily comprehended while reading good authors. It seems to me that whosoever begins the study of a language with the learning of its rules, will never learn the language, unless he abandons the study of the grammar and commences anew.

So long as Greek is taught in the schools according to the present methods, it will be considered as a language too difficult to be learned, and could not be selected for an universal language.

Greek is a living language and must be treated as such. It is difficult to find a proper expression without using strong terms, to characterize the erroneous common opinion that Greek is a dead language!

We frequently meet with people who, having attained a certain degree of education, make this mistake, while as a matter of fact Greek newspapers are continually published, and new books, also, appear regularly in the Greek language treating of various subjects. An uneducated man may be excused for such mistakes, as certainly professional philologists have contributed not a little to the propagation of such views.

The professors of the classical languages simply pay no attention to the living Greek, without having even the least semblance of any grounds for such disregard; and yet they pronounce the language of the Muses according to the usage of their respective countries, in the English, Dutch, or German manner. The pronunciation, which ought to be alone the rule, is unknown to them, nor do they wish to know it.

Nothing is easier than the proof that the Greek is not a dead language. The daily Greek newspapers published at the present time prove that the Greek language of to-day is still the same Greek of the classical age, showing merely some differences as each living language undergoes in the course of time. Look, for instance, into the Ἡμέρα, published in Trieste. Whoever has been instructed merely at school, on beholding for the first time this paper, will be agreeably surprised to find that he is able to understand its contents without any difficulty. A better and more convincing proof can hardly be imagined.

The fact that the Greek language alone has preserved itself almost unchanged through thousands of years in its original beauty is, in my opinion, as a modern Greek writer expresses himself:

> "διότι τὸ ὡραῖον εἶναι ὡσὰν λάμψις τοῦ ἡλίου ἐπὶ τῆς γῆς, διότι τὸ ὡραῖον ζῇ αἰωνίως."

The Greek language has been transmitted together with its pronunciation. The majority of the Greek people, kept in bondage since the mediæval age until 1822, were altogether unable either to read or write.

Much has been said garrulously about the degenerated

descendants of Pericles, Socrates, and Phidias. Still, these degenerated descendants have the undeniable fortune to speak a language which Pericles, Socrates, and Phidias would have understood. An unbroken chain continues from generation to generation, and back again, from the Greeks of the nineteenth century to those of Pericles, Socrates, and Phidias.

The Greek language is immortal!

An interruption of Greek culture and of the use of the pure, fine, literary language, has never happened in Greece, not even after the Latin conquest in 1204 and the Turkish conquest in 1453. This tenacity of the Greek language has been accounted for by the fact of the beauty and the magnitude of its classical literature. A large tree, which excludes all sun-rays underneath its mighty foliage, will not permit other plants to be lighted and warmed and to thrive within its reach.

The Greeks always regarded their language as of wonderful beauty, and looked upon new elements which might have been introduced into it as vulgar corruptions. School, Church, Administration, Military, Legislature, Courts, Correspondents, Literati of all centuries, used the pure literary Greek, and never even the κοινή, the vulgar or people's language. Even the Roman reign, which forced many nations to adopt the Latin language, had no powers to interfere with the continuation of the use of the Greek. To emphasize it once more: The Attic, the classical language, with its forms, words, constructions, expressions, orthography, has always been regarded as sacred, as something which alone has a right of existence, which had to be preserved as free as possible from new elements.

When Greece had regained her liberty, after almost four centuries of Turkish bondage, a regular government was to be erected. Countless numbers of demands were made on the language. A new life, a culture of which there had been no idea before, appeared suddenly before the Greeks. The language had to keep pace with the many new political, scientific, technical, commercial, journalistic requirements. Another nation would certainly, under such circumstances, simply have adopted with the foreign ideas also the words of foreign people, and would have formed a half French and half hybrid language. Not so the Greeks. Their history has led them to exclude foreign words, led them to take the necessary elements from the old Greek to create new symbols for new ideas. This was a gigantic work. Stephanos Kumanudes has enumerated thirty thousand words which have been created during the last one hundred years. Let us illustrate how the work was done by a few examples: During the last century the foreign word σταμπαρία had been used for printing establishment—then τυπογραφεῖον had been formed, and from the latter a great number of combinations were made which could not possibly have been formed from σταμπαρία. In the same manner was said ἀβουκάτος, then the genuine Greek δικηγόρος, or first πόστα, then ταχυδρομεῖον, etc. These and thousands other foreign words are now entirely out of use and may be known only to the oldest people, the majority of the Greeks have no recollection of them.

It is a customary assertion that the modern Greek is a barbarous mixture of a good deal of Slavonic, Albanese, Turkish, and Italian, and of a little corrupt Greek. As we have seen, this is just as untrue as the assertion that the Greek is a defunct language. Naturally, such incorrect views are held among the ignorant. However, as I know from experience, such ignorance is found also among the otherwise educated classes who have studied the Greek language while at college. It is remarkable how the very Greek language, from which every other European language has drawn so freely, has been calumniated in such a manner.

Aside from the Greek as published in newspapers and books, which some are pleased to designate as an artificial old Greek in a new Greek garb, the living and really spoken language of both the higher and the lower classes, of the inhabitants of the cities as well as of the peasantry, is by no means a barbarian mixture, but rather a genuine Greek. Everybody acquainted with this language is aware of this fact. I cite as witness thereof: Ernst Curtius, a first-class expert in both forms of the Greek language, who says in his work "The New Greek and its Meaning with Regard to the Old Greek," that, excepting a few tracts at the border of the territory where Greek is spoken (as, for instance, the Ionian Isles), "even the lowest Greek uses a pure Greek language."

The question of the physical descent of the new Greeks, which cannot be separated from that of the language, is best settled by answering that of the descent of the language. According to late researches, a Slavonic descent of the Greeks can no longer be maintained. Proof can be furnished that not only are the modern Greeks not Slavonic, but also that no trace of a Slavonic influence can be found, with one exception to be mentioned presently.

A colleague, who had studied Greek and was also a college graduate, claimed, while conversing with me, that the modern Greek and Slavonic languages were very much intermingled. A Greek gentlemen, a scholar, on hearing this reproach, replied: "I shall be very much obliged to this gentleman if he will mention even one single Slavonic word found in the modern Greek language." The Slavonic is entirely restricted to the designations of habitations, hills, landscapes, waters, and even then it appears only in occasional places and by no means in all Greece.

In spite of a long-continued intercourse, the Albanese have, if possible, left still less traces in the Greek language.

It is somewhat different concerning the Turkish language. The Turkish dominion was for centuries very effective and oppressive, it cannot, therefore, seem strange if words of the official language have permeated the language of the conquered people. In the written language, however, nearly everything of foreign origin has been carefully avoided.

It is true the works of the modern Greek writer are not of as much beauty as the works of the classical period, but the language is not to be accused for this. The marble of Pentelicon is not at fault when, in later periods, no Venus of Melos, no Hermes of Praxiteles could be formed of it.

In comparing the new with the old Greek, the mistake is frequently made of considering as old Greek the written Greek of the Attic poets and writers of the classical period. The new Greek of the people's language is compared with a dialect of the old Greek written language. Unlike is compared with unlike, in order to prove that in the real living language the forms of the old Greek have been partially lost, partially changed.

The pronunciation, as taught in our schools, differs to an extraordinary degree from that of the language of the Greek nation of the present time. This school pronunciation lacks every scientific authority. The ignorance of the new Greek shown by most of those who take sides against the modern Greek pronunciation of the classic Greek language is astonishing. Philologists have written in favor of the school pronunciation and against the pronunciation of the living Greeks, although they have never heard real living Greek spoken by a Greek.

The Greek of the schools is looked upon as a dead language, the method of teaching as well as the purpose for which it is taught, are of no account for practical life. Those leaving school, except such as choose philology as a profession, forget what they have learned more rapidly than they have learned it, and thus it seems to be of no consequence to the teachers whether the Greek is pronounced in one way or another. A custom handed down for three hundred and sixty-five years is followed, and thus the necessity is removed of imparting to the language the sound of a living, undoubted Greek idiom.

The French, English, and Russian pedagogues think in the same manner as the German philologists, therefore the Greek language is learned in the respective countries

according to the modern high German, French, English, and Russian pronunciation, and forgotten again. The fate of the Greek language in the schools seems therefore to be sealed, unless a better mode of instruction is introduced. A language which is spoken by seven million people is forcibly reduced to a defunct language.

A school which is proud of its scientific teachers should teach nothing that has been proved, and been also admitted, to be unscientific and false. Neither should this be done even with a real defunct language. Nor does it ever happen in regard to any dead or living language, except in the case of the Greek. Instruction in the living languages is not given with an invented pronunciation, and even in teaching dead Latin and Hebrew a pronunciation is taught in the schools which is pre-eminently based upon the living tradition. Latin is taught as it is transmitted through its pronunciation in Italy, and through the pronunciation of the Italian language; Hebrew as it is really spoken by the Portuguese Jews.

Only with the Greek an exception is made by the school, and just in this case the existence of a living Greek language ought to be a reminder to place instruction in close relation to life, so that the scholar might later employ it for practical purposes. The phrase ought to be borne in mind: *Non scholæ, sed vitæ discimus.*

It is certainly very discouraging to the scholar who, having devoted years to the study of the language, finds that, thanks to the college pronunciation, he must pass among the Greeks in their beautiful country like a deaf and dumb person, neither understanding nor understood.

The time has passed long since when a creative activity in Attic philology and archæology was, almost exclusively, evinced in the dust of domestic libraries with fac-simile and picture book. The number of archæologists, especially since Schlieman, who try to enlarge the knowledge of old Greece in the new Greece is steadily increasing. There are inducements enough, even without the idea of making Greek an international language, to employ the pronunciation of the now living Greeks. No probability exists that the ancient Greeks spoke like the college professors; certain is it, however, that their pronunciation was similar to that of the Greeks of to-day.

The pronunciation of the colleges is an invention of Desiderius Erasmus, of Rotterdam. He has described the invention in his book "*De recta latini graecique sermonis pronunciatione dialogus.*" The book was published in 1528.

Which pronunciation had prevailed in Europe up to the invention of Erasmus of Rotterdam? The Greek, the same in all European countries, learned from the Greeks. After the conquest of Constantinople, Greek scholars fled to the Western European countries, and there gave lessons in the language of their ancestors, pupils did not doubt that the pronunciation of these modern Greeks had a historical right. Reuchlin, the great German philologist of the time of the Renaissance, has learned and taught the Greek language with the pronunciation of his Greek contemporaries, hence all persons who follow his example are called Reuchlinians. The modern Greek pronunciation, although not invented by Reuchlin, is called, curiously, Reuchlin's method in opposition to the method invented by Erasmus.

Erasmus has always spoken the Reuchlinian, but never in his life according to the method called after him. He also taught his students the pronunciation according to Reuchlin's method. Indeed, he had requested his Grecian friend Laskaris to furnish him a Greek teacher, in order that his own children should learn the correct pronunciation with their own ears and mouths.

The above-mentioned dialogue, *de recta pronunciatione*, is indebted, according to a well authenticated tradition, to the following farce: Erasmus, who was childishly vain about his Latin and Greek knowledge, and who styles himself "the most amiable prince of science," met with the following mishap: A gay visitor from Paris, inclined to perpetrate all kinds of roguery, told him the following fib: He had made the acquaintance of Greeks, very erudite men, who spoke in a manner entirely different from that in which all the world pronounced the Greek. And then he showed Erasmus how these remarkable Greeks spoke: exactly as if Greek was Dutch.

Whether Erasmus put full or only partial faith in this venture, it is certain he wanted to use it in order to aid his vanity; he intended to pose before the learned world as the inventor of this latest sagacity. The dialogue was composed in the year 1528. Most of the contestants in the battle about the Greek pronunciation have not even read this manifesto. It assumes the shape of a dialogue between a bear and a lion, is exceedingly tedious, a feeble and attenuated walz in trivial Latin.

The bear imparted to the lion that the old Greeks might have possessed the Dutch pronunciation interspersed here and there with specimens of the French expression. This nonsense spread like a prairie fire. A flood of pamphlets, agreeing with this dialogue, was the result.

The invention of the pronunciation, according to Erasmus, happened in no other manner. The professors of Greek need not boast of the history of their pronunciation of the Greek language; it shows anything but a scientific basis. If anyone doubts the truth of this, let him read the document of the dialogue referred to; it can still be obtained. It is hardly necessary to marvel at this story. The dialogue was published at a time when, in spite of profound erudition, there was hardly an inkling of the internal substance of a language, or even of the true relation of the languages to each other, to be found in the world of learning; at a time when the greatest imaginable nonsense was uttered in an erudite manner. Specimens thereof are the Latin essays, comprising large volumes, concerning the question whether Adam was created with a navel. At a large waste of learnedness it was also proven at that period: Adam and Eve, before biting into the apple in Paradise, must have spoken Dutch, but after the fall, the French language.

Since the sixteenth century a Babylonian perplexity prevails concerning the Greek pronunciation. Nobody understands the Greek of a foreigner, still less that of a Greek.

It is certainly remarkable that the perfectly arbitrary, senseless invention of a cranky pedant has remained in force since 1528. Every attempt to justify it, composing since 1528 a bulky literature, is based upon sophistry.

The followers of Erasmus have taken pains, up to the present day, to invent the scientific proofs for the correctness of their pronunciation.

In the course of time the pronunciation of every language changes in correspondence to the changes of the language itself. This we can perceive in an instance quite near us: The Canadian Frenchmen, having remained in an isolated condition, speak the French language to-day in exactly the same manner as it was written and spoken in France a century ago. Dialects undergo the least changes, as may be seen by comparing the writings of Zwingli, which are written in the very genuine Zurich dialect as it is spoken to-day. Examining the Manesian manuscript, containing the songs of Zurich poets of the thirteenth century, we find the same language which the people of Zurich speak to-day in their own dialect.

The application of these examples to Greek is near on hand: It is not probable that the pronunciation changed more during the same space of time than the language itself. The classic Greek was a well-sounding language, we know this through the Greeks themselves, as well as through the Romans. The Greek of to-day still belongs to the most melodious languages, its pronunciation gives a beautiful and pure harmony.

When we consider the absurdity of the school pronunciation of the Greek, we must regret that a clumsy joke perpetrated upon Erasmus, of Rotterdam—a joke which certainly does not become science on account of its venerable age—is still taken seriously by many.

I said above: "In order to command a language, it is above all necessary to know how the people speak. The every-day language must be familiar to us."

"Whoever knows the conversational language of a nation has the key to the understanding of its writings like the people themselves."

"The every-day language must first be known before acquiring the art language."

Should we not feel sorry for the student who begins learning English by studying the poetical works of Chaucer? In what a roundabout way would he finally be enabled to understand the peculiarity of the language of Longfellow; how long would it be before he would be able to derive any sort of enjoyment from this poet's writings, if he were to learn the English language by reading Longfellow's works exclusively, and in learning it were obliged to parse every word?

The color of a language and the kind of style of a literary work, can only be fully perceived by one who is able to judge how far this language differs from commonplace daily conversation. We do not subject good wine to a chemical analysis by means of acids and salts in order to prove its value, neither do we grammatically analyze a poem to enjoy its charm.

In learning a language we notice one thing: in order to advance rapidly we have to read, in the beginning, only such books as are written in an easily comprehensible style, the contents to be also of an entertaining character. If we choose the more difficult, serious, or tedious books, we shall not advance, but rather retrograde. If we begin with children's stories or literature for the common every-day people, we shall be surprised to find how soon we can dispense with the use of a dictionary. We soon guess and learn new words by reading the context. We thus learn to think in the language, and the more we progress the more we enjoy the better, the higher, the more serious, the classical literature.

Professor John Williams White, of Harvard College, in a series of articles published in the *New England Journal of Education*, in 1878, entitled "Latin and Greek at Sight," recommends the instruction in the classical languages after the manner of teaching German and French, *i.e.*, to accustom the pupils to read at sight, without any preceding preparation. He mentions that the pupils learn much more quickly and better to read the German than the Latin languages, although twice as much time is spent in the study of the latter. Concerning Greek, he says: "It is to be reckoned that it is more difficult to learn to read Greek than, for instance, German; but then there is not so much difference between the two languages as to justify the fact that pupils, after studying Greek for years, are not yet able to read without the aid of a dictionary, or through some other means of assistance, while they learn in a much shorter time to read German fluently."

In order to obviate this evil, he recommends, among other means, that the pupils should study no higher Greek or Latin grammar until they are enabled to read these languages with a certain ease, and also have read a good deal. His claims are rather modest. He says: "The study of grammar should be rendered more practical, especially during the first years. The pupil, after having studied both the Greek and Latin languages for three or four years, should be able to read the Greek writings of Xenophon, Lysias, and Herodotus, and the Latin of Cæsar and Cicero, without either previous preparation or the use of a dictionary.

Professor White, in his suggestions regarding reformation of the instruction in Greek, has not gone far enough, because he, like other college professors, ignores modern Greek. The literary Greek of to-day is identical with the Attic dialect in orthography, almost also in form; the syntax is here and there circumscribed and simplified. There is more difference between the Greek of Herodotus and the Greek of Xenophon, than there is between the Greek of the latter and the Greek of to-day. There is more difference between the English of Chaucer and the English of to day, than there is between old and new Greek. The living, the Greek as it is spoken and written in Greece to day, is the one which should be taught in our schools. The Greek, as it is taught in general in our schools, is simply a skeleton without life. Our college professors should not look upon Greek as a dead language, and above all they should give up pronouncing it in their barbarous arbitrary manner.

It appears to me that Greek, taught like other living languages, by one or the other modern methods—Meisterschaft's, or any similar system—is not more difficult to learn than French or Spanish, certainly much easier than German.

If we commence with a regular A B C book, a First Reader, Fairy Tales, then read works of the best modern writers—like Bikéla, we shall soon get the aim to acquire understanding, and highest pleasure in reading the old Greek classical authors, much better, and without having to undergo the well-known tortures of the present school instruction. If the acquiring of the Greek language is thus made easier, and the classical Greek literature more and more within our reach, Kant's saying will become more obvious. "Even during the dark ages great men have existed. During those periods, however, only those could attain greatness who, by nature, had been stamped for it. Now, since instruction has been perfected, men are made great by training."

If the Greek language becomes the property of all scholars of all civilized nations in such manner that it may serve as the medium of intercourse, there is no telling how great the practical advantage will be along with the ideal gain. The introduction of the living Greek language into our schools would be of not less significance than the work of the humanists at the end of the Middle Ages.

As the humanists in their times fought against the obstinate and clumsy form in which the scholastic science was taught, as they fought against the prevailing professional quarrelling, and the cunning and subtilizing in words, just as much is it timely now to oppose the unreasonable grammatical instruction in Greek in our schools. These men were inspired for the grand inheritance left by the ancient classical nations, they recognized in this inheritance one of the most excellent means of improvement of the mind, and an inexhaustible soil of noble sentiment.

The single individual can accomplish very little to have justice done to a language which our profession uses already so much in its terminology in preference to any other; to have this language seriously considered when the question of an international language for scholars of all nations is brought up; a language which gives terms to all new inventions and discoveries, and which cannot be replaced by any other; which is already, to a certain extent, an international language.

A NEW AND SHORT METHOD OF CLOSING THE PERINEUM.[1]

By PAUL OUTERBRIDGE, M.D.,

ATTENDING GYNECOLOGIST AT NEW YORK CANCER HOSPITAL; ASSISTANT SURGEON WOMAN'S HOSPITAL; ATTENDING PHYSICIAN AT NEW YORK LYING-IN ASYLUM; ATTENDING GYNECOLOGIST AT DEMILT DISPENSARY; MEMBER OF NEW YORK OBSTETRICAL SOCIETY, AND HOSPITAL GRADUATES' SOCIETY, ETC.

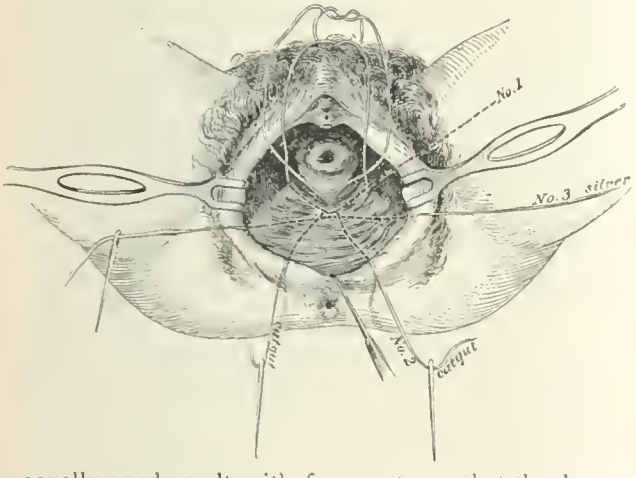
I TAKE up this subject with some hesitation, as it is one that has attracted universal attention on the literary as well as practical side, and am in hopes to throw a little light on this old but interesting subject.

In all probability Fricke was the originator of the operation, and his method was indeed primitive, consisting of a narrow denudation on either side of the labia which, when sutured, simply made a true bridge at the vaginal entrance incapable of giving any appreciable support to a rectocele. It served, however, to stimulate Simon, who quickly followed with the idea that the denudation should be continued up the introitus, which was a step in the right direction. This operation soon gained an extensive following, and a series of improvements in conse-

[1] Read before Hospital Graduates' Society.

quence was the result, both in the denudation and method of suturing. The most valuable addition of all has lately been advanced by Dr. Emmet, and if his method is followed a successful result will follow. I mean to say that after the operation the parts will resume their normal appearance. I shall not attempt todescribe the operation as done by him, but will infer that the gentlemen present are familiar with it and all the others.

If this method (Emmet's) is to be followed in doing the operation there are several things to be considered: 1, The method of passing the sutures would prove exceedingly difficult to one not in constant practice; 2, the number to be used; 3, the long time it takes to apply them, and lastly, the sutures are liable, if not exactly adjusted, to cause trouble, first, because there are a large number, and some are liable to be made a little too tight, while others are perhaps too slack; this, in itself, might cause failure. The time of doing this operation varies from one-half to three-quarters of an hour, and often even longer. Further than this, it really requires experience to make this operation a success. The exact adjustment of a long row of sutures is a problem also that needs the hands and head of an expert to solve. The time of operation, if long, must necessarily exert a bad influence on the anæsthetized patient, for in nine cases out of ten the woman is very much reduced as the result of the laceration, having, perhaps, a feeble heart action or slight trace of albumin in the urine. But under any circumstances we all know it is a decided advantage for a patient to be under the effect of an anæsthetic as short a time as possible. Considering this, I thought if the method of suturing could be simplified and shortened, so as to obtain an



equally good result with fewer sutures, that the dangers from sloughing in the hands of the general operator as well as of an adept would be much diminished, and the ill effects of prolonged anæsthetization prevented.

To accomplish this the patient is put on the back with knees flexed and held in this position by a Clover crutch, and the usual denudation made as shown in accompanying cut. Three sutures only are required to coapt these denuded surfaces, and I shall endeavor to make this clear by the aid of the cut and following description.

For the upper suture, or the one nearest the cervix, a medium-sized catgut is required about ten inches or a foot long, with a cervix (common needle) at either end. This will not only answer for the upper suture, but, as I shall later state, will also give the lower suture without the use of more catgut or a change of needles. Everything in readiness, one needle should be imbedded in the "crest," or undenuded tongue which is in the centre of the vagina, and continued along the upper line of denudation, coming out at the right upper angle in the undenuded tissue. The other should be continued in a similar manner to the left, coming out at the left upper angle. This catgut suture should not be ligated, but the needles on either end of it thrown over the symphysis—to have them out of the way. The next suture should be of silver, and the needle imbedded one-quarter inch above the denuded tissue, midway between the upper and lower points of denudation, or in other words, at the highest point of the denudation on the left side of labia, and passed from left to right, coming out in the corresponding place on opposite side, care being taken to have this imbedded from side to side. An inspection of the diagram will make this description a little more lucid and I trust convey the idea. At this stage the wire suture is left *in situ* with a clamp at either end, and the upper or catgut suture should be ligated, care being first taken to approximate the central point or tongue and the right and left angles. In order to do this it is often necessary to depress the central part with a tenaculum or its handle. After this is thoroughly secured, pass one of the needles on the end of the catgut in this now central point, downward and outward under the denuded tissue, bringing it out on one side of the labia about one-half inch above the lower point or angle of denudation; the other needle should be passed in a similar manner on the corresponding side; the diagram shows this distinctly. This last catgut or lower suture should now be tied, care being taken to draw this tightly. This closes completely the lower angle of denudation. The silver (or middle) suture is next to be twisted, which brings the two sides together, and should make the whole perfectly firm, and every part should be in perfect apposition. Occasionally a superficial suture is required when the sutures are not in proper position. I claim for this method of suturing, 1st, that it lifts the posterior wall up to the anterior, and makes a very firm and normal perineum; 2d, that it consumes very little time, and so lessens largely the dangers of anæsthesia—the operation by this method can easily be done in from six to fifteen minutes, depending on the dexterity of the operator; 3d, infinitely less irritation on account of the limited number of sutures; 4th, that it is almost impossible for any sloughing to occur—that it takes up all redundant tissue; 5th, that one suture only has to be removed; the other—or catgut—sutures are absorbed. This operation requires very few instruments, and certainly the expense of sutures and needles is very trivial. Three common cervix needles are required, one piece of medium-sized catgut about ten inches long, and one silver suture, six inches, one shot. Instruments required are three tenacula, one pair universal scissors, sharp-pointed (curved on flat), one needle forceps (three needles), one wire forceps and scissors. This constitutes the required outfit. The patients after this operation have little or no pain, and should not have the slightest rise of temperature. Bowels moved third day. Preparatory treatment consists simply of purgation two days before operation. Examine urine.

I have already performed over one hundred and fifty perineum operations in this manner, without a single failure. I have also used the same method in closing complete lacerations (lacerations through sphincter), taking the precaution, however, to first approximate the two edges of the gut either with a continuous or interrupted catgut suture, which closes or shuts off the rectum from vagina. I then proceed as before with the three sutures, and in two instances I have put an extra catgut suture through either end of the sphincter muscle to be certain to approximate the severed ends. I have already operated on five cases of this kind (laceration through sphincter) by this method without failure. And in one instance (a very poor woman), in which the laceration was a bad one, the patient got up on the fourth day, and did all the housework (going up and down stairs), and continued to do it until the end of the week, when the silver suture was removed, the result being perfect. In this instance the bowels were moved on the second day and every day after, Epsom salts being used for this purpose. In every instance in which I have done this operation for laceration through sphincter I have taken the precaution to thoroughly stretch the sphincter ani muscle before suturing, which I think a great factor to success, by whatever method closed. Finally, having had this extended success I feel that there are many advantages to be derived

from using this method of closure of the perineum, and if it be intelligently carried out success will, in my opinion, invariably follow.

AN UNUSUAL CASE OF EXTRACTION OF THE CRYSTALLINE LENSES.

By JOHN E. WEEKS, M.D.,

SURGEON, OPHTHALMIC DEPARTMENT, NEW YORK EYE AND EAR INFIRMARY.

J. T——, aged seventeen, was brought to me on October 18, 1892, on account of defective vision. The parents are healthy, robust people, giving no history of constitutional taint. The mother has given birth to six living and two dead children; the still-births preceded the birth of J. T——. All the living children were healthy. At the age of nine years the patient's eyes became inflamed. Ophthalmic surgeons in this and other countries were consulted, and their advice and treatment carefully carried out; however, the inflammatory trouble continued and did not subside until the patient reached the age of fourteen or fifteen years. Since that time the eyes have been comparatively quiet; however, the patient says that the acuteness of vision varies, indicating periodical disturbances. These periods are accompanied with a dull headache, which is not severe—sometimes scarcely perceptible.

A confrère, who had had the patient under treatment, kindly offered me the following data: J. T——'s eyes became sore in July, 1885. Was first seen December 15, 1885, when a diagnosis of interstitial keratitis was made. The cervical glands were enlarged; mercuric bichloride, gr. $\frac{1}{64}$ t.i.d., was given. April 6, 1886, R. E. V. $= \frac{20}{200}$, L. E. V. $= \frac{20}{40}$. The vision gradually diminished, until in October, 1886, it equalled, in the right eye, $\frac{20}{200}$; left eye, $\frac{20}{200}$ +. The iodide of potash and the biniodide of mercury were then being given.

During the period of inflammation of the eyes the hearing became impaired without acute inflammation of the ears. Their present condition is as follows: Membranæ tympani nearly normal. Vault of pharynx of normal size, and almost entirely free from any thickening of mucous membrane. No catarrhal inflammation of consequence. Hearing, right ear, loud voice at eight inches, bone conduction almost entirely abolished; by air-conduction a low C tuning-fork, violently vibrated, could be heard for twenty seconds. Left ear, loud voice at six inches, bone conduction abolished, air conduction, fifteen seconds. The diagnosis of labyrinthian disease was made, which diagnosis was subsequently confirmed by Dr. Albert H. Buck.

The condition of the eyes was as follows: R. E. V. $= \frac{9}{200}$, L. E. V. = counting fingers at six inches. Both eyes presented the picture of uveitis anterior. The corneæ were large and uniformly bulging, presenting here and there slight irregular opacifications. Some irregular astigmatism existed. The sclerotic, for about 5 mm. back from the sclero-corneal junction, was thin, permitting the pigment of the inner coats to show through. There was total posterior synechia in the left eye. The pupil was occluded by a pseudo membrane of long standing, which presented a small defect at its inner margin permitting of the vision above mentioned. In the right eye the posterior synechia was total, except at the nasal side, where a very small portion of the pupillary margin of the iris remained free. There was but little evidence of a pupillary pseudo-membrane in the right eye. Quite numerous isolated opacities were present in the lens, and remnants of a not very dense cyclitic membrane could be seen, lying on the capsule of the lens near its equator. On account of the presence of the pupillary membrane, the condition of the lens of the left eye could not be determined. The anterior chambers were deep. The irides were atrophic to quite a marked degree. The middle zone of the iris of the left eye was bulged forward, producing a typical, but not very pronounced "crater" pupil. The tension was above the normal in both eyes, that of the left being + T1, of the right, + T½. Projection good except at the periphery of the fields. The history of periodical diminution in the vision led me to infer that at times the intra-ocular tension was increased, and that temporary pressure amblyopia resulted.

Operation on the left eye was advised, contemplating iridectomy, the removal of the pupillary membrane, and the extraction of the crystalline lens. The operation was performed on October 22, 1892, under ether anæsthesia. An incision upward, including about one-fourth of the circumference of the cornea, was made at the limbus conjunctivæ. The iris was seized at the pupillary margin, carefully withdrawn, and a portion excised. The iris was thin and fragile, and tore slightly at the angles of the wound; some shreds were subsequently removed from these points. The point of a sharp Gräfe cystitome was passed around the margin of the pupil, causing partial detachment of the pupillary membrane, which was then seized with the capsule forceps and removed. The fixation forceps were then removed, when the eye rotated upward beneath the upper lid, making it extremely difficult to express the lens. The speculum was removed and a broad Desmarres's lid retractor substituted to raise the upper lid. By pressure with the spoon a small, semi-transparent, entire lens was expressed. A bead of vitreous now presented. After replacing the iris at the angles of the wound, the bead of vitreous was excised, the lips of the wound adjusted, and the eye bandaged.

The rolling upward of the eye after the fixation forceps were removed, was extremely unpleasant, the speculum became useless, and in fact dangerous, and some such instrument as Desmarres's retractor was indispensable to the completion of the operation. If ether had not been given, this unpleasant incident would not have occurred; it was given because the patient could not be depended upon to remain quiet during the critical steps of the operation. Its use rendered assistance from the patient impossible. The tendency to rotate the eye upward, inordinately developed during the long period of corneal inflammation, was much greater than is met with in uncomplicated cases; I determined to take the chances with an unruly patient under cocaine anæsthesia, rather than to give ether in other operations in this case. The healing process was uneventful.

Two weeks after the operation vision with correcting glass $= \frac{12}{200}$. The posterior capsule was much thicker than in uncomplicated cases, because of the peculiar mummified condition of the lens and the previous cyclitis.

Discission five weeks after the first operation. A large central opening was obtained by a crucial incision made with a scalpel needle (Knapp's).

January 3, 1893.—Vision L. E., with correction $= \frac{20}{40}$. Patient reads J. 4 quite readily.

On January 7, 1893, the same form of operation was performed on the right eye under cocaine, ten per cent. The patient gave no trouble and not the slightest accident occurred. A small, partly transparent, entire lens was expelled. Recovery uneventful.

February 2d.—R. E. V. $= \frac{16}{200}$ with correction.

February 11th.—Discission of the capsule. Quite a dense band representing the thickened free edge of the anterior capsule, traversed the keyhole pupil in a diagonal direction, just above the centre of the pupillary space. A canted T-shaped incision was made, the top of the T passing along the lower border of the dense band. A fairly large clear space was obtained, however; the aqueous escaped along the shaft of the needle, rendering it impossible to complete the division of the capsule. The opening in the cornea was closed with the actual cautery point and the anterior chamber was restored in a few minutes. Recovery uneventful.

On March 10th, a supplementary operation for division of the capsule was done, the opening obtained by the first discission proving to be too small. The anterior chamber was again emptied, however, the discission was successfully performed. Recovery uneventful.

The escape of aqueous in the two operations for discission in this eye was due, in my opinion, to extreme

thinness of the cornea. The same knife was used to perform similar operations on other eye, without the slightest escape of aqueous.

To day the vision of the left eye is $\frac{20}{10}$; of the right eye, $\frac{20}{20}$. The patient reads J. 1 at ten inches with ease. The thinness of the cornea and sclerotic, the atrophy of the iris, and the mummified condition of the lens, all bear evidence of the severity of the previous inflammatory condition, which is so commonly associated with hereditary specific disease. Lens fibres apparently ceased developing shortly after the inflammatory attack began, the shrunken condition of the lenses indicates a marked interference with their nutrition. No evidence of disease in the posterior two-thirds of the globe is present. The iodide of potash and biniodide of mercury were taken for six months, beginning at the time of the first operation. The patient is in excellent health. He uses his eyes constantly without discomfort. The vision is as good as can be obtained in the presence of the corneal opacities.

154 Madison Avenue.

Clinical Department.

UNUSUAL CASE OF GUNSHOT WOUND OF THE BRAIN.

By J. E. TEFFT, M.D.,

SPRINGFIELD, MO.

There are to be found in surgical records, many cases of perforating gunshot wounds of the cranium that recovered. There are numerous cases of penetrating wounds, with recovery following, after extraction of the balls from the orifices of entrance.

There are many cases where the balls were not extracted, and the patients made recoveries more or less complete.

Cases, however, of penetrating gunshot wounds in which the balls were extracted from the opposite side of the head during the life of the patient, are certainly very rare; and such cases terminating in the recovery of the patients are still more rare.

Such being the state of the facts, the following case, though not terminating in recovery, is, I think, of sufficient importance to justify me in offering a report of it to the profession.

E. D——, a healthy boy, twelve years of age, was shot on July 4, 1893, with a pistol ball, calibre twenty-two, at short range. I saw him half an hour after the shooting. He had bled freely, was suffering considerably from shock, and was unconscious. Measures were taken for the relief of the shock, and he was subjected to operation two and a half hours after the receipt of the injury. The ball had penetrated the frontal bone, seven-eighths of an inch above the upper margin of the left orbit, and one inch from the middle line. No probing was done, but a flap was raised, and a button of bone and the splinters removed. It appearing that the ball had ranged backward, the head was placed in such a position that the apparent track of the ball was perpendicular, and a porcelain-tipped (Nélaton) probe introduced. This dropped by its own weight entirely through the inter-cranial mass, in direction backward and slightly downward, a distance of about seven inches, or seven and a half, when the inner surface of the cranium in the left occipital region arrested its further progress. Such a condition not having been looked for, only the front half of the scalp had been shaved. It then became necessary to shave and sterilize the remainder, which considerably protracted the operation. This having been done, an opening with a three-quarter inch trephine was made in the left occipital region, at the point indicated by the direction of the probe. On removing the disk of bone, the dark appearance of the dura showed that the right point had been reached. On incising the dura some partially coagulated blood escaped, and the tip of the probe was found at the upper margin of the opening. The ball not being apparent, another disk of bone was removed below the first, making a perpendicular opening, one and a half inch by three-fourths of an inch. This gave a better opportunity for search. The dura was not further incised.

After careful search the ball was found below the point where it struck the occipital bone, about one and a half inches, and embedded in the brain half or three-fourths of an inch. The ball weighs twenty-three grains. The wounds were carefully cleansed, and it was found that there was no hemorrhage nor oozing anywhere. Provision was made for draining the two extremities of the wound, but no tube was carried through the track of the ball, and the usual antiseptic dressings were applied. Though the change of base during the operation somewhat disturbed our antiseptic precautions, the wound remained free from pus throughout the treatment.

For the first three days there was a decided febrile condition, which subsided on the fourth day. The pulse and temperature then remained normal until the eighth day. The boy was conscious, intelligent; he ate, drank, talked, recognized his friends, and took an interest in his surroundings.

The special senses were unaffected, so far as could be ascertained. His articulation was fairly good, though some defects were noticed. The right leg was the weaker, though he kicked around with it. The right arm was much weakened, and he was inclined to keep the forearm flexed somewhat, though it could be straightened without disturbing him. On the eighth day he showed restlessness alternating with somnolence, his temperature rose, his pulse became more frequent, the pupils dilated, and he ceased to take notice of things. This condition gradually became more and more intensified, and he died comatose, on July 16th, twelve days from the date of the injury.

An examination was made, post-mortem, limited to an examination of the track of the ball, and the parts surrounding the two extremities of it. There was a very small fungus cerebri at each extremity of the wound. The track of the ball was not so far or so firmly closed, but that a tipped probe readily followed it. No abscess nor free pus could be discovered anywhere in the track of the ball or adjacent to either opening.

The question of drainage after cerebral operations is an important one. We are advised by some eminent authorities to use, in cases similar to the one above reported, a rubber tube extending entirely through, though it does not appear that they have used it, but that on general principles they think it advisable. In Dr. Fluhrer's celebrated case it was used, and allowed to remain three days. In my case there was no bleeding nor oozing. The wound, when the patient lay on his back, was nearly perpendicular. The natural drainage was certainly good.

Provision was made for draining the extremities of the wound, but as to the main track of the ball, I thought best to allow the opposing sides to fall together. Whether or not it was wise, readers will judge for themselves. I am very doubtful about it, though I saw nothing in the progress of the case, or after death, tending to show that further provision for drainage would have done good. Certainly in cerebral abscess, or in any brain wound which does not have complete natural drainage, or when there is hemorrhage, or serous oozing, or where there is likely to be pus, the best possible artificial drainage is imperatively demanded. The object gained, or sought, from drainage by a tube, is, I suppose, the giving to effused fluids a chance to easily escape.

When there is no effusion, and there is to be none, the tube is evidently not needed. When effusion has ceased, it is then time to remove the tube, and to allow opposing surfaces to fall together.

In this case there seemed to be no bleeding nor oozing, and I did not anticipate pus. Hence I did not use through drainage, but allowed the opposing surfaces to fall together at once.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street.

New York, April 21, 1894.

SYPHILIS IN WOMEN.

IN Byron Bramwell's "Atlas of Clinical Medicine," Volume II., Part II., there is a very interesting exposition of syphilis and its results. Its manifestations in women present at times peculiarities that cause the true nature to be overlooked. The poison first produces a local sore and a local glandular enlargement, followed by a generalized infection of the blood, and probably of all the tissues. The only exception to this is the contamination of the mother through the fœtus. Of this particular mode of infection, Bäumler states that the syphilitic poison evinces a very peculiar modification of its action when it operates through the fœtus, procreated by a father affected with latent syphilis, upon the pregnant mother. Women that go through a number of such pregnancies begin gradually to suffer an impairment of health, without ever being infected in the ordinary way. A modified infection ensues which lacks the primary local affection, together with the stages of eruptions and condylomata Gradually increasing pallor and emaciation, alopecia, glandular enlargements, isolated bony nodes, gummata of the cellular tissue, or ulcers of the mucous membranes, or psoriasis palmaris, are the sole syphilitic manifestations that these women present. Zeissel states that such women complain of profuse menstruation, or abort when they become pregnant. Ricord, Diday, Depaul, as well as Hutchinson, claim that the contamination of the maternal organism, termed by the French *choc en retour*, is the result of a reabsorption of syphilitic embryonic fluids, the embryo owing its disease to the father. This manner of becoming infected must not be confounded with that described by Von Bärensprung, viz., that which takes place through the semen, with coincident conception. The latter is the same as any ordinary infection, and Von Bärensprung states that in these cases manifestations of syphilis generally occur in the tenth week of gestation.

Authorities differ as to stages of the disease in which a man may infect a woman with syphilis. During the primary stage the disease is entirely local. The blood and tissues are not as yet contaminated, and the disease can only be propagated by infection from the primary sore. In the secondary stage, the blood and tissues generally have become infected. The poison is now contained in the blood. During the earlier part of the secondary stage, at all events, the blood, the secretions from the secondary lesions in the mouth, on the genitals, etc., and the semen are all highly contagious. Whether this contagion lasts throughout the whole period of secondary symptoms, Bramwell considers doubtful. When the secondary stage is of long duration, it is not improbable that the blood and secretions lose their power of infection. So far as is known, the blood and secretions from the lesions of the tertiary period are incapable of propagating the disease. It is said, however, that in some cases of tertiary syphilis the semen is still infective.

The period which elapses between the introduction of the virus into the body and the first evidences of local symptoms, usually lasts for three or four weeks. The time may be shorter or longer. In thirty-one artificial inoculations collected by Bäumler, the shortest period of incubation was ten, and the longest forty-four, days. When uninfluenced by treatment, secondary symptoms usually develop from within six to eight weeks after the appearance of the primary sore. Tertiary symptoms develop in some cases many years after the disease was originally contracted, and after a period of good health has intervened. Not infrequently they are the cause of permanent damage to health, and of death itself.

In both men and women primary lesions may escape unnoticed, secondary or tertiary symptoms being the earliest recognizable evidences of the disease. Then, again, there may be only primary symptoms, and no others. In women the primary sore is often much less evident than in men, and much more apt to escape detection. It may consist merely of a parchment-like thickening of the mucous membrane without irritation, or it may be situated in the urethra and masked by a gonorrhœa. It may be in the rectum, on the tongue, tonsils, *os uteri*, or vaginal mucous membrane. A stricture of the rectum in a woman is particularly suggestive of syphilis. There may be no visible lesions at any time, and no characteristic symptoms may appear before the climacteric. Then a peculiar cachexia may develop, its latent existence being apparently aroused by the strain and exhaustion incident to physiological changes.

MUST THE PARSON PAY?

IN the "good old time" when physicians were constrained to accept in a shamefaced way a so-called honorarium for their services, our clerical brethren wisely refrained from putting us to the blush by offering sordid cash for our labors. At the present time compensation for professional attendance is a matter governed by business principles. Sentimental squeamishness has died a natural death. Medical bills are universally sent, and their payment can be enforced by the ordinary process of law. Of course there are, and properly should be, intimate relations between all the liberal professions. The law, the church, and medicine are always in the very vanguard of modern civilization. Nevertheless, it is fully understood that when a lawyer needs a doctor, and *vice versa*, compensation for services rendered is expected. So, too, when a medical man gets married, or baptized, or buried, the officiating clergyman expects and obtains his remuneration without professional discount. Why is it, then, that in the precisely similar case of medical attendance on ministers a discrimination is still made in favor of the cloth? The salary and other income of a popular preacher is often vastly in excess of that of the doctor who

treats him for nothing. There is no good reason why it should be so. There may be an implied understanding that the minister is to reciprocate favors by turning back to his medical friend those erring sheep who might be tempted to try an "outside" physician. But this is clearly undignified, and to sensitive souls should prove an irksome bondage.

Even our slowly moving British cousins are beginning to chafe under a continuance of the time-honored system of gratuitous attendance on the clergy. In the *British Medical Journal* of March 10, 1894, a bold stand is taken against this custom. Our contemporary asserts that indiscriminate gratuitous attendance on ministers of religion and their families should no longer obtain. It is neither in the true interest of the minister nor in that of the practitioner. The reasons are given as follows:

First. Such a practice is inexpedient on the part of the minister, inasmuch as he cannot well, under the circumstances, have a free choice of practitioners and *de facto* make an independent selection of his medical attendant, nor readily effect a change should he become dissatisfied therewith, neither can he morally insist on such attendance as he may wish or deem necessary. If, for instance, he sends for the one of his choice—a popular doctor mayhap—at an opportune time and more or less disengaged, he would no doubt receive prompt and courteous attention. Should he, on the other hand, happen to send when the practitioner is tired and weary, or the weather cold and inclement, or during the night, it may be that the doctor, on finding who it is that wants him, would elect to remain at home; whereas, if it were not for the irrational custom in question of according gratuitous attendance, his professional services would have been willingly rendered.

Again, inasmuch as the minister would, where the unwise practice still partially lingers, have to regard the attendance of the doctor simply as an act of benevolent professional courtesy, he in return for such would, as a matter of course, have to select as his medical adviser a member of his own church rather than, possibly, a more able practitioner of another denomination. Moreover, since he is not to attach a monetary value to the doctor's services, but merely to incur a moral obligation, if he be a man of feeling and delicacy he would be restrained from saying to him: "Doctor, just call at my house this morning, will you?" but it will be: "If not too busy, will you please to call at my house some time to day?"

Further, when a medical man's services are needed they are generally wanted with as little delay as may be, and if you deprive the patient of the moral right of enjoining prompt attention you may almost as well inhibit him sending for one. A minister, moreover, by accepting (even as an assumed prescriptive right) the gratuitous services of a medical practitioner, places himself in the anomalous position of—so to speak—a clerical mendicant, and must act accordingly; in fact, he appears before the public as a beneficiary, and thereby not unnaturally incurs to a greater or less extent a loss of the respect due to him from the community.

Again, in the true interests of religion the minister's stipend should at least be adequate to defray the ordinary and needful expenses of living and to compensate others for essential services; for if the stipend be very limited and insufficient for his bare subsistence, it would necessitate him seeking as suppeditary to his ministerial functions a congenial vocation by which he could add to his pecuniary resources, but at a sacrifice of time that should be devoted to the sacred duties of his mission. Under the assumed prescriptive usage in question, moreover, if a minister or his family lost confidence in the attendant doctor, it would be found not a little embarrassing to call upon him to discontinue his attendance and supersede him by another; whereas if it were based on a *quid pro quo*, or, in other words, pecuniary remuneration, the desired change could be more readily effected.

Second. The alleged prescriptive custom, moreover, is morally objectionable from its effect on the practitioner. Although no medical man should practise his profession merely for its money value, still but very few could afford to pursue it without remuneration. Even admitting that the exceptional idea of gratuitous attendance did not originate in the natural desire to secure the moral and social influence of the clergy—in other words, a reciprocity of benefits received—nevertheless, such is the practical working of the custom, and constituting, as it does, a pernicious and deceptive system of practice, is derogatory to the profession. The attendance of a medical practitioner in a case of illness should be based either on a purely charitable or the ordinary remunerative principle, with a like deep interest under either circumstance in the successful treatment thereof.

In concluding these remarks it seems pertinent to ask, Why should hard-worked and ill paid medical men, any more than other business men, be expected to render payless, yet often priceless, services, or otherwise specially contribute to the essential personal needs of ministers of religion and their families? Be the answer what it may, it is difficult to see the justice or reasonableness of such a custom, and the members of the faculty would act wisely in simply carrying out the principle laid down in the suggested rule, which, after being submitted to and approved by divers eminent representative practitioners (including the late Sir Thomas Watson, the clergy's friend), was published in the *British Medical Journal* several years ago, to the following effect:

"That, in respect to charges for professional attendance on the clergy, beneficed or unbeneficed, there is no special general rule other than the simple 'unwritten' one (a time-honored and 'true Samaritan' principle, alike applicable to other classes), by which the faculty have long been self guided, namely, although fully and justly entitled to a commensurate remuneration for professional services accordant with the patient's position in life, to, nevertheless, make a greater or less reduction according to the circumstances of the individual case to such as may fairly be classed among the 'poor clergy' (beneficed or unbeneficed), specially so called, in contradistinction to the well endowed and independent clergy, which latter should be charged as ordinary and not exceptional patients; by a conscientious fulfilment of which advisory rule the medical faculty will, as a profession, have discharged their moral obligations to the ministers of religion."

We have quoted at length from our British contemporary, because its comments apply with equal force to England and America. Paupers of all kinds will ever commend our willing gratuitous treatment. But when the parson is no pauper, let the parson pay.

THE COMPARATIVE MORTALITY OF MAN AND WOMAN.

Although woman has been deprived of so many rights and privileges, she has at least the advantage of man as regards longevity; she suffers less from accidents, injuries, and many forms of disease; she is in fact more tenacious than man of the limited enjoyments allowed her.

Dr. Brandreth Symonds has collected and studied a large number of statistics to illustrate this interesting fact (*American Journal of the Medical Sciences*). The comparative mortality of the sexes at different ages, shows that in the first year of life the mortality of the female is much less than that of the male, being at birth 92.64 per 1,000 as against 112.80, and at the end of the year, 31.88 as against 35.08. This difference continues up to the fourth year.

From five to twelve the female mortality is greater than that of the male, being at the latter period 3.56 for males, and 4.28 for females. At the age of forty-six the male mortality equals that of the female, the latter having been up to this time slightly in excess. During the years forty six to fifty-six, the period of the climacteric, the male mortality gains rapidly on the female, being 6.32 per annum for the one and only 3 47 for the other. Hence the climacteric is really a much more serious time for man than for woman. After fifty six, the female mortality gains on that of the male, but is always slightly below it. Woman has not only a less mortality and a greater longevity than man, but there is, according to Dr. Symonds, a plurality of female births, though the contrary view is usually held. Nature seems determined to keep up a full supply of women, a condition which, it is suggested, may be the result of the polygamous habits of primeval man.

THE DRINKING TREATMENT FOR TYPHOID.

Some years ago M. Debove recommended the use of large amounts of water internally in typhoid fever. "I make my patients drink," he said; and this was his chief special treatment. The object was to dilute the fluids of the system and wash out the toxines in the blood and intestinal canal. M. Lichteim adopted this treatment and reports nine successful cases. Recently M. Maillart, of Geneva, has made an elaborate study of this mode of treatment, reporting fourteen cases in detail, of which one died. (*Revue de Médecine*, November, 1893, and March, 1894.) Maillart thinks that the water-drinking method should be "erected into a special method of treatment." In order to secure the proper results the patient must drink five or six litres (quarts) of water a day. There is no contra indication for the use of water in this way, for it does not weaken the heart, but has rather the contrary effect. The results obtained are a progressive lowering of the fever, a disappearance of dryness of the mouth, a marked sedation of all the nervous symptoms, and an improvement in the action of the heart and kidneys. There is an abundant diuresis and an unusual increase in the perspiration. Urea is carried off in large amounts. The treatment does not shorten the course of the disease, but simply makes it milder and less fatal. Patients, we are told, take kindly to this method.

The typhoid patient takes usually six to eight glasses of milk daily, and if to this are added ten to twelve glasses of water, the diluent effect should be very great.

News of the Week.

Protection for the Red Cross.—It is reported from Washington that the House of Representatives has passed the bill to protect the insignia and the name of the Red Cross Society. The bill was introduced seven weeks ago by Mr. Cogswell, of Massachusetts. It was referred to the Committee on Foreign Affairs, by whom it was unanimously reported. In the preamble to the bill the story is told of the formation of the society. It states that on August 22, 1864, plenipotentiaries, respectively representing Italy, Baden, Belgium, Denmark, Spain, Portugal, France, Prussia, Saxony, Wurtemberg, and Switzerland, met at Geneva and agreed upon ten articles of a treaty, the purpose of which is to mitigate the evils inseparable from war, particularly providing that persons employed in hospitals and in affording relief to the sick and wounded, shall be deemed neutral and entitled to protection, and that a distinctive flag shall be adopted for hospitals and ambulances, and an arm badge for the individuals thus neutralized. The treaty, which was subsequently ratified by thirty six nations, including the United States, provides that the especial insignia of the society shall be a red Greek cross on a white ground. The bill states that the unauthorized use of the insignia has become a source of embarrassment to the society in time of war, and it provides, therefore, that after the passage of the bill it shall be unlawful for any person to display the symbol of the society, or use as a trade mark or as a designation the words "red cross" or any expression liable to be mistaken therefor. Every violation of this provision shall be punished by a fine of not less than $50, nor more than $500, or by imprisonment not exceeding six months, or by both such fine and imprisonment, the fine so collected to be paid to the society. All persons who have adopted the Red Cross as a trade mark shall discontinue its use within one year, or be liable to the foregoing fine and the confiscation of the articles so designated. The society may, however, permit the use of their insignia for a consideration of not less than $500 in each case. Any person not directly connected with, or authorized by, the society, attempting to make collections of money or goods in the name of the Red Cross is subject to a fine and imprisonment. Knights Templar, Masons, or the Sixth Corps of the Army, who adopted the Red Cross insignia prior to August 22, 1864, are exempted from the foregoing provisions.

Statistics of the Attendance of American Medical Colleges.—Whatever may have been the fact as to the number of students of medicine at some remote period, it has not been true, for the last half-dozen years or more, that the number is (in relation to population) "relatively diminishing." At the sessions of 1885 the total attendance was 10,891—9,245 regular, 1,032 homœopathic, 614 eclectic. During the sessions of 1893, the attendance was 18,910—16,759 regular, 1,410 homœopathic, 741 eclectic. These figures show gains in eight years of 73.6 per cent. in the total attendance—81.2 per cent. for the

regular students, 30.6 per cent. for the homœopathic, 20.6 per cent. for the electics—an average annual increase of 9.2 per cent. during the period. The average annual increase of population during the same period was less than 2.5 per cent. So that instead of there being a diminution of students of medicine in relation to population there is a relative increase nearly four times greater than that of population. As a matter of practical interest to the profession, it may be noted that there is an average increment of nearly 6,000 new home made physicians every year, and that while the population increased 24.8 per cent. during the decade 1881–1890, the number of newly graduated physicians increased over fifty per cent. during the same period; last year, 1893, the increase was a trifle over eight per cent.—*Journal of the American Medical Association.*

Death of Professor Corydon L. Ford.—Corydon L. Ford, M.D., LL. D., died in Ann Arbor, Mich., last week, aged eighty-one years. For forty years Dr. Ford was Professor of Anatomy and Physiology in the University of Michigan and was one of the best known anatomists in America. He was born in New York State in 1813, and graduated from Geneva Medical College, New York. He received the appointment of demonstrator of anatomy at the college on the day of his graduation, and at the same time had charge of the anatomy departments at the medical colleges at Buffalo, N. Y., and Castletonville. In 1884, when the medical department of the University of Michigan was organized, he accepted the appointment of demonstrator of anatomy, which chair he had held since. He had delivered nearly two hundred courses of lectures in the leading medical colleges in the United States.

The Montclair Epidemic of Typhoid Fever.—About seventy cases and twelve deaths have been reported up to date of writing. The newspapers have made much of what has really been less serious than many mild epidemics of scarlet fever or diphtheria, that attack our suburban towns every year. The idea of placarding houses that have typhoid fever cases as proposed by some sanitary newspaper reporters, is most ridiculous.

A Commission for Investigating Tuberculosis among Cattle.—A bill has been introduced into the New York Senate, providing for a further inquiry into the existence of tuberculosis. The wide prevalence of consumption in cattle has been a question of much concern to the State Board of Health, and last year the board's inspectors killed over twenty thousand head of cattle which were afflicted with the disease, and for which claims aggregating thousands of dollars are being filed daily by the State Board of Claims. The new bill provides for a commission to consist of one member of the State Board of Health, to be designated by said board; three breeders of thoroughbred cattle, each engaged in the breeding of a separate and distinct breed, to be selected by the Directors of the New York State Dairymen's Association, and Professor James Law, Professor of Veterinary Medicine in Cornell University. The commission is to have all the power now granted to the State Board of Health to examine the cattle of the State for the disease known as tuberculosis, and to examine into that disease, its existence, and any other facts concerning it that may now or hereafter be brought forth, and report the same to the Senate by January 15, 1895, setting forth all work done and all experiments made, and such suggestions for the proper continuation of the work as will tend to remove the disease from the cattle of the State. Fifteen thousand dollars is appropriated for the expenses of the commission.

American Medical Association.—The Committee of Arrangements announces that the rate of fare for tickets from Missouri River points, including Sioux City, Council Bluffs, St. Joseph, Atchison, Leavenworth, and Kansas City, to San Francisco and return *via* the Trans-Continental roads, at the time of the meeting of the American Medical Association, will be $65.50. From St. Louis, Cairo, Memphis, and New Orleans, the rate will be $77.50. The going trip must be made within fifteen days from the date of sale of tickets, and the return trip within fifteen days from the day upon which the tickets are signed in the presence of a railroad agent, but in no event later than July 15th. Within the State of California the fifteen-day limit is ignored on both going and returning trips, *i.e.*, the holders of tickets are at liberty to move at will within the State of California within the life of the tickets, and the fifteen-day limit returning is not enforced west of the terminals at Portland, Oregon, and El Paso. If the Shasta route between San Francisco and Portland is passed over on either going or returning trip from Missouri River, St. Louis, or Chicago, the rate will be $15 greater. Efforts are being made to obtain a similar reduction in rates on the Eastern railroads.

State Board of Health Reform.—The investigation into the affairs of the State Board of Health by the Senate special committee having been concluded, Senator Smelzer, the Chairman of the Committee, has introduced a bill reducing the membership of the State Board of Health from nine to three, to hold office one, two, and three years, respectively. It provides that the Commissioners shall be appointed by the Governor by and with the consent of the Senate, and that not more than two shall be of the same political party. The President of the board, who is to be one of the Commissioners, shall receive a salary of $3,000, and the other members, salaries of $2,000. The Secretary of the board shall receive a salary of $1,800. The registration of the vital statistics is abolished, and the reports of such statistics are to be bound in book form for reference. This change alone would save about $9,000. None of the members of the present board receives a salary, while the salary of the Secretary now is $4,500. The proposition to discontinue the registration of vital statistics is a most singular one. If such registration is done thoroughly it is one of the most valuable kinds of work that can possibly be done. Instead of abolishing it the State should vote money to increase its efficiency.

Medical College Commencements.—The Southern Medical College of Atlanta, Ga., held its annual commencement April 2d, and awarded diplomas to forty-two graduates.

The Miami Medical College (Cincinnati) held its annual commencement April 4th, and awarded diplomas to twenty-two graduates.

The McGill University of Montreal, Quebec, held its commencement exercises April 5th. Fifty-five graduates received the degree of M.D.

The fifteenth annual commencement of the St. Louis College of Medicine was held March 27th. Twenty graduates were awarded diplomas.

The fourth annual commencement of the Kansas Medical College (Topeka) was held March 28th. There were seven graduates.

The Medical College of Indiana, at Indianapolis, held its twenty-fourth annual commencement March 26th, and awarded diplomas to fifty-two graduates.

The Woman's Medical College of Cincinnati held its commencement exercises April 2d. Fifteen received the degree of M.D.

At the thirteenth annual commencement of the Omaha Medical College seventeen graduates received their diplomas.

The annual commencement of the medical department of the University of Oregon (Portland) was held April 2d. There were fourteen graduates.

Reviews and Notices.

Treatment of the Diseases of the Stomach and Intestines. By Dr. Albert Matthieu, Physician to the Paris Hospitals. New York: William Wood & Co. 1894.

This excellent book contains a general summary of the exact diagnosis and therapeutics of the diseases of the stomach and intestines. Of late years we have learned to put much stress on the condition of the chemical function of the stomach. Although M—— has made use of these newer methods in a most thorough way, he has, nevertheless, by no means neglected the clinical symptoms as the best aid for diagnosis. This point appears to be of great value, especially for the practitioner who is at times doubtful whether to examine the stomach chemically.

The book contains a chapter on semeiological technique, in which are described the principal methods employed for the examination of the contents of the stomach, of the fæces, and of the urine. Then a chapter on the diet suitable in gastro-intestinal dyspepsia. Speaking on the diet in diarrhœa, the author gives the following very salient points:

"The general indication here is to reduce the mass of food in the intestine, and especially to remove as far as possible from the diet all those substances which leave a large indigestible residue to act as an irritant to the intestinal mucous membrane. We must prescribe a diet that contains a large amount of nourishment in small compass, and this excludes green vegetables at once. We should advise the taking of those articles which possess astringent properties, and proscribe those which are laxative in their action. In regard to these points there are often individual idiosyncrasies which we must inquire into and respect when learned. Finally, we must endeavor to prevent as far as we can, by means of appropriate food, intestinal fermentation and the further elaboration of toxines by the food undergoing digestion.

"Milk may render great service in the treatment of many forms of diarrhœa. It is a complete aliment, liquid in form, and little liable to putrescent decomposition. We may, according to circumstances, prescribe a partial or an absolute milk diet; and sterilized milk often, especially in infants, gives better results than the natural fluid.

"Eggs are frequently employed, and rightly, for they afford a large amount of nourishment in small volume. Albuminous water may also be given as a beverage; its beneficial action, while not thoroughly understood, is nevertheless very real."

As regards gastro-intestinal antisepsis, the author makes the following potent remarks: "Sufferers from auto-intoxication should be allowed to take only perfectly sound articles of food, and those which are least liable to become the seat of putrid fermentation within the intestine. This process is especially favored by two conditions, viz., an excessive quantity of food, particularly of nitrogenous food, and the presence of a considerable amount of indigestible residue.

"A milk diet fulfils these two indications admirably. It introduces into the digestive tract but a very small proportion of toxines or of micro-organisms, and it leaves a minimum quantity of waste material; it is also easily elaborated and easily absorbed, and furthermore increases the urinary secretion. This is an explanation of its good effects in diarrhœa, enteritis, etc. It is justly entitled to the first rank among foods suitable for those cases in which auto intoxication plays an important part in the production of the morbid symptoms. Nevertheless milk may itself furnish a vehicle for the introduction of pathogenic microbes, of the coli bacillus, or the bacillus of lactic-acid fermentation, which latter, as Wurtz and Leudet have shown, may occasion the production of toxines by its action upon albuminoid substances. For this reason great care should be taken to see that the milk is fresh, comes from healthy animals, and is as far removed as possible from all causes of fermentation.

"Sterilized milk represents the ideal aliment, and it has been found to give excellent results in the treatment of diarrhœa, especially in children. All patients cannot be subjected to an absolute milk diet, for various reasons, but in any case it constitutes a valuable addition to a mixed regimen."

This so timely and instructive book will prove of great service to the medical profession.

Syphilis in the Innocent (Syphilis Insontium). Clinically and historically considered, with a plan for the legal control of the disease. By L. Duncan Bulkley, A.M., M.D., Physician to the New York Skin and Cancer Hospital, Consulting Physician to the New York Hospital, etc. New York: Bailey and Fairchild, 29 Park Row.

The author has here gathered more facts and figures bearing upon the question of syphilis, as a non-venereal disease, than have ever before been published, or in all probability, attempted. In so far as it is valuable to have this knowledge collated, classified, and preserved in book form, the work is an important one, and the labor involved in its preparation must have been very great. Its practical value is, however, disproportionate both to the size of the work and the time and trouble it has taken to write it. Innocent syphilis has been discussed from so many standpoints that physicians are, as a rule, quite well up in the subject, and the sum total of their working knowledge is not going to be much increased by the perusal of an analytical bibliography which teaches, at the most, that many men (say one thousand) have observed non-venereal chancres, and that some of them have had the good fortune to treat many cases. The author gives the histories of one hundred and sixteen personal instances of extra-genital infection, but after reading a few of each regional variety, one feels that they can serve as samples of the whole, and is inclined to pass on to the more interesting history of the one hundred epidemics which have occurred since 1577. Here are to be found some carefully prepared and chronologically arranged tables which will serve future writers as a means of ready reference.

The plan for the legal control of syphilis, in Chapter X., is somewhat disappointing. This is the most important and most practical question touched upon in the whole work; and the suggestions put forward, while they are all good, are none of them new. Still, if coming with all this backing of data, laymen and legislators can be helped by them to look upon syphilis more in its non-venereal aspects, so as to put the disease under proper health-board control; if it can be made "criminal to transmit syphilis wittingly;" and if "examining the men

instead of the women" can be carried out and a check thus put to the spread of syphilis through prostitution; then a great work, indeed, will have been accomplished.

A Practical Treatise on Medical Diagnosis for Students and Physicians. By John H. Musser, M.D., Assistant Professor of Clinical Medicine in the University of Pennsylvania. Pp. 881. 162 woodcuts and 2 colored plates. Philadelphia: Lea Brothers & Co. 1894.

Modern methods of medical teaching and study have rendered treatises like the present an absolute necessity. All of them necessarily duplicate each other somewhat, but each bears the impress of its author's personality. The present work is to be commended alike for its logical arrangement, accurate observation, and clearness of expression.

It is divided into two main parts: "General Diagnosis," covering 186 pages, and "Special Diagnosis," 674 pages. Under the former heading are chapters on general observations, data obtained by inquiry, data obtained by observation, bacteriological diagnosis, examination of exudations, transudations, and cystic fluids, and one on the morbid processes and their symptomatology.

In the second part the various regions of the body are taken up seriatim and systematically gone over, according to the scheme already outlined. The chapter on bacteriology is especially commendable, because it contains everything practically necessary for clinical work and yet it is not too much lumbered up with useless formulæ or directions.

A physician's ability is measured not so much by th amount of his knowledge, as by his power to use what h knows. To develop this practically is the province o such works as that of Dr. Musser. To him we exten our congratulations upon the successful performance o his task. The publishers have given the volume an a tractive setting.

The Technique of Post-mortem Examination. By Ludwig Hektoen, M.D., Pathologist to Cook County Hospital, Professor of Pathological Anatomy, College of Physicians and Surgeons, Chicago. With Forty-one Illustrations. Chicago: W. T. Keener Company. 1894.

This little book is designed to serve as a guide for those unacquainted with the technique of post-mortem examinations. It is very practical, full of good points, and fully carries out the objects of the author. The illustrations are very neatly executed.

Politzer's Text-book of the Diseases of the Ear and Adjacent Organs. For Students and Practitioners. Translated by Oscar Dodd, M.D., Assistant Surgeon at the Illinois Charitable Eye and Ear Infirmary; Clinical Instructor of the Eye and Ear in the College of Physicians and Surgeons, Chicago. Edited by Sir William Dalby, F.R.C.S., M.B. Cantab., Consulting Aural Surgeon to St. George's Hospital. With 330 original illustrations. Philadelphia: Lea Brothers & Co. 1894.

This standard treatise, by a recognized German authority, will be eagerly welcomed by those English readers unacquainted with the work in the original. Politzer's views on most otological subjects are those of an advanced yet conservative surgeon. His advice is that of a careful observer of vast and varied experience. The illustrations accompanying the text are good. The translator deserves credit for his accuracy in conveying the author's meaning.

Climates of the United States in Colors. Popular Edition of Denison's Charts, with Additions. By Charles Denison, A.M., M.D., Denver, Col. Published by The W. T. Keener Company, 96 Washington Street, Chicago, Ill. 1893.

This is a highly instructive book with twelve charts. Annual cloudiness, rainfall, chart of annual winds, hypsometric seasonal isotherms, and wind indications among others.

It will serve an important purpose in aiding those unacquainted with the most important hygienic measures in the therapeusis of pulmonary disorders, namely, climate.

The tables are very accurately compiled, and all in all it sh

The lectures forming the basis of this syllabus are those delivered by Professor Barton C. Hirsh, M.D. While the volume is primarily of interest to the students of only one institution, it will serve very good as a "memory-refresher" for anyone who is about to be examined in this branch of medicine.

A Manual of Therapeutics. By A. A. Stevens, A.M., M.D., Instructor in Physical Diagnosis, University of Pennsylvania. Pp. 435. Philadelphia: W. B. Saunders. 1894.

Successive chapters treat of action of drugs, applied therapeutics, incompatibility, etc. The remedies of the Pharmacopœia are followed alphabetically. An index of drugs and an index of diseases close the book.

Nothing new is presented, and this work, while up to the average of its kind, is merely a duplicate of various others on the market. Students will find it useful to guide their third year reading in this subject.

Transactions of the American Orthopedic Association. Seventh session, 1893. Vol. VI. Philadelphia: Published by the Association. 1894.

This solid-looking volume of transactions contains thirty-three papers, covering a wide variety of topics, ranging from "soft corns" to "fragilitas ossium." The discussions are condensed, and a vast amount of information is compressed into 275 pages.

The Healing of Rodent Cancer by Electricity.—By J. Inglis Parsons, M.D., M.R.C.S., M.R.C.P. (Lond.). Honorary Fellow, American Electro-Therapeutic Association; Fellow Royal Medical Chirurgical Society, etc. London: John Bale & Sons. 1893.

This little volume gives the author's results of treatment. The disease and the means of cure advocated are both so definitely circumscribed that, were the cases more numerous and the length of time from reported cure longer, the method would meet with greater favor than we fear it will from the reading of this monograph alone.

Society Reports.

ELEVENTH INTERNATIONAL MEDICAL CONGRESS.

Held in Rome, April [illegible]

Bichromate of Potassium in Gastric Affections.—Dr. Thomas R. Fraser, of Edinburgh, had for many years treated cases of gastric disease with bichromate of potassium. The cases included catarrh of the stomach, chronic gastric ulcer, gastrodynia, and even dilatation and malignant disease. In the two latter some of the symptoms were occasionally relieved, and in the others the symptoms were as a rule entirely removed. Bichromate of potassium appears to exert its beneficial and curative influence not only by reason of its antifermentative action, but, even more conspicuously, in virtue of a direct or indirect analgesic effect. It is probable also that certain histological structures in the stomach wall are selectively modified by it. The doses employed by the author were from $\frac{1}{12}$ to $\frac{1}{6}$ grain given thrice daily one or half an hour before eating.

The Comparative Situation of the Stomach in Men and Women in Diseased Conditions.—Dr. Bourget, of Luzerne, read a paper with this title, in which he said that gastric ptosis is much more frequent in women than in men. In the case of the male subject it is simple dilatation of the stomach which prevails.

Treatment of Hyperchlorhydria.—Dr. Cantù, of Pavia, said that he had had occasion to give duboisine as a calmative of gastro-intestinal pains, and was led thereby to a study of the physiological action of this drug upon the gastric functions. He found that it caused a marked diminution in the acidity of the stomach contents, reducing it about one-half. Analysis made by Siöquist's method showed that this decrease in acidity was due chiefly to a diminished secretion of hydrochloric acid. Duboisine would then be indicated in all gastric affections characterized by an exaggerated glandular secretion, or rather, he would say, by an increased formation, of HCl. The excellent results obtained by the author from the administration of the drug in such cases was a practical confirmation of his experimental conclusions. The action of duboisine is very far superior to that of atropine. The dose of the hydrochlorate employed was $\frac{1}{10}$ to $\frac{2}{3}$ milligramme hypodermically, or $\frac{1}{5}$ to $\frac{1}{10}$ milligramme by the mouth. The action of the remedy ceased to be noted twenty-four hours after the administration of the last dose.

Treatment of Gastric Catarrh.—Dr. Amalfi, of Naples, said that catarrh of the stomach, especially in its chronic form, is one of the most common of the affections from which the Neapolitan suffers, and unfortunately is one that is almost always neglected. Its causes are the hot climate, a too copious and too exclusively farinaceous diet, an immoderate use of drugs, and above all, constipation. The only treatment of any avail in this affection is lavage effected by means of Fancher's apparatus.

Apical Pneumonia.—Dr. Antonino Fienga, of Naples, read a paper on this subject, of which the following were the conclusions: 1. Pneumonia of the apex is a common disease and may be epidemic. 2. Among other characteristics of the affection is a tendency to manifest itself at a period somewhat remote from the infection. 3. It may be preceded or followed by other infections, by intestinal or meningeal localizations, and by nervous manifestations which may prove dangerous to life. 4. A few exceptional cases apart, it is a curable disease. 5. Paralysis, deafness, blindness, aphasia, and even mania are the sequelæ most to be feared during the process of resolution. 6. The best remedies for the cure of the disease and its complications are quinine, salipyrine, ethylic alcohol in aromatic water, digitalis, Neapolitan ointment, ice-bags, bromides, and oxygen. 7. The sequelæ yield to long-continued mercurial frictions, to the administration of the iodides, and to suspension.

Treatment of Fibrinous Pleurisy and Pericarditis.—Dr. E. De Cérenville, of Luzerne, presented a communication with this title, in which he advocated the application by injection to the surfaces covered with the fibrinous deposit of sterilized carbolated oil. In this way the painful friction between the inflamed surfaces is reduced to a minimum.

The Treatment of Empyema in Tuberculous Patients.—Dr. Charles Bäumler, of Freiburg i. Br., presented a communication with this title, of which the following were the main points insisted upon: I. In the early stages of empyema, and when the patient's condition before the appearance of this complication was not already hopeless, the following treatment is advised: 1. When pus microorganisms are present, thoracotomy; 2. When these are not found, the treatment must be at first expectant. If the increasing amount of the exudate causes threatening symptoms aspiration must be practised and repeated until the suffocative symptoms subside; then, when the general condition is good or perhaps better than it was, the radical operation (thoracotomy) is to be performed, provided the lung is found to be still capable of expansion and not too profoundly involved in the tuberculous process. II. In empyema of long standing: 1. The treatment above sketched; 2. When cough, dyspnœa, and cyanosis persist after the removal by puncture or aspiration of perhaps several hundred cubic centimetres of pus, showing a very defective expansive power of the lung, if the patient is in fair strength a radical operation must be made (thoracotomy or Bülan's operation). 3. When the power of expansion of the lung is very greatly impaired, the general condition being good, however, and in the absence of fever, we must resort to palliative measures, such as punctures repeated as may be indicated by the mechanical action of the exudation—finally, perhaps, to Bulan's siphon drainage. 4. When the general condition is bad in consequence of the pulmonary disease or of complications (amyloid degeneration, intestinal tuberculosis, etc.), palliative measures only are admissible.

Treatment of Empyema.—Dr. S. Laache, of Christiania, favors resection of the ribs in these cases, which is, he thinks, the most certain method of obtaining a cure in suppurative pleurisy. The principle of treatment, based upon as complete drainage as possible, is thereby realized in the most perfect way, and when this thorough drainage is obtained, we may, without danger, dispense wholly or in great measure with the laborious process of

washing out the thoracic cavity. In his communication the author spoke of those complications which are the most grave from a medical point of view, and more particularly of the condition of extreme debility which may follow the operation, and of sudden death, which is sometimes a result of this procedure.

Intestinal Adhesion in Middle-aged Patients.—Dr. Arthur Faenicke, of Breslau, read a paper with this title. In sixty to seventy per cent. of women between twenty and forty years of age, who are set down as hysterical because their complaints are of an undefined character, a careful examination of all parts of the abdomen, he said, would reveal the presence of old peritoneal adhesions between different segments of the intestines. These can be discovered only by the most careful examination, made when the intestine is empty and again when it is partly full.

The cause of these adhesions is, in the large majority of cases (seventy-five per cent.), some inflammatory process originating with the internal sexual organs, and running its course for the most part unobserved, after the subsidence of the primary affection. Of the remaining twenty-five per cent., about half the cases are sequelæ of perityphlitis, the balance being the result of repeated attacks of gall-stone colic with peritoneal irritation, or of gastric or intestinal tumors.

The treatment consists in regulation of the diet, the securing of regular evacuations of the bowels, the promotion of absorption by means of external counter-irritation to the abdomen (blisters, etc.), and the management of the acute exacerbations by local blood-abstraction.

The Influence of Temperature upon Intestinal Fermentation.—Dr. Luigi Cantù, of Pavia, said that he had several times observed a syndroma of phenomena consisting essentially in severe and painful cramps of the stomach, nausea, vomiting, wandering abdominal pains, borborygmi, slight fever, etc. At the same time the skin of the entire body was covered with the characteristic eruption of urticaria. The troubles disappeared completely in four or five days. The symptoms were referred by the author to auto-intoxication of intestinal origin, caused by an exaggerated peristalsis of the stomach, and secondarily of the intestine, excited by rapid oscillations of the atmospheric temperature acting upon the abdominal region. He had observed the same morbid complex in persons who had slept with abdomen uncovered in a room, the window of which was open during the night. Upon measuring in these individuals the intensity of the fermentative processes by the dosage of sulphonic ethers in the urine, he had found these processes always greatly increased. He had found, however, that the application of ice bags to the abdomen retarded digestive fermentation to a marked degree, and this would furnish an indication for their use in attacks similar to those above described.

The Management of Fevers and Particularly of Typhoid Fever.—Dr. Burney Yeo, of London, presented a communication with this title of which the following were the conclusions: 1. Recently acquired knowledge as to the nature and causes of specific fevers demands a modification in the therapeutic conceptions and indications applied to their management. 2. To counteract or antagonize the pyrogenic and other poisons, secreted by micro-organisms introduced into the body from without is an essential therapeutic indication in the treatment of fevers. 3. The investigation into the existence, scope, and activity of such counteracting therapeutic agents is of paramount importance to the rational treatment of fevers, and already the results of clinical observations give promise of fruitful conclusions to researches in this direction. 4. The search for direct antagonists to the poisons of specific fever is as important and probably of as great practical advantage as is that for methods of producing immunity. 5. The course and character of specific fevers can be, and have been, favorably modified and influenced by the administration of such antagonists. 6. Certain specified methods commonly adopted in the management of fevers, and especially of enteric fever, require modification and correction (*a*) in the direction of diet and regimen, and (*b*) in the direction of drug treatment.

Treatment of the Typhoid State.—Dr. Juhel-Renoy, of Paris, read a paper on this subject, of which the following were the main points: All infectious diseases may assume the typhoid aspect, and when this occurs refrigerant treatment is indicated. The method of this refrigerant medication must vary according to the result which it is desired to obtain. It is vastly superior to any other procedure in all forms of infectious fever; it reduces the total mortality of typhoid fever to seven per cent.; of typhoid erysipelas to nine per cent.; of malignant scarlatina to fourteen per cent; of ataxo-adynamic measles to an almost inappreciable figure. The mortality of adynamic grippal pneumonia is reduced one-half by cold baths, and smallpox, when treated in this way from the start, is much milder in its course. The ways in which cold baths bring about the disappearance of the typhoid condition are numerous, but that which seems to be the most important as well as the most constant is the urinary crisis, an indication, when it occurs, of an early cure.

Typhoid Bacilli in the Gall bladder—Dr. H. Chiari, of Prague, read a paper on this subject, in which he said that the systematic bacteriological examination of the contents of the gall bladder in cases of enteric fever almost always revealed the presence of typhoid bacilli. The bacilli may increase in numbers here and induce an inflammation of the gall-bladder, and possibly there is in this fact an explanation for certain cases of relapse in typhoid fever. The bacilli gain entrance either through the blood or by direct ascent through the common bile-duct from the intestine.

Pathogenesis of Diabetes.—Dr. Nicola de Domenicis, of Naples, read a paper with this title. Ligature of the duct of Wirsung, with complete cutting off of communication between the pancreas and the duodenum, produced diabetes, he said, just as surely as total ablation of the pancreas. The inclusion of even a third part of the pancreas in the subcutaneous connective tissue will not prevent the occurrence of diabetes in animals from whom the part of the organ remaining in the pancreas has been removed. The intestinal contents of animals from whom the pancreas has been removed, properly prepared and injected into the abdominal cavity of healthy animals, induces in them a slight and transitory glycosuria. The author concluded from the results of these experiments that pancreatic diabetes is due to the suppression of the intestinal function of the pancreas.

Hypertrophy of the Heart in Renal Disease.—Dr. de Domenicis also presented a communication embodying the results of some experimental studies made to determine the pathogenesis of cardiac hypertrophy in disease of the kidneys. From the results of these studies he arrived at the conclusion that hypertrophy of the heart in these cases was not the direct consequence of the renal disease, but that both affections were in equal measure the results of a common cause.

Pancreatic Changes in Diabetes.—Dr. David Hausemann, of Berlin, presented a communication on this subject in which he said that there was a form of diabetes occurring with and another form without pancreatic lesions. The pancreas may be destroyed by connective tissue or fatty overgrowth, by tumors or by calculi, and diabetes thereby result. In many such cases, however, so much of the pancreatic tissue may be preserved that no glycosuria is induced. The most frequent pancreatic lesion in diabetes is simple atrophy, and this is found in corpulent diabetic patients as well as in the emaciated, but is met with only exceptionally in other cachexiæ. The form of diabetes occurring with simple atrophy of the pancreas may be regarded as genuine pancreatic diabetes in contradistinction to the forms associated with other diseases of this gland which present more casual lesions.

Glycosuria of Nasal Origin. — Dr. L. Bayer, of Brussels, reported a case of glycosuria accompanied by other trophic symptoms which was caused by nasal obstruction, and disappeared after the re-establishment of free respiration through the nose. From this observation he came to the conclusion that an obstruction to nasal respiration may be a direct cause of glycosuria. The appearance of the glycosuria under such circumstances may be explained in part by the diminished absorption of oxygen, but especially by the resulting circulatory (asphyxic) and nervous (bulbar) troubles.

A New Method of Diagnosis and Prognosis of Chronic Nephritis.—Dr Basset, of Toulouse, said that as long ago as 1860 he had read a paper before the Medico-chirurgical Society of Toulouse, on "The Non-elimination of Odorous Substances by the Kidney, as Bearing upon the Diagnosis and Prognosis of Nephritis." Since that time he had found a new and more precise method of arriving at this end, namely, the employment of iodides and of the salts of quinine, the elimination of which by the kidneys is so rapid in the normal condition, and the comparative dosage of which may be made so exactly. The following were the conclusions of the communication: 1. The elimination of odorous substances by the kidneys is retarded, diminished, or abolished in chronic nephritis. 2. This examination of the odor of the urine is an easy and rapid method of ascertaining the functional condition of the kidneys and of determining their anatomical integrity or the reverse, and thus of arriving at a diagnosis and prognosis of Bright's disease. 3. The salts of certain substances which are ordinarily eliminated in great part and rapidly by the kidneys, such as the iodides, the bromides, the salts of quinine and the turpentines, which form with nitric acid a precipitate soluble in ether and alcohol, are very useful as furnishing in a precise manner, by the retardation or diminution of their elimination in the urine, data upon which to base a diagnosis and prognosis of the various degrees of chronic nephritis.

Percussion of the Kidneys. — Dr. Ernesto Bruschini, of Naples, read a paper in which he said that it was necessary to make an examination of the kidneys by means of percussion in all cases in which this was not rendered impossible by special grave conditions. It is not rare by so doing to discover the existence of a movable kidney which would not otherwise have been suspected, and when the symptoms presented by the patient would have led to an entirely different diagnosis. We cannot, however, without the aid of other symptoms, establish a diagnosis of movable kidney from the mere absence of percussion dulness on one side. We must first be sure that there are no pathological conditions in the other internal organs, especially the abdominal. Above all it is necessary to be cautious in making this diagnosis when there is a tumor of the spleen or of the liver, or when the stomach is markedly dilated.

Nephritis without Albuminuria in Specific Intoxications.—Dr. Antonino Fienga, of Naples, said that there existed cases of nephritis, as shown by the clinical and microscopical symptoms, in which no albumin was to be found in the urine. Such a nephritis may be due to the introduction of a specific virus from the external genitals reaching the kidneys through the lymphatics. The disease so caused may subside after rest, the institution of a milk-diet, or the administration of chloral, combined with adonis vernalis whenever the heart appears to be affected or œdema is very extensive.

Anasarca following Retention of Urine, but without Albuminuria. — Dr. Lépine, of Lyons, said that the dropsy sometimes observed in cases of retention of urine, especially in cachectic subjects, could be satisfactorily explained by the weakened condition of the tissues in the cachectic and by the fact of the retention of a superabundant quantity of fluid in the blood. The only thing that may seem extraordinary in such cases is the absence of albuminuria. From a number of experiments made upon dogs the author had found that the urine, greatly reduced in quantity and secreted against a counter-pressure of one metre of urine in the urethra, might be perfectly free from albumin provided this pressure were constant and not intermittent.

The Rôle of Arterial Aplasia in the Renal Complications of Infectious Diseases.—Dr. Emilio Conde Flores, of Caracas, Venezuela, read a paper in which he maintained that arterial aplasia might play a very important rôle in the production of the renal complications of acute or chronic infectious disease (typhoid fever, tuberculosis, etc.).

(To be continued.)

CONGRESS NOTES.

The Meeting of Virchow and Baccelli.—The foreign guest who received the most newspaper honor was Dr. Rudolph Virchow, of Berlin. His every movement, from the moment of his arrival in Rome to that of his departure, was chronicled as faithfully as if he had been one of the reigning sovereigns of Europe. The recital of his polite efforts to meet Dr. Baccelli was particularly impressive. The *Popolo Romano* reported this interesting event in the following terms: "As we announced yesterday, scarcely had the celebrated German clinician arrived in Rome when he repaired to the Ministry of Public Instruction to visit the Honorable Baccelli; but not finding him, he left his visiting card. The Honorable Baccelli, in his turn, as soon as he was aware of the arrival of his very dear friend, went in search of him, with no better fortune. Virchow, however, could not let the day pass without having met the Honorable Baccelli, and went a little later, with one of his Berlin colleagues, to the Honorable Baccelli's house in the Piazza Campitelli. When Antonio, the old valet of the Honorable Baccelli, announced Dr. Virchow, the Honorable Baccelli, who was writing in his study, although in his dressing-gown—his traditional ash-colored gown with red cord and tassels—without any ceremony, just as he was, left his secretaries and ran to meet his old friend. The meeting was most cordial, and a very affectionate conversation, lasting three-quarters of an hour, then took place between the two illustrious clinicians." What became of the Berlin colleague during this colloquy the reporter forgot to state.

Congress of Alienists.—The eighth congress of Italian Alienists was held in Rome during the two days preceding the inauguration of the International Congress. Many foreigners were present at the meetings. The opening address was delivered by Dr. Tamburini, the vice-president of the Association. Dr. Bonfigli, of Rome, was elected president for the ensuing year.

The Wives and Daughters of the members were entertained during the week by a committee of ladies resident in Rome. Numerous drives were taken and visits made to the principal churches, galleries, and other points of interest.

Many Clubs in Rome opened their doors to the members, the only requisite for admission being the presentation of the card of membership.

A Flight of Pigeons.—During the lunch at the Baths of Caracalla, given on the last day of the session, there was a flight of a thousand pigeons under the direction of the Carrier Pigeon Society of Rome.

Army Surgeons.—There were between one hundred and ninety and two hundred army surgeons from Europe and America in attendance at the Congress, in addition to those from Italy.

Illness of Professor Brouardel —One of the general addresses announced for delivery was that on the "Struggle against Epidemics," by Dr. Brouardel, of Paris. The speaker was prevented by illness from attending, and his place was taken by Dr. Bouchard, who read an address on "Fever."

The Polyclinic, where the section meetings were held, is situated most inconveniently outside the walls, at a long distance from the centre of the city. The roads leading to it were only completed after the Congress

work had begun. The extra omnibus service promised by the committee was conspicuous by its absence, and the only way to reach the building was by cabs, the distance from the street car terminus being too great and the road too rough to make walking feasible for any but athletes. Nevertheless, cabs were hard to get, and many had to trudge through mud or dust, as the weather happened to be.

The Most Gorgeous Man in Rome was one of the professors of the University of Coimbra, in Portugal, who wore over his shoulders a sort of cape of bright yellow silk, and on his head carried a hat of the same material, shaped somewhat like a small tiara, covered with tassels.

The Most Popular Exhibit in the Hygienic Exposition was that of the Münchner Bürgerbräu. It consisted simply of a bar covered with half-litre mugs and a beer barrel, behind which stood two Bavarian maidens, clothed, the one in blue, the other in red, who dispensed the hygienic liquid to a line of thirsty congressists.

The Medico-hygienic Exposition was opened without any special ceremonies on March 28th. It was held in the Palace of Fine Arts built to exhibit the pictures of modern Italian artists. A large concourse was present, including the officers of the Congress, Signor Crispi, and many other local celebrities. The exhibition was of the usual order: books, mineral waters, drugs, surgical instruments, microscopes, malto-coffee, beer, plans of hospitals and cemeteries, a description of the works undertaken for the sanitation of Rome, etc. It was not as complete or as interesting as the one held in Berlin during the tenth International Congress.

The Costanzi Theatre, a very large building, was packed to suffocation during the opening ceremonies. The doors were opened at nine o'clock, and by half-past nine it was almost impossible to get in. The parquet was boarded over and was filled with members standing, the three balconies being reserved for the ladies, foreign ambassadors, and other distinguished personages. The king occupied a throne on the stage, and beside him sat the queen and members of the royal household.

Rome was never so crowded as during the Congress week, for in addition to the thousands of physicians and ladies accompanying them, there was the usual throng of Easter visitors. Every hotel and boarding-house was packed, and furnished apartments in all parts of the city were at a premium.

The Teatro Costanzi, in which the inauguration exercises were held, will recall to former visitors in Rome the hotel of the same name which was patronized extensively by Americans. Signor Costanzi, the proprietor of the hotel, made a fortune out of it, and wishing to perpetuate his name, built this theatre. It cost half a million and nearly ruined him, but he felt amply repaid for the outlay on the opening night when he was knighted by the king.

The Ladies of the Congress wore as a distinguishing badge a daisy, the flower being chosen in honor of Queen Margherita.

Rome is behind the times in many respects, like many other European cities, in American eyes, but it has the merit of immaculately clean streets. They are cleaned on the block system, and men are seen everywhere, in the poorest parts of the city as well as in the principal thoroughfares, constantly sweeping up the refuse and depositing it in baskets, whence it is removed at frequent intervals in tightly covered hand carts.

The Gala Representation at the Costanzi Theatre, given in honor of the Congress on Friday evening, was a performance of Verdi's "Traviata." The price of seats was put at $6, yet the attendance was good. Rome is not celebrated for its opera, but the performance on this occasion was far from mediocre.

Reception at Naples.—Many of the foreign members paid a visit to Naples at the close of the meeting. The municipal authorities made an appropriation of 3,000 lire for a reception and concert in their honor. Excursions were made thence to Pompeii, Vesuvius, Capri, and other points of interest in the neighborhood.

The Section of Military Medicine and Surgery made an excursion on Sunday, in a special hospital train, to Tivoli. A military concert was given in honor of the visitors upon their arrival, and in the evening the Grotto of the Sirens and the Aniene waterfall were illuminated with Bengal lights. The Temple of Vesta and that of the Sybils were also illuminated with electric lights.

Reception at the Palace of Fine Arts.—On the evening of March 28th, a reception was given in the hall of the Hygienic Exposition. The building is large, but the crowd was larger, and the resulting discomfort was great. Much dissatisfaction was expressed with the arrangements of the reception committee, but unjustly, for it was not the fault of the committee that the building was not spacious enough to accommodate the members that filled it. The number of adherents to the Congress was so much in excess of what was anticipated, almost every gentleman being accompanied by one or more ladies, that it was simply impossible to provide for them. The buffets suffered the most, and an hour after the opening of the reception there was nothing left but flasks of chianti. Several medical students who had recourse to these flasks for want of something more substantial and less exhilarating, were subsequently carried home by the obliging policemen.

The Queen's Linguistic Accomplishments.—After the speaking was over at the inaugural session, the king and queen held an impromptu levee, receiving the presidents of the foreign committees. The queen conversed with the various representatives in English, French, German, and Italian, using each language in turn with perfect ease and fluency, and with a scarcely perceptible accent.

The Press Committee of the Congress was a very uncommunicative body. Bureaus for the lay and medical press were open in the Polyclinic, but beyond a few copies of telegrams from Koch and others who could not come to Rome, there was no information to be obtained. The members of the committee seemed to know nothing, and to be unable to learn anything of what was being done.

Meeting of Americans.—A meeting of members from the United States and Canada was held on Saturday morning in one of the rooms of the Polyclinic, under the presidency of Dr. Jacobi. It was thought that by organizing, the English-speaking members would be able to obtain some information concerning the Congress—information which it was impossible to obtain even by those who had command of the four official languages. A committee was appointed to learn what could be learned, and to communicate it to the members. Some of those present delivered themselves of very emphatic remarks upon the general confusion and the total lack of any facilities for the non-Italian speaking members of the Congress. The remarks were justified, though ineffectual, for the officials themselves were as much at sea as the foreigners, and a more go-as-you-please and never-get-there Congress was probably never held. One of the propositions made at the meeting was that the Americans unite with the English, with whom the suggestion originated, to form a special section where they might read their papers and be listened to with a show, at least, of respect, but this was very properly rejected. It was then decided to form a social organization, and a bureau of information. The bureau of information died from starvation, for no one could learn anything of any event until after the event had taken place.

Among the New and Highly Specialized International Congresses one is announced on "Marine Hydrotherapeutics." It is to be held in Boulogne on July 25.

Brazil.—The rebellion is over, but yellow fever is now to the front. There is a large daily mortality from it in Rio Janeiro.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, March 15, 1894.

D. B. St. John Roosa, M.D., President, in the Chair.

Greek as the International Language of Physicians and Scholars in General.—Dr. Achilles Rose read the paper. The desirability of having a single international language must have impressed itself upon the minds of all who had attended an international medical congress. Very few of the members at such meetings were able to speak, or even to understand, more than two languages, perhaps only their own, whereas three had been official, and at the next meeting five would be recognized. The advantages to be derived from a single official language had occupied the minds of many thinkers. The best known of later attempts to invent a language was that of Volapük, but the impracticability of this as a language of science had been conceded by those who had given the matter special attention. The rivalry of nations was against the acceptance of any of the three great living languages—German, French, and English—as official, not to mention other objections, particularly their want of richness in combinations. On the other hand, Greek was free from these objections and possessed many positive advantages. True, it was called a dead language, but it was dead only in the minds of college professors. It was spoken to-day by several million people essentially as it was in the times when the classics were composed. Medical terminology, and that of the arts and sciences in general, were already dominated by the Greek language. It was particularly rich in combinations, and was the most beautiful language spoken, its innate superiority accounting for its survival of centuries when the Greeks themselves had suffered all kinds of reverses and been reduced to a handful in numbers. The author estimated the number of those speaking the Greek language to-day at seven millions. Latin, on the other hand, was not a living spoken language, and was kept in existence only through philological and theological literature. The conversational language of a nation was the key to its written language, and the easiest and best way, the most efficient way, was to begin with the language as the people were accustomed to use it in every-day life. According to the present methods of teaching Greek, it would be considered too difficult to learn, and could never become an international language. But this would be true of any language whatever if it were taught as Greek and Latin were taught in our colleges. There was no truth in the statement that the Greek of to day was dominated by the Slavonic or Turkish; nearly everything of foreign origin had been excluded. Specimens of magazines and letter-writing in Greek were exhibited.

The author criticised severely the collegiate method of teaching Greek, which he said originated in 1528, with Erasmus, a crank in this matter. How difficult it would be to gain a knowledge of English by pursuing the same course, starting, for instance, with the poems of Longfellow, parsing every sentence, and pronouncing the words as it might suit the fancy of the teacher. To learn a language one should begin with easy books, children's books, and listen to the conversation of natives. By such a method one would soon be enabled to do away with the dictionary, which at present even scholars required in reading Greek.

A language which gave terms to all new inventions and discoveries, and which could not be replaced by any other, was already, to a certain extent, an international language.

Danger of Disintegration of the International Medical Congress.—Dr. A. Jacobi had been much interested through the enthusiasm of the author for his subject, and in the question of having an official language for the international Medical Congress. At first, German, French, and English had been official, but as the meetings had been held in other countries the language of those countries had one by one been made official, and the result had been that it was impossible to understand more than a few of the many papers and discussions at these meetings. As a rule only Frenchmen listened to papers read in French, Germans to papers read in German, Englishmen to papers read in English, and so on. Unless something were done, he feared that adding more official languages to the list would result in the International Congress becoming split up into a number of national congresses. There were only two ways in which medical men of different nationalities could understand one another. One was to learn the different languages; the other to agree upon and learn one international language. The former was very difficult, for few men had time to learn several languages, especially after they had entered upon the practice of medicine. It was possible, however, where the knowledge of the languages was gained during childhood by the conversational method. What he had learned of Greek was as it had been taught in colleges; he had acquired it with great difficulty and had lost it with great facility. He thought that Dr. Rose's paper might have greater effect if presented before the approaching meeting of the International Medical Congress.

Thinks English will be the International Language.—Dr. C. A. Leale read some remarks. He said that when Dr. Rose had requested him to discuss his paper he expressed the opinion that English was more likely than Greek to become the universal language, and further thought upon the subject had tended to confirm him in that view. Dr. Leale seemed at present not to have much confidence, however, in any language becoming universal, at least not for many years. While many years ago he had been impressed with the prophecies of Miller, and thought that wars might cease, and peace reign universal, yet we found the world had not come to an end, and there continued to be war and rumors of war. So with his youthful ardor regarding the universal brotherhood of man, which he expected to be distinctly American; further observation and travel had led him to the belief that languages, like diseases, varied with the soil and the character of the people who made that soil their home. If it were possible to perform the miracle of bringing all peoples together and giving them an understanding of a common language, without continued education, such a language would not remain universal, the several peoples would relapse into their former customs and employ language orally alone, such as would require the least effort, that which they had been accustomed to from childhood. His reason for regarding the English language as destined to become the universal language, if any could be called such, was the fact that it had spread so widely over the globe, was used by so many more people than the German or French or Greek, and in it were recorded the doings of art, science, and literature throughout the world; its relative increase among the people was shown by the following figures. The population of the earth was estimated as 1,440,650,000. In 1801 the English language was spoken by 12.7 per cent., and in 1890 by 27.7. In 1801 French was spoken by 19.4, and in 1890 by 12 7. The German language, in 1801, by 18 7, and in 1890 by 18.7. English had rapidly increased, while French had actually decreased, and German had remained stationary.

Two Questions.—Dr. W. H. Thomson thought the question naturally assumed two forms: 1. Was an international language at all practicable at a medical congress? 2. If it was, what language should be selected? Regarding the first question he saw no possibility of establishing an international language for medicine or science unless a revolution were effected in our systems of education and there was co-operation among the different educators of the world in bringing about so desirable an end. The law of the evolution of language made it imperative, if such a result was to be accomplished, that the language be learned in such a way that men could think in it.

Afferent and Efferent Language.—Physiologically

considered all language was afferent and efferent. Afferent language came through the eye and ear, efferent language passed out through the organs of speech or in the handwriting. Afferent language was acquired chiefly through the ear, and it was only later in life that we used the eye in reading and writing. Yet the colleges would have us learn Latin and Greek exclusively through the eye, which had the least developed tract connecting it with the centres for expression. Dr. Thomson could speak very feelingly upon this subject, for he had studied Greek under his preceptors diligently for many years, and had translated a number of the classics, yet he had never found it possible to think in that language. He was then set to studying Arabic in the same manner, *i.e.*, by the eye alone, but he soon became convinced that he could never get a practical use of it in that manner, and abandoned the method, and went to live among the Arabs themselves, with the result that, notwithstanding the difficulties besetting that copious language, he could yet, after the lapse of twenty-five years, express himself in it with facility. The same difficulties encountered by himself in the study of Greek and Latin were being encountered to-day by his sons at Harvard, where they continued, as in other colleges, to teach those languages by sight instead of by sound and conversation. German and French were taught at Harvard in the same manner; a fact which had always made him sorry for young men who had to acquire their knowledge of the languages at that institution.

Supposing it possible to introduce an international language for medicine, he agreed with Dr. Rose that Greek was best. He would unhesitatingly choose Greek because of its unparalleled and marvellous structure for expressing ideas, and notably its power to express ideas related to science in the most accurate, the most concise, and clearest manner yet devised by man. In this regard it was as perfect as English was deficient in power to express relation between things. Greek showed matchless value.

Dr. Thomson did not take quite so dark a view as had been expressed of the possibility of some one language becoming universal for science, for social and political causes had at different periods exerted marked influence in this direction. French, for instance, was the language of polite scholars and diplomats the last century. If the need of an international scientific language should come to be strongly impressed upon nations, they might agree upon one and put it into practical use by teaching it in the primary schools. While not regarding it as a chimerical or impractical proposition, yet he had not much hope of its being carried out.

English the Language of the Future.—Dr. S. S. Burt acknowledged that Greek was a beautiful and desirable language, but his judgment told him that English was destined to be the dominant language, for the reason that the English people were becoming the dominant race. He did not believe any language would be agreed upon except it were that of the people who were in the ascendency, in whose speech affairs of government were transacted, and science, art, and literature were recorded.

New York without Influence at Harvard.—The President, Dr. Roosa, spoke very feelingly upon the collegiate way of teaching languages. He had devoted a great deal of time to Latin and Greek, and, like the other gentlemen who had spoken, felt that what he knew to day was very little indeed. He started to study German in the same manner, and after some time found himself in Bremen unable even to make known his wishes as to a hotel. There he entered a German family where not a word of English was spoken, had no English acquaintances, and the result was that in two months' time he could go about all Germany and make his wants known without difficulty.

If we were to have an international language, it could only be, as Dr. Thomson had said, by a revolution of teaching methods, and Dr. Roosa despaired of such a revolution because the hide-bound notions of college professors were simply beyond any ordinary assault; for a man from New York to talk to men from Cambridge or New Haven as to ways of teaching would be very much as if he should go to the tomb of the prophet with his boots on.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

PRESIDENCY OF COLLEGE OF PHYSICIANS—MEETING OF FELLOWS OF COLLEGE OF SURGEONS—SUBSEQUENT MEETING OF MEMBERS—THE GRESHAM UNIVERSITY SCHEME—CONVOCATION OF THE LONDON UNIVERSITY WILL OPPOSE—ANOTHER NEW SOCIETY—ONE OF FELLOWS OF THE SURGICAL COLLEGE—AIMS OF THESE AND OF GRADUATES ENTIRELY EXCLUSIVE—RESULTS OF EXCISION OF DISLOCATED CARTILAGES.

London, March 24, 1894.

On Monday, at the Royal College of Physicians, Dr. Russell Reynolds was re-elected President. Since his election to succeed Sir Andrew Clark, until the official year had expired, he had given so much satisfaction that his re election may be called unanimous; for on the ballot being taken eighty-seven votes were cast for him out of the eighty-nine Fellows present. This is as it should be, for it is generally recognized that Dr. Reynolds well deserves the honor conferred upon him.

On Monday also the Fellows of the Royal College of Surgeons met in response to the summons of the council to consider the scheme of the Gresham University Commission. There were between sixty and seventy Fellows present, and the scheme was "cordially approved in principle," as it has already been by the sister college. No wonder, for in it these colleges will rather gain than lose and the Fellows will retain all they have, and the members still be left without representation or influence.

On the next day, Tuesday, the members of the college were allowed to meet in the building of the corporation, the council having given notice of this concession by an advertisement. Accordingly, at the hour announced, four councillors had arrived, and later they were reinforced by two others. There were also three members in the theatre, and this audience swelled to eight before the proceedings were concluded. The resolution submitted, as no one said no, was declared by the president to be carried, and will, no doubt, be duly quoted as strengthening the hands of the council. This quiet assemblage of half a dozen members is all that comes of having extorted the right of meeting. Could the officials who vainly resisted meetings of hundreds have foreseen how little they need fear such meetings they would, perhaps, have desisted from opposition and blandly said, pray, meet in your own college as often as you like, only give us reasonable notice to prepare to receive you with due honor. It has been suggested that the smallness of the meeting is the result of its not being properly advertised. I am rather inclined to attribute it to the conviction of the members that attendance would be utterly futile. Why should they care for any particular scheme for a new university? All they want is a possibility of becoming graduates, and if they could have that what need they trouble about the position of their college, which ignores their existence from the day on which it takes their money?

Although the two colleges so far support the Gresham scheme there will be opposition in other quarters. Already the graduates of the present London University are giving tongue, and the annual Committee of Convocation has formulated resolutions which will be submitted to that body at a special meeting on April 10th. Convocation consists of graduates; it will be remembered that they rejected a new charter proposed to them, and the present scheme, which would certainly injure them, can scarcely expect more consideration at their

hands. The graduates are proud of their degree and desire to maintain its prestige. Naturally enough; but still they might take into consideration broader views of the position instead of always crying out that change will lower the value of their degrees and so rob them of their hard won distinctions. To outsiders their case is much like that of the Fellows of the two colleges who have so "cordially approved" the scheme—that is, it is a case of selfishness all round. The graduates want the standard to be rather raised than lowered so as to make their degrees fewer. The Fellows scream for their "privileges" in their corporations; that is, they want to ignore the members whose money has enabled them to exist. It is a miserable exhibition of the lowest qualities of human nature evidenced by men in possession of both education and money, and dominated with the determination to keep these distinctions to themselves as far as possible.

As if to fill up a busy week, so far as these medico-political questions are concerned, a circular has been issued announcing the formation of a new society of Fellows of the College of Surgeons. Of course the Association of Fellows, which has existed for the last ten years, cannot see the necessity of this, and some very disagreeable insinuations are obtaining circulation. The one thing that may interest outsiders is that both these organizations concern only the two or three hundred Fellows, and will doubtless treat the claims of the thousands of members with contempt. Why, then, should the latter, or, more still, the thirty-one thousand registered practitioners, care about the internecine disputes among the Fellows, the chief concern of both parties alike being the keeping and extending of their privileges?

At the last meeting of the Clinical Society, in addition to the papers I mentioned last week, an account of the result of a case of excision of part of a dislocated internal semilunar cartilage, twenty-one months after operation, was given by Mr. Lockwood, who considered there is rather a dearth of information as to the results of such cases, of which many have been done. Information as to the result nearly two years after the operation was given in the present instance. The patient was an engineer by profession, who injured the knee at foot-ball. Nothing could be felt, but the joint was apt to lock under circumstances which entailed danger to the patient's life. Pain was felt on pressure over the internal semilunar fibro-cartilage, which also seemed too movable, and had probably been injured. The joint was opened by incision vertically, and the anterior third of the internal semilunar fibro-cartilage was found to have been torn from all its tibial attachments. It was removed, and the operation was followed by a slight attack of synovitis, but the patient was up at the end of a fortnight; a month later he walked thirteen miles. Subsequently, after foot-ball he had an attack of synovitis, but no locking; indeed, the joint has not, he said, locked since the operation, and is perfect for wrestling, running, swimming, or bicycling. He is afraid, however, to play tennis or foot-ball, because he fears a sudden twist.

Mr. Croft recalled that he had read a paper on this subject in 1888, in which he had recorded the first case of deliberate removal of the internal semilunar cartilage. Mr. Lockwood, in reply, said that if only slightly detached, it might safely be sutured to the tibia, but if much damaged, it ought to be removed. At the same time he would not like to remove it unless injured.

Dr. Cayley and Mr. Bland Sutton related the case of a man of twenty-five, with perforation of the bowel in typhoid fever, treated by washing out the peritoneal cavity and excising the perforation. The operation lasted nearly an hour, a considerable portion of which time was occupied in washing out the peritoneum. The patient was much collapsed, but gradually rallied and lived till the sixth day, ultimately passing into a typhoid state, with great prostration and rambling delirium. Some leakage of gas took place, and consequently the central stitch of the abdominal incision was removed to allow a free vent. The escape of gas was due to the sloughing of a stitch exactly in the middle of the suture. The perforation was situated twelve inches above the ileo-cæcal valve. The shock of the prolonged operation no doubt diminished the patient's chances of rallying, and in any future attempt it would probably be better not to excise and suture the ulcer, but after washing out the peritoneal cavity to attach the perforated bowel to the abdominal incision and leave a fistula to be dealt with subsequently. Other cases were mentioned, all fatal. Mr. Bland Sutton pointed out that the operation ought only to be attempted under very favorable circumstances, and Dr. Burney Yeo pointed out that had the patient recovered there would probably have resulted stricture of the gut where sutured.

Dr. Cayley admitted that patients might sometimes recover after perforation, but not if there was much extravasation.

LETTER FROM ROME.

(From our Special Correspondent.)

THE MEDICO HYGIENIC EXHIBITION—A CROWDED RECEPTION—INAUGURAL CEREMONIES—ADDRESSES OF WELCOME—SECTION MEETINGS AT THE POLYCLINIC—FIRST GENERAL SESSION—ADDRESSES BY VIRCHOW AND BOUCHARD—LA TRAVIATA—NUMBER OF MEMBERS.

Rome, March 31, 1894.

The ceremonies of the Congress proper were preceded, as usual, by the opening of the Medico hygienic Exhibition, which has now become a regular institution in connection with all important medical meetings in every part of the world. This exposition was under the special direction of Professor Pagliani, Treasurer of the Congress, and Director-general of Public Health under the Italian Government It was very similar to the drug exhibits, so familiar to all who are in the habit of attending the meetings of the American Medical Association, though naturally on a larger scale, and embracing certain features not seen there. These latter may be described as of the non-commercial order, consisting in models of hospitals, both civil and military, cemeteries, crematories, appliances for public sanitation, a description, accompanied by photographs and designs, of the works recently undertaken by Professor Pagliani's Bureau for improving the health of Rome, and the like. The exhibit was one that reflected credit upon the organizers, but truth compels the admission that it did not compare favorably with the one in Berlin, in connection with the Tenth International Congress in the summer of 1890.

On the evening of the same day a reception to the members of the Congress and their wives was given in the Palace of Fine Arts, where this exhibition was held. The crowd present exceeded every expectation of the managers, and the result was a perfect jam—ladies' dresses were torn, men's hats were crushed, and the heat was asphyxiating. The provision of refreshments at the various buffets was quickly exhausted, the only thing left being wine. A number of the younger guests were driven in their desperation to partake of this too freely and had to be carried out of the building by the attentive *carabinieri*.

Thursday, the opening day of the Congress, was a perfect spring day, with bright warm sun and not a cloud in the sky. It was announced that the doors of the Constanzi Theatre, in which the inaugural exercises were to be held, would be opened at 9 o'clock and closed at 10, after which time no more would be admitted. A perfectly useless precaution, for by 9.30 the building was so packed that not a mouse could have squeezed his way in. The invitations were not confined to members of the Congress, of whom there were nearly seven thousand, not counting their wives and daughters, but tickets were sent to members of the diplomatic corps, the Italian senators, deputies, and other officials, with their families, and generally to all the leading citizens of Rome belonging to the Royal faction. The theatre is an

immense structure, but it could not hold such a crowd, and many members of the Congress, attired in the dress suit which is *de rigueur* at all functions on the Continent, even before breakfast, were unable to gain admittance.

The arrangements within the theatre for seeing and hearing were as bad as they could possibly be. The king's throne was placed at the back part of a very deep stage, and the addresses were all delivered from the same place. The result of this was that many, even those in the best boxes, could not see their majesties and the speakers, and those in other parts of the building could hear not a word. However, the toilets of the women were pretty, the queen was, as always, charming, and those who were fortunate enough to get into the theatre seemed to be fairly satisfied.

The king and queen arrived half an hour late, and immediately after they had taken their places, Signor Crispi, the Prime Minister of Italy, began his address. After the applause which broke out at its conclusion had ceased, Dr. Baccelli stepped forward and spoke for a few minutes in Latin. It was interesting to note the close relationship between this language and that of modern Italy when the former is spoken with the Italian intonation. It was quite evident that those who stood within hearing distance of the speaker were able to follow his words and grasp their meaning, which would not have been the case with an audience of any other nationality. Then Prince Ruspoli, the Mayor of Rome, extended a welcome to the assembled members in the name of the city, recalling the fact that physicians had always been held in high esteem in Rome from its earliest days. After this Professor Virchow was called upon, in his capacity as President of the Berlin Congress, to address the members. In compliment to his hosts he spoke in Italian, and was roundly applauded when he sat down. Professor Maragliano, the secretary, then read the report of the Organization Committee and presented the figures of attendance at former congresses, showing that the present one exceeded the most largely attended of any of the preceding by at least 2,000. The presidents of the foreign committees were then called upon in turn, but after some eight or ten had spoken the king showed signs of weariness and this part of the programme was abruptly cut short.

Dr. Virchow then moved that the present officers of the Congress be elected permanent officers for the Rome meeting, and the motion was carried by acclamation. The meeting was then declared adjourned. Their majesties remained on the stage a few moments conversing with the chairmen of the foreign delegations, and then passed out, being followed by the entire throng of natives and foreigners anxious to see them enter their carriage and drive away.

In the afternoon the nineteen sections met for organization and election of officers at the Polyclinic, and then was made very evident the inconvenience of this locality for the meetings. It is true that the sections are all located in what is practically one building, but this building is at such a distance from the centre of the city that it can be reached only by cabs. The terminus of the street-car line is a good three-fourths of a mile away, and the extra line of omnibuses promised by the managers of the Congress was nowhere visible. It was comparatively a simple matter to find a cab in the city and drive to the Polyclinic, but the return was not so easy. The few carriages at the door of the building were taken by the first comers, and the others had to walk to the station of the street-cars, there to find that the cars, running only every fifteen minutes and accommodating only twenty persons each, were full. Then followed a weary trudge from the city gate home. This experience was repeated yesterday and to-day, and will doubtless be to the end of the meeting.

At the Polyclinic policemen and special officials are posted everywhere, but they might as well be absent as far as the convenience of the members is concerned. They talk nothing but Italian, and can give little or no information even when addressed by their own countrymen. There are rooms for all the national committees in which men are supposed to be stationed permanently to give information to any inquirers. A visit to all these rooms was made on the opening day, and all were empty except the English room. In that one an Italian was found who spoke his own language and a few words of French, but English was a tongue that he had never attempted to master.

On Friday afternoon the first general session was held in the Eldorado Amphitheatre. This is a small wooden building, capable of holding about five hundred people, and several thousand tried to get into it. They naturally did not succeed, but their efforts drowned the voices of the speakers so that they were inaudible to all except those in the front rows of seats. There were no opening ceremonies, but as soon as the president had taken his seat Professor Virchow advanced to the front of the stage and read his address on Morgagni. It was delivered in German, and was very long, a full hour being consumed in its delivery. At its termination Dr. Casati di Forli, in the name of his city, in which Morgagni was born, presented the speaker with a medal. The second address was by Dr. Bouchard, of Paris, who took the place of Dr. Brouardel, the regular appointee, who was prevented by illness from attending. The subject of the address was "Fever." Then Dr. Babes, of Bucharest, read his address on "The State in its Relation to the Results of Modern Bacteriological Research."

In the evening a representation of "La Traviata" was given at the Costanzi Theatre, in honor of the Congress, but for which those who were present had to pay from 36 lire a seat to 200 lire a box. A very large number of the members did not attend. The performance was good enough, but not extraordinary. Rome is not celebrated for the excellence of its opera, and this so-called gala-evening added nothing to the reputation of the city in this respect.

The number of members registered up to the present writing is 7,612, of whom about one-half are Italians, one-quarter Germans and Austrians, the balance being pretty equally divided among the other nations of Europe. America—North, Central, and South—is represented by less than two hundred, the greatest number from any one country of the Western Hemisphere being from Mexico, which has quite a good showing. The faults of the Congress are due entirely to its size. Rome made preparations for some three or four thousand guests, and it has double the number, and does not know what to do with them. At all the meetings and receptions thus far the members have been packed together like sheep in a pen, and many (the more fortunate) have been unable to get into the buildings at all. The scientific work promises to be good, though there are not likely to be any such startling announcements made as that of Koch at the Berlin Congress. Four thousand papers are announced as to be read, but many of these will, of course, be read only by title.

A Hospital Train.—The Italian Central Committee of the Red Cross prepared for exhibition a hospital train, consisting of twelve communicating cars fitted up with beds, appliances for the sick and wounded, medicine and instrument chests, cooking apparatus, lavatories, quarters for the surgeons and nurses, etc. The train was side-tracked near the railway station, and was inspected with much interest by numbers of the visitors.

The Mayor's Proclamation. — Prince Ruspoli, the mayor of the city, issued a proclamation the day before the opening of the Congress, of which the following was the closing paragraph: "Citizens! The municipal authorities, interpreters of your sentiments, extends an affectionate greeting to our illustrious guests, and invites you to receive them joyfully. May the ancient motto, '*Roma communis patria*' remain with them forever, thanks to your friendly reception, an agreeable remembrance."

A Theft of Tickets.—Several packets of the special

cards of invitation to the lunch at the Baths of Caracalla were abstracted by somebody the first day of the session. The first issue was therefore cancelled, and new cards were printed. Many members who had received the original tickets did not know of the change, and were grievously disappointed on presenting them at the entrance to learn that they were worthless.

Visit to the Military Hospital.—On Thursday, at four o'clock, the foreign military surgeons attended a reception given in their honor at the new Military Hospital on the Cœlian Hill. The visitors were entertained at lunch, and then shown through the wards of the hospital, which is held, after the Hamburg Hospital, to be one of the best appointed in the world.

Baccelli's Address.—The following is the text of the address in Latin delivered by Dr. Baccelli at the inaugural ceremonies:

Postquam Italia universa in unum corpus iterum coaluit et sui juris fuit, præclaris benevolentiæ atque honoris testimoniis idemtidem gaudet, vel in maximis difficultatibus quae novam exordientis vitæ civilis rationem necessario comitantur.

Anno superiore, in festis genuensibus, totius pene orbis gentes loricatas naves miserunt, quae Cristophorum Columbum, italicum civem, merito honore decorarent. Hodie viros Romam mittunt biologicae doctrinae peritissimos ut vincula arctius constringant, quae communis utilitatis causa nos jungunt. Hi Romam petunt, fortasse non immemores, spectatissimos olim cives politica medicina animum excoluisse, quam antiqui reipublicae rectores tanquam nobilisimam virtutem exoptarent: de quo Tullius et Cato abunde testantur.

Salvete igitur, clarissimi viri!

Classica haec regio libens Vos excipit ubi divinus libertatis halitus veterem gentis magnitudinem reducet. Hic nemo habetur extraneus. Hic ubi omnis terrae pars sua monumenta invenit, omne hominum genus unam tantummodo familiam constituat. Unusquisque consilio et opere, populorum incolumitati, hominumque valetudini prospiciat. Tunc memorabiles patrum latinorum sententiae per Vos novissima luce nitebunt "Salus populi suprema lex esto" et "nulla re magis homines ad Deos accedere quam salutem hominibus dando."

Hospites doctissimi, iterumque iterumque salvete!

Humbertus et Margarita, regiae virtutis exemplaria, honoris causa vobis intersunt.

Hic adstant supremi rerum italicarum moderatores; adstant qui vice funguntur Senatus et Oratorum popularium legibus ferendis; adstant Municipiorum curatores; tota civitas conspectu vestro gaudet et vobis plaudit. Ego vero singulari laetitie perfundor quod Regis voluntate ac nomine mihi liceat dicere—Undecimum omnium gentium de medicina conventum, hodie, Roma auspicatur.

ELIMINATIVE TREATMENT OF TYPHOID FEVER.

To the Editor of the Medical Record.

Sir: The communication of Dr. William Osler, of Baltimore, in your journal of March 31, 1894, concerning the purgative treatment of typhoid fever is of interest to me from the fact that I have recently set forth the results of sixty cases of this disease[1] treated according to this method. While my plan has varied somewhat in detail from the one advocated by Dr. Thistle in the Medical Record under the date of March 10, 1894, still the principles involved are the same in both, the treatment being essentially purgative in character. With respect to the history of this method or as to who first advocated its usefulness, it matters little, since the credit belongs not to the mere discoverer, but to those who, having once found and demonstrated its merits, earnestly and persistently set forth its claims and forced the profession to notice and to heed. Dr. De Laroque, physician to the Necker Hospital, Paris, may have successfully employed purgatives in typhoid fever, but it remained for Dr. Thistle and others to rediscover and use them intelligently or rationally and point out their true sphere and modus.

J. Wellington Byers, M.D.

Charlotte, N. C.

[1] Charlotte Medical Journal, January, 1894.

CHLOROFORM NARCOSIS—SHOULD IT BE TREATED BY THE APPLICATION OF ELECTRICITY?

To the Editor of the Medical Record.

Sir: My attention has only to day been called to Dr. J. H. Blanks's very interesting comments, in the Medical Record of March 31st, on my article about chloroform narcosis, etc. The question as to whether electricity should or should not be applied in chloroform narcosis is one of much practical importance, and cannot be decided by theoretical considerations alone, however rational. Basing one's ideas alone on the physiological action of the pneumogastric, and the effects of a current when applied directly to it, it becomes seemingly apparent that electricity can exercise no possible function either directly or indirectly as a heart-stimulant.

Looking at the subject, however, from another standpoint — the standpoint of the cardiac excito motor branches of the sympathetic that are generally supposed to convey influences which accelerate the heart's action —an argument is readily found for the other side of the question.

In addition to these cardiac-stimulating branches, there are also certain stimulating cardiac fibres arising in the brain that pass to the inferior cervical ganglion, and thence to the tissues of the heart. We have all heard of the so called "pressor" nerves of the cervical sympathetic and the vagus, irritation of which, physiologists tell us, increases "tone reflexively," acting in opposition to the ramus depressor of the vagus, and it is a matter of record that through irritation of the ganglion stellatum and the upper thoracic ganglion connected with it the heart may be made to act more rapidly or may be set in motion again after it has ceased to beat.

But these theoretical considerations in favor of the utility of electricity in chloroform narcosis, as well as those against it, so clearly presentend by Dr. Blanks, weigh very little with me as compared to the records of experience in the treatment of a number of cases of threatening death from both opium and chloroform poisoning. Of one thing I am quite certain, and that is that any ordinary percutaneous application of the induced current of electricity has very little if any influence on the heart's action, while the same strength of current, as can be readily demonstrated, may be made to very positively influence the respiration. Dr. Blanks is of the opinion that a strong induced current applied in the neighborhood of the pneumogastric during chloroform narcosis is dangerous. Of course the word "strong" is a relative term and we cannot discuss this. I can only repeat that my experience is the reverse of this, and reassert the salient point of my first communication, that "electricity does good in increasing respiratory activity, the strength of current for this purpose being insufficient to materially interfere with the movements of the heart, through its action on the inhibitory fibres of the pneumogastric that control it."

A. D. Rockwell, M.D.

113 West Thirty-fourth Street, N. Y.,
April 12, 1894.

Intravenous Injections of Corrosive Sublimate.—Dr. Guido Bacelli recommends the direct injection of a sublimate solution into the veins for the cure of syphilis. He uses a mixture consisting of hydrarg. bichlorid., 1 gramme: natrii chlorid., 3 grammes; aquæ destil., 1,000 grammes. Of this he injects 1 ccm. daily, increasing the dose to 2, 3, 4, and even 8 ccm. The results are said to be rapid and brilliant.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 14, 1894.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	5	5
Scarlet fever	151	20
Cerebro-spinal meningitis	1	9
Measles	299	16
Diphtheria	180	41
Small-pox	21	7
Cholera	0	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0

Accounting for Gout.—If we are really to take human nature exactly as we find it and provide respectfully for its manifold demands Heaven help our descendants! The imperious natures of our grandfathers called out for wine in such liberal quantities that they ended their repasts under the table. Thence the imperious nature of our gout. Truly a more insane mistake than that of consulting the mass of evil habits, even heredity, evil instincts which flourish in that rich soil which our social system has provided for so many centuries, is hard to conceive; yet the practical person enjoys the credit of calm and mature judgment who assures us that in all these matters the nature of man must be our guide. It is in vain to oppose it. One forgets that just as such an individual can found a robust dynasty of tyrants in his body and his soul, so can an entire race enthrall itself; in which case, however, be it observed, the demoniac possession will not be regarded as disease, but as a normal state, which indeed it is, but not the healthy or the necessary one. The practical person is opposed to revolutions, even when directed against the tyranny of evil habits. When such habits engender gout and rheumatism and consumption and heart disease, the sufferers have to bear their pains, for they have not yet found the means to thrust these things directly on to other shoulders. But when the folly and wickedness that circulate in the blood, bequeathed by the sins of ancestors, break forth in the form of fierce passions, then their force may be expended to the injury of other human beings who are plentifully provided by the foresight of society as its scapegoats. All pain and trouble thus are spared—for the moment—to the heir of the ages. He settles his account later on.—*Westminster Review.*

Parasitic Anæmia and Diarrhœa.—Professor Penberthy, of the Royal Veterinary College, has described a small nematode which he regards as the cause of anæmia and diarrhœa in cattle. The small strongyle is found in the mucous membrane of the abomasum and small intestines, free and partially imbedded under the epithelium. It is not usually detected by the naked eye, but a light scraping of the mucous membrane placed under a $\frac{1}{4}$-inch objective allows of differentiation of the sexes, and sometimes a field reveals as many as six worms. The length of male and female may be roughly stated at from $\frac{3}{25}$-inch to $\frac{6}{25}$-inch. The female, pointed at each extremity, usually contains relatively large ova. The male is provided with a bilobed bursa supported by eleven rays, four on each side and three centrally placed more distinct and the middle bifid at the free extremity; above the bursa is a retracted spicule, dark and prominent. Another female parasite found in very acute and fatal cases is about $\frac{8}{25}$ inch in length, very fine, and pointed at each end. This the author regarded as *Anguillula intestinalis*, which is credited with inducing anæmia in various species of animals. Young cattle are most commonly affected, and often the losses are very serious. The symptoms are those of anæmia and diarrhœa, the course, according to the number of parasites, acute or chronic, and the result often fatal. The parasite has been demonstrated in cases heretofore attributed to tuberculosis, sewage poisoning, etc. It is stated that if the anæmia is not very far advanced the disease yields to such remedies as asafœtida, turpentine,

The Value of Initials.—According to a writer in the *Glasgow Evening News*, three doctors carry on their business in one outlying district of Glasgow, each of them happily self-conscious that he is a better man than his neighbor, with a result that more than the ordinary degree of professional jealousy exists. The secretary of the Free Breakfast Fund called on No. 1 recently and solicited a subscription, which was readily given, the donor adding to his signature the letters M.B., C.M. No. 2, across the street, was next waited upon, and he likewise put his name down, with the affix M.B., C.M., L.F.P.S.E. Next No. 3 was asked to subscribe, and entered his name on the list with the addition of the letters L.R.C.P.Edin., L.R.C.S.Edin., L.F.P.S.Glasgow, L.M. Last of all the subscription sheet reached a worthy in the district who put down his name, and, not having any degrees to brag of, he added, "A.B.C.D.E.F.G.H. I.J.K.L.M.N.O.P.Q." When asked what it meant, he replied that it meant nothing, but that he had given a shilling more than any of the doctors and he considered himself on that account entitled to the most space for letters!

A Charitable Angel without a Trumpet.—A member of the faculty of one of the hospitals whose duty it is to collect funds for the payment of arrearages made a bold stroke for a large contribution from one of his friends—a business man and millionaire—by prudently asking through telephone for $5,000. To his great joy an affirmative answer was sent, with the condition that the source of the supply should be known to no one but the receiver. But now numerous impecunious charities are curiously anxious to give him like opportunities for quiet benefactions.

Sea Air and Mountain Air.—Sea air and mountain air, both being tonic, will probably improve the health that is already fairly good. Children almost invariably

do well at the sea side, while mountain resorts are in general much less suitable for them. The same rule applies, though for different reasons, to the aged. Dyspepsia, especially if of hepatic origin, often does badly at the sea side, but well in the mountains. Skin diseases, especially eczema, are often aggravated by sea air. It is not clear that mountain air has any effect upon them. [illegible] does notably better at

has introduced a very delicate test for minute traces of albumin in urine. He states that by its means he can detect 1 part of albumin in 225,000 parts of urine. The test solution is composed as follows: Hyd. perchlor., 8 grammes; acid. tartaric., 4 grammes; sugar, 20 grammes; distilled water, 200 grammes. The sugar serves to raise the specific gravity of the liquid to 1060, which is higher than that of nearly all urines. It is used by placing some in a test-tube and gently adding a little of the urine to be tested. If albumin is present a ring will form at the junction of the two liquids. Dr. Gurrieri has made some observations on this reaction, and has ascertained the fact that the reaction is incapable of detecting even large quantities of either egg- or serum albumin, save in the presence of chlorides or hydrochloric acid, the reaction being more marked in proportion to the amount of chlorides present. The same is true for albuminous urine if the chlorides are removed by previous addition of silver nitrate, and subsequent removal of the silver salt. In the rare cases, therefore, in which urine is free from chlorides, the reaction as it stands will not take place, and it would be necessary to add a trace of chloride. A minute quantity of urine, added to a solution of pure albumin of any kind, was found to be sufficient to ensure the success of the test, by virtue of the chlorides contained in it. In order, therefore, to make the original test unfailing the author suggests that it would be as well to add a small amount of chloride to the test solution, which then becomes an exceedingly useful one for clinical purposes.—*The British Medical Journal.*

The Quarantine Bill of the Academy of Medicine is being pushed at Washington, and we hope it may pass. The MEDICAL RECORD recommends it in an exceedingly well-timed and well-written leading article, in which the merits of this thoroughly considered bill are carefully gone over. The bill is so perfect and will make so good a law that we fear it may not pass, but we hope for the best. Certainly it is about time that our country paid some official attention to its national health, as well as to the tariff.—*The Post-Graduate.*

A Medical General.—Dr. Carronge, Colonel of the 139th Regiment of Infantry, has been promoted to the grade of General of Brigade.—*L'Union Médicale.*

Vaccination in the French Army.—A correspondent of *Le Progrès Médical* recounts a curious method adopted by French soldiers to prevent vaccination being successful.

"I was talking this morning," says the writer, "to a soldier on furlough about the way vaccination was performed on recruits when they joined their regiments. My interlocutor informed me that last year, in his company, not a single case had been effectual. On my expressing surprise at such a result, he triumphantly disclosed the secret of the failure. An old soldier had 'put them up to a dodge' whereby they would be able to avoid the discomfort inseparable from the evolution of a vaccinal vesicle. Each little incision was immediately sucked by a friendly comrade as soon as the doctor's back was turned."

In addition to falsifying statistics, such a procedure might be attended by most serious personal consequences.

Thiersch's Method of Skin Transplantation.—Schnitzler and Ewald (*Centralbl. für Chirurgie*, No. 7, 1894) assert that they have been thoroughly convinced by a number of observations in Albert's clinic that large skin grafts formed by Thiersch's method become fixed and grow just as readily on granulating as on raw surfaces. By applying the grafts directly to a granulating surface and by not scraping away the granulations much pain and bleeding are prevented. The authors attach no importance to the necessary neglect of antisepsis in Albert's method, and cite a case of large open surface near the mouth which was successfully closed by transplantation without any attempt having been made to protect the parts from infection. As the more painful stage of Thiersch's method—that of scraping away the granulations—is omitted, it is not necessary to administer a general anæsthetic. Before cutting away the large grafts the skin is frozen by ethyl chloride. The frozen skin, in consequence of its hardness and freedom from elasticity, can be cut more readily. The sections thus made are, however, somewhat thicker than those obtained from unaltered skin. By this modification all the advantages of Thiersch's method may be obtained, and the transplanted grafts adhere and grow more readily, and are more permanent than those formed after Reverdin's method.

The Pneumatic Cabinet in Phthisis.—Dr. Charles E. Quimby believes, as a result of six years' experience (*International Medical Magazine*) with the pneumatic cabinet, "that from seventy-five to eighty per cent. of localized tuberculosis, if seen reasonably early in the first stage, can be brought to and kept in a condition of practical cure by the use of the pneumatic cabinet and adjuvant measures other than climate; that cases of disseminated tuberculosis will be arrested in about fifty per cent. of cases, but will require treatment for long periods; that subacute cases may be arrested and made quiescent, when seen first in the second stage, in possibly fifteen per cent. of cases; that third-stage cases, if chronic, are always relieved in their rational symptoms and their downward course made easier; while those following acute consolidation are benefited but little, if any, and without care may be made worse. Bronchial hemorrhages are arrested almost without exception, and frequently do not return, even when the cases progress unfavorably. With rare exceptions all the subjective symptoms are relieved, even when the phthisis is not arrested."

Professor Rubner has been chosen to succeed the late Professor August Hirsch in the Chair of the History of Medicine in the University of Berlin.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 45, No. 17.
Whole No. 1225.

NEW YORK, APRIL 28, 1894.

$5.00 Per Annum.
Single Copies, 10c.

Original Lectures.

DIGESTIVE PROTEOLYSIS.

THE CARTWRIGHT LECTURES FOR 1894.

BY R. H. CHITTENDEN, PH.D.,

PROFESSOR OF PHYSIOLOGICAL CHEMISTRY IN YALE UNIVERSITY.

(Continued from page 487.)

LECTURE II.

PART II.—PROTEOLYSIS BY PEPSIN-HYDROCHLORIC ACID.

ON the assumption that these various products of proteolysis are formed by a series of hydrolytic changes, accompanied by cleavage of the molecule, we might at first glance look for a marked increase in the content of hydrogen. But when we consider the size of the proteid molecule, with the small proportion of hydrogen contained therein and the large amount of carbon, it is plain that hydrolytic cleavage might naturally leave its mark on the percentage of carbon, rather than on the percentage of hydrogen of the resultant products. In view of these facts, the above results show nothing inconsistent with the theory that pepsin-proteolysis, as a rule, is accompanied by a series of progressive hydrolytic cleavages in which the primary proteoses are the result of a slight hydration, these bodies by continued proteolysis being further hydrated with formation of secondary proteoses, which in turn undergo final hydration and cleavage into true peptones. In accord with this theory, true peptones always show a marked difference in composition from that of the mother proteid, the most striking feature being the greatly diminished content of carbon, which may be taken as a measure, in part at least, of the extent of the hydrolytic change. And it is to be noticed that the crystallized phytovitellins are no exception to the general rule; the secondary vitelloses and peptones resulting from proteolysis bear essentially the same relationship to the mother proteids that the albumoses from egg-albumin do. Moreover, the alcohol-soluble proteids, of which the zein of cornmeal is a good example, show the same general tendency, and it is an interesting fact that the proteoses, or more specifically the zeoses, formed from this peculiar proteid, are readily soluble in water and show the general proteose reactions. It may also be mentioned that these zeoses, as well as the elastoses, are very resistant to further hydrolysis by pepsin-acid, and yield only comparatively small amounts of true peptones.

In connection with the question of the composition of proteoses and peptones as formed by pepsin-proteolysis, it is interesting to note a recent observation recorded by Schützenberger.[1] This experimenter took 350 grammes of moist blood-fibrin, corresponding to 75.5 grammes of dry substance, and subjected it to proteolysis with 2.5 litres of a very strong pepsin-hydrochloric acid solution for five days. The resultant fluid was then freed from acid by treatment with silver oxide, after which the solution was evaporated to dryness on a water-bath and the residue dried *in vacuo*. This residue, termed by Schützenberger fibrin-peptone, was found on analysis to contain 49.18 per cent. of carbon, 7.09 per cent. of hydrogen, and 16.33 per cent. of nitrogen, thus agreeing very closely with true fibrin-peptone as analyzed by Kühne and myself. Further, Schützenberger showed that the fibrin in undergoing this transformation had taken on 3.97 per cent. of water. But to my mind the most significant fact connected with this experiment is the positive evidence it affords, not only of hydration as a feature of peptonization by pepsin-acid, but that this greatly diminished content of carbon, so characteristic of peptones, and to a less extent of deuteroproteoses, is wholly independent of the methods of separation and purification ordinarily made use of. Thus, Schützenberger, in the above experiment, did not attempt any separation of individual bodies. Proteolysis was carried out under conditions favoring maximum conversion into peptone, and the resultant product, or products, was analyzed directly without recourse to any methods of precipitation or purification. To be sure, the substance analyzed could not have been peptone entirely free from proteose, but in any event it represented the terminal products of pepsin-proteolysis, and like true amphopeptone contained 3.5 per cent. less carbon than the original fibrin. Hence, we may conclude, without further argument, that peptonization in gastric digestion is the result of distinct hydrolytic action, in which the original proteid molecule is gradually broken down, or split apart, into a number of simpler molecules, the proteoses and peptones.

Peptones, *i.e.*, amphopeptones, are the final products of gastric digestion; but to how great an extent is actual peptonization carried on in pepsin-proteolysis? As we have seen, syntonin, primary proteoses, secondary proteoses, and peptones are all products of pepsin digestion, and it might perhaps be assumed that ultimately all of a given proteid undergoing pepsin-proteolysis would be converted into amphopeptone. Examination, however, shows that such is not the case, at least in artificial digestion experiments. Peptones are truly formed, and many times in large amount, but never under any circumstances have I been able to effect a complete transformation of any proteid into true peptone by pepsin-proteolysis; there is always found a certain amount of proteoses more or less resistant to the further action of the ferment. Obviously, the nature and proportion of the individual products formed in any digestive experiment are dependent greatly upon the attendant conditions; but even with a large amount of active ferment, an abundance of free hydrochloric acid, a proper temperature, and a long continued period of digestion, even five and six days, there is never found a complete conversion into peptone. Indeed, the largest yield of peptone I ever obtained in an artificial digestion is sixty per cent., while the average of a large number of results under most favorable circumstances is somewhat less than fifty per cent.[1]

We understand that peptones are the products of the hydration and cleavage of previously formed proteoses. The primary proteoses pass into secondary proteoses and these into peptones, but for some reason this transformation after a time becomes a slow and gradual process. At first there is a marked and rapid progression; the proteid undergoing proteolysis is rapidly dissolved, and both proteoses and peptones may be detected in abundance. But if we continue to watch the changing relations of primary and secondary proteoses and peptones, we find that progression soon ceases to be rapid, and eventually

[1] Recherches sur la constitution chimique des peptones. Comptes Rendus, tome 115, p. 208.

[1] Chittenden and Hartwell: The Relative Formation of Proteoses and Peptones in Gastric Digestion. Journal of Physiol., vol. xii., p 12.

travels onward at a snail's pace. Thus, in one experiment with coagulated egg-albumin, there was found at the end of forty-eight hours' digestion with pepsin-hydrochloric acid, only thirty-seven per cent. of peptones with fifty-eight per cent. of proteoses, and yet digestion had been sufficiently vigorous to allow of a complete solution of the proteid in two hours. At the end of seventy-two hours the amount of peptones had increased to about forty-two per cent., the proteoses having correspondingly diminished; but even at the end of seventeen days only fifty-four per cent. of peptones were to be found, thus affording striking evidence of the slow conversion of the first formed products into peptones.

Naturally, the individual proteoses show marked differences in their rate of conversion into secondary or final products. Take as an illustration some results[1] obtained with caseoses formed in the digestion of the casein of milk. Thus, heterocaseose, a primary product, yielded only fifteen per cent. of peptone after ninety-four hours at 40°C. with a strong pepsin-acid solution. Protocaseose, however, containing some deuterocaseose, under like conditions, yielded thirty-two per cent. of peptone in one hundred and nineteen hours, while pure deuterocaseose gave sixty-six per cent. of peptone in one hundred and thirty-seven hours. Evidently, then, the first formed soluble products of gastric digestion, *i.e.*, the primary proteoses, are only slowly converted into peptone, since they must first pass through the intermediate stage of deuteroproteose, which is plainly not a rapid process. The deuterobody, on the other hand, once formed is more rapidly converted into peptone, but even this is in no sense a rapid process. Hence, in the artificial digestion of proteids with pepsin-hydrochloric acid, solubility of the proteids may be quite rapid, and even complete in a very short time, but the resultant products will be mainly proteoses and not peptones. The latter are truly formed and in considerable amount, but proteoses either as primary or secondary bodies are invariably present and usually in excess of the peptones.

In this connection the question naturally arises how far we are to trust these results in their bearing on the natural process of digestion as it occurs in the living stomach. Obviously, the conditions are quite different in the two cases. In artificial digestions, we have especially the influence of an ever-increasing percentage of soluble products on the activity of the ferment, a condition of things generally considered as more or less inhibitory to enzyme action. We have attempted to measure the real value of this influence by experiments[2] conducted in parchment dialyzing tubes, in which the conditions are made favorable for the removal of at least some of the products of digestion as fast as they are formed. In these experiments the dialyzer tubes containing the proteid and pepsin-acid were immersed in a large volume of 0.2 per cent. hydrochloric acid (about three litres), which was gradually changed from time to time, the whole mixture being kept at 40° C. during the entire period of the experiment. The extent of peptonization was then ascertained by analysis of both the contents of the dialyzer tubes and of the surrounding acid, the results being compared with those obtained from control experiments carried on in flasks. Without considering the results in detail, it may be mentioned that the slow and incomplete peptonization so characteristic of artificial gastric digestion is not materially modified by this closer approach to the natural process. The several digestions carried on in the dialyzer tubes were certainly accompanied by a fairly rapid withdrawal of the diffusible products of digestion, yet no noticeable increase in the amount of peptone formed was observed. The results certainly favor the view that the conversion of the primary products of gastric digestion into true peptone is a slow and gradual process, even under the most favorable circumstances, and that this lack of complete peptonization is not due to accumulation of the products of digestion, but is rather an inherent quality of pepsin-proteolysis under all circumstances.

In these dialyzer experiments it was observed that not only did peptones diffuse, but also the proteoses. In fact, it was found that six to eight per cent. of the proteoses formed passed through the parchment walls of the dialyzer tubes into the surrounding acid in the nine hours' digestion. This led to a study of the diffusibility of proteoses in general, from which we were led to conclude that these bodies possess this power to a greater degree than had hitherto been supposed. As might be expected, it was also found that the attendant conditions modify materially the rate of diffusibility; the two factors especially prominent being temperature and the volume of the surrounding fluid. Thus, 1.9 gramme of protoalbumose dissolved in 200 c.c. of water and suspended in 4.5 litres of water heated to 38° C., diffused through the parchment tube to the extent of 5.09 per cent., while at 10° C. diffusion amounted to only 2.57 per cent. Under somewhat similar conditions, pure peptone diffused to the extent of eleven per cent. in six hours at 38° C. Somewhat singular, however, was the result obtained with deuteroalbumose; this proteose showing a diffusibility considerably less than that of the proto body. But as Kühne[1] has independently obtained essentially the same results, this apparent anomaly cannot depend upon any errors of work.

It is of course to be understood that diffusion experiments made with dead parchment membranes cannot necessarily be expected to throw much light upon the rate of absorption of these bodies through the living membranes of the stomach and intestine, where, as Waymouth Reid[2] has well said, we have to deal with an absorptive force dependent, no doubt, upon protoplasmic activity, and comparable, in part at least, to the excretive force of a gland-cell. Furthermore, in considering absorption as it occurs in the living stomach, we must necessarily give due weight to the selective power of the epithelial cells, a power which may be far more potent even than we suppose. Hence, without attempting at this point to draw any broad deductions from our experiments we may simply lay stress upon the facts themselves, viz., that the primary products of pepsin-proteolysis are diffusible, and, like true peptones, are capable of passing through animal and vegetable membranes, although to a less extent. We may further emphasize the fact that experiments of this character on diffusibility can, at the most, only indicate general tendencies, since every variation in the attendant conditions will exercise some influence upon the final result.

With reference to the bearing digestive experiments made in dialyzer tubes have upon the natural process as carried on in the living stomach, we must necessarily grant that the conditions approximate only in the crudest way to those existent in the alimentary tract. At the same time, if complete peptonization is characteristic of pepsin-proteolysis in the stomach, and failure to obtain such results in an artificial digestion is due to lack of withdrawal of the diffusible products formed, then certainly the experiments carried on in dialyzer tubes, with abundant opportunity for diffusion, and with a large excess of free hydrochloric acid, should show some indications of increased peptone formation. But none were obtained.

It is more than probable that the rate of absorption of diffusible products from the stomach has been overestimated.[3] Lea, for example, assumes that, "normally the products of digestion, whether proteid or carbohydrate, are never met with in either the stomach or intestine in other than the smallest amounts, frequently to be described as merely traces." This certainly implies a far more rapid absorption of proteoses and peptones from

[1] Chittenden and Hartwell, loc. cit., p. 22.

[2] Chittenden and Amerman: A Comparison of Artificial and Natural Gastric Digestion, together with a Study of the Diffusibility of Proteoses and Peptones. Journal of Physiol., vol. xiv., p. 483.

[1] Erfahrungen über Albumosen und Peptone. Zeitschr. f. Biol., Band 29, p. 20.

[2] Osmosis Experiments with Living and Dead Membranes. Journal of Physiol., vol. xi., p. 312.

[3] Journal of Physiol., vol. xi. p. 240.

the stomach than results seem to justify. Indeed, recent facts obtained by Brandl,[1] working under Tappeiner's direction, tend to show that absorption from the stomach is, under some circumstances at least, comparatively slow. Brandl's experiments were conducted on large and vigorous dogs with gastric fistula, the stomach being shut off from the intestine by the simple introduction of a small rubber balloon into the pylorus, which when dilated completely closed the orifice. By carefully conducted experiments, it was shown that pure peptone, entirely free from proteose, is absorbed from the empty stomach in proportion to the concentration of the peptone solution. Thus, 7.5 grammes of peptone dissolved in water in such proportion as to make a five per cent. solution, and allowed to remain in the stomach for two hours, lost by absorption only 0.28 gramme, equal to 2.68 per cent. of the peptone introduced. Under similar conditions a ten per cent. aqueous solution of peptone lost only 4.5 per cent. by absorption. On the other hand, when peptone was introduced in larger quantity, viz., in a twenty per cent. solution, absorption amounted to thirteen per cent. in two hours.

It is thus evident that pure peptones, even when taken into the stomach in fairly large amounts, and under conditions very favorable for rapid absorption, pass into the circulating blood very slowly. Obviously, however, one must not lose sight of the fact that when digestion is under way and the volume of blood consequently increased, there may be a corresponding rise in the rate of absorption. There is perhaps a hint of this conclusion in the influence of alcohol on the absorption of peptone as brought out by some of Brandl's experiments. Thus, it was found that when alcohol was added in considerable quantity to a ten per cent. solution of peptone, the stomach mucosa was greatly reddened, while in two hours the absorption of peptone amounted to 11.8 per cent. But in any event, these results certainly do not favor the view that the products of gastric digestion are absorbed as soon as they are formed. It is, no doubt, quite different in the intestine, but in the stomach, where pepsin-proteolysis occurs, we have, I think, no grounds for assuming that either peptones or proteoses are rapidly absorbed. Hence, it might perhaps be considered that the results of pepsin-proteolysis in the living stomach are much the same as those obtained in artificial digestion experiments.

Still there are other differences between natural digestion and artificial proteolysis than those connected with the possible absorption of the more diffusible products of digestion. Thus, in the living stomach there is an ever-increasing secretion of hydrochloric acid, and perhaps also of pepsin, more or less proportional to the extent of proteolysis. On this point Brandl's experiments again give us some light. Thus, it was found that the introduction of an aqueous solution of peptone into the empty stomach led to the secretion of an acid fluid containing on an average 0.24 per cent. HCl, while, under similar conditions, the introduction of sugar or potassium iodide was followed by the secretion of a fluid containing on an average only 0.13 per cent. HCl. Further, the absolute amount of acid found after the introduction of peptone was far greater than when sugar or iodide was introduced, since peptone led to an increase of at least fifty per cent. in the volume of fluid secreted. Hence, proteolysis in the living stomach may give rise to such an increased production and secretion of hydrochloric acid that formation of the terminal products of gastric digestion may be greatly accelerated. That such in fact is the case, I have no manner of doubt, but that it may result in the complete conversion of the so called primary and secondary proteoses into peptone I very much question. In fact, such examinations as I have made of the stomach contents after a suitable test-meal have always resulted in the finding of a relatively large amount of proteoses. To be sure, true peptone may be detected and in fairly large amounts, but whenever a quantitative determination of the relative proportion of the two has been made, the proteoses have always been in excess. I have already reported elsewhere the results of some experiments in this direction made on a healthy young man, where the stomach contents were withdrawn at varying periods after the ingestion of weighed amounts of coagulated egg-albumin. Thus, in one experiment[1] the stomach was thoroughly rinsed with water, after which 138 grammes of finely divided coagulated albumin, equal to 16 grammes of dry albumin, were ingested. Three quarters of an hour thereafter, the stomach contents were withdrawn by lavage and analyzed. As a result, 1.41 gramme of albumoses were separated and weighed, and 0.84 gramme of peptones, the relative proportion being expressed by sixty-two per cent. of albumoses and thirty-seven per cent. of peptones calculated on the 2.25 grammes of soluble products recovered. This expresses the general character of the results obtained in experiments of this nature, and in my opinion adds emphasis to the statement already made, that complete peptonization is not a feature of pepsin-proteolysis, either in the artificial or in the natural process as it takes place in the living stomach.

Gastric digestion is to be considered rather as a preliminary step in proteolysis, preparatory to the more profound changes characteristic of pancreatic digestion, in which the ferment trypsin is the important factor. We can thus see how, as in the case of Czerny's dogs, an animal may be perfectly nourished without a stomach, digestive proteolysis being carried on solely by the pancreatic fluid. You will remember that two of the dogs operated on by Czerny and his pupils lived between four and five years after the operation, with the stomach completely removed, and yet during this period they were well nourished and ate all varieties of food with apparently a normal appetite.[2] Evidently, then, in some cases at least, digestive proteolysis can be carried on without this preliminary action of the gastric juice. Ogata[3] arrived at essentially the same conclusion by the establishment of a duodenal fistula, shutting off the stomach from the intestine by means of a small rubber ball which could be inflated with water. On then introducing coagulated egg-albumin and other forms of proteid matter into the duodenum, he found that digestion was at least sufficiently complete to satisfy all the demands of the system. The only unsatisfactory result was with collagenous foods, which plainly showed the need of a preliminary acid digestion. More recently still, Cawallo and Pachon,[4] working in Richet's laboratory, have studied the digestibility of different kinds of proteid foods in a dog, upon which they had performed a gastrectomy; the entire fundus, as well as the pyloric portion, of the stomach having been removed. In an animal so operated upon, after recovery was complete, solid food, as meat, was completely digested when taken in small quantities at a time. Raw meat, however, was less completely utilized, the fæces showing portions of undigested fibres. Still, it was apparent that intestinal digestion alone was capable of accomplishing all that was necessary for the complete nourishment of the animal, when it had once become accustomed to the changed condition of its alimentary tract.

These facts are cited not to belittle the importance of gastric digestion in the nutrition of the body, but rather to emphasize the probability that pepsin proteolysis is simply a preliminary step in digestion. That its function is not in the direction of a complete peptonization of the proteid foods ingested, but that its action is especially directed to the production of soluble products, proteoses, which can be further digested in the small intestine, or perhaps directly absorbed after they have passed through the pylorus, or even from the stomach itself to a certain extent.

[1] Ueber Resorption und Secretion im Magen, und deren Beeinflussung durch Arzneimittel. Zeitsch. f. Biol., Band 29, p. 277.

[1] Journal of Physiology, vol. xiv., p. 501.

[2] Bunge's Physiologische und Pathologische Chemie, p. 152.

[3] Ueber die Verdauung nach der Ausschaltung des Magens. Du Bois-Reymond's Archiv f. Physiol, 1883, p. 80.

[4] Une observation de chien sans estomac. Comptes-Rendus hebd. de la Société de Biologie, December 1, 1893.

Some Physiological Properties of Proteoses and Peptones.

It is very evident from what has been said that all forms of proteid matter, *i.e.*, all the members of the three main groups spoken of in our classification of the proteids, excepting only nuclein, recticulin, and the keratins, are capable of undergoing proteolysis with pepsin-hydrochloric acid. Further, in every case the main products of the transformation are proteoses; viz., albumoses, caseoses, gelatoses, vitelloses, myosinoses, etc., according to the nature of the proteid undergoing proteolysis; true peptones being formed in less abundance. Corresponding to each of these groups are primary and secondary proteoses, all possessed of many points in common, both chemical and physiological, yet differing from each other in many minor respects. These are the important products of gastric digestion, of pepsin-proteolysis, and it may be well to consider for a moment some of the physiological properties of the proteoses and of peptones as well, in order that we may the better comprehend the general nature of these substances with reference to their possible action in the economy.

As far back as 1880, Schmidt-Mülheim [1] discovered that the injection of aqueous solutions of peptone into the blood-vessels of living dogs was attended by a series of remarkable phenomena. Thus, the animal passed at once into a condition of narcosis resembling that produced by chloroform, accompanied by a fall of general blood pressure so great that the animal was liable to die, as from asphyxia. Further, there was evidence of some marked change in the condition of the blood, as indicated by loss of the power of spontaneous coagulation, while the peptone itself evidently underwent some alteration, or else was rapidly eliminated, since it could not be detected in the blood a short time after its introduction. These experiments, however, were not conducted with true peptone but with Witte's "peptonum siccum," which at that time, at least, was composed in great part of proteoses. The general character of these interesting results was confirmed by Fano,[2] who found that the injection of so-called peptone in the proportion of 0.3 gramme per kilo. of body-weight was sufficient to bring about complete narcosis together with loss of coagulability on the part of the blood. Very suggestive, however, was the fact that Fano, on trying similar experiments with the peptone formed by pancreatic digestion, viz., with antipeptone, which presumably contained a far smaller proportion of proteoses, failed to obtain like results; the tryptone so called being exceedingly irregular in its action, in many cases producing no effect whatever.

The discovery at this date of the several albumoses, and their presence in large amounts in all so-called peptones, led to a study of their physiological action with special reference to the observations of Schmidt-Mülheim and Fano. Politzer,[3] working under Kühne's guidance, was the first to experiment in this direction, and his results are full of interest as throwing light on the action of the individual albumoses. Thus proto-, hetero-, and deutero-albumose are all active physiologically, giving rise when injected into the veins of dogs and cats to strong narcotic action, varying somewhat in intensity in different individuals. There is also produced a marked fall in blood-pressure, due apparently to vaso-motor paralysis, the action being manifested chiefly, if not wholly, on the splanchnic region. Thus, after an injection of one of these albumoses, the mesenteric vessels are always strongly congested, accompanied frequently by the appearance of a bloody serum in the peritoneal cavity. Narcotic action is manifested only so long as the blood-pressure remains subnormal, and is due presumably to this marked accumulation of blood in the large abdominal veins, thus leading to anæmia of the brain. Albumoses and peptones injected into the jugular vein likewise produce fever, presumably through some action on the nervous system by which the equilibrium of tissue metamorphoses is interfered with.[2]

Further, Politzer found that all of the albumoses either delayed or prevented altogether the coagulation of the blood, in conformity with the observations of Schmidt-Mülheim and Fano. In all of these actions the primary albumoses appeared most effective, deuteroalbumose least so. Heteroalbumose, however, was constantly most active, especially in delaying the coagulation of the blood. With amphopeptone there was far less narcosis and less diminution of blood-pressure, while the effect on the coagulability of the blood was more or less variable, frequently being entirely negative. Antipeptone, on the other hand, was found almost wholly wanting in any constant effects, although in one instance deep narcosis was produced. Thus, from Politzer's experiments, it was made clear that the albumoses, when introduced directly into the blood current, possess a far greater toxic action than either amphopeptone or antipeptone. Albumoses, in sufficiently large doses, were invariably fatal, while peptones never produced fatal results so long as the kidneys of the animal remained intact. The extreme solubility and diffusibility of peptones, coupled perhaps with their marked diuretic action, lead to rapid elimination through the kidneys, and their consequent removal from the system.

Many of these observations made with the albumoses I have repeated with several of the proteoses and peptones more recently studied, as protocaseose, protoelastose, the globuloses, and others. The results may be taken as practically confirmatory of the older observations, and I make mention of them in this general way simply to emphasize the fact that all of the proteoses, though perhaps showing individual peculiarities, are possessed of marked physiological properties, which plainly testify to their toxic nature when introduced directly into the blood-current.

Young animals are particularly sensitive to the injection of proteoses into the blood, even when the introduction takes place very gradually.[2] Thus, a young, healthy dog of 2 kilos. body-weight, eight weeks old, died in one hour after the injection into the jugular vein of 1 gramme of protoalbumose in 20 c.c. of water, thus affording a good illustration of the extreme toxicity of this albumose when introduced directly into the blood.

Of greater interest, physiologically, are the changes the individual proteoses undergo after their injection into the blood. As already stated, peptone so injected may appear in the urine wholly unaltered. Thus, Neumeister [3] has made injections of both amphopeptone and antipeptone in the case of dogs, and was able to detect the peptone very quickly in the urine. I have made like experiments with other forms of peptone and obtained similar results; thus, a pure amphopeptone formed from casein by pepsin-proteolysis (2 grammes in 15 c.c. water) was injected into the jugular vein of a dog weighing 5 kilos. The urine collected during several hours after the injection was heated to boiling, and saturated while hot with ammonium sulphate. The filtrate, on being tested with cupric sulphate and potassium hydroxide, gave a fairly strong biuret reaction for peptone. Another similar experiment made with antipeptone, formed from the myosin of muscle-tissue gave like results.

With proteoses, however, different results are obtained, as Neumeister [4] first pointed out. These bodies introduced into the blood undergo more or less of a change prior to their excretion in the urine, the change partaking of the character of a hydrolytic cleavage in which the primary proteoses are transformed into secondary

[1] Beiträge zur Kenntniss des Peptons und seiner physiologischen Bedeutung. Du Bois-Reymond's Archiv f. Physiol., 1880, p. 33.
[2] Das Verhalten des Peptons und Tryptons gegen Blut und Lymphe. Ibid., 1881, p. 277.
[3] On the Physiological Action of Peptones and Albumoses. Journal of Physiol., vol. 7, p. 283.

[1] Ott and Collmar: Pyrexial Agents, Albumose, Peptone, and Neurin. Journal of Physiology, vol. 8, p. 218.
[2] Neumeister: Ueber die Einführung der Albumosen und Peptone in den Organismus. Zeitschr. f. Biol., Band 24, p. 284.
[3] Ibid., p. 287.
[4] Ibid., p 284.

proteoses, while deuteroproteoses are changed into peptones. This is not necessarily to be interpreted as meaning that the full equivalent of the proteose injected appears in the urine, but that the portion which is eliminated through the kidneys tends to undergo a transformation somewhere *en route*, akin to the change produced in pepsin-proteolysis. As to how common or complete this transformation is under the above circumstances, we have no positive knowledge. Such a hydrolytic change certainly occurs in the case of the dog, and the experimental evidence is in favor of the view that the transformation is effected in the kidneys, by the pepsin secreted through the urinary tubules, where there is momentarily a formation of free acid. In the rabbit, on the other hand, no such change occurs; the urine from this animal contains practically no pepsin, and consequently the proteoses eliminated through the kidneys are excreted unaltered. As, however, the experiments of Stadelmann [1] and others have shown that the urine of all carnivora, and of man as well, contains a ferment which, on the addition of a suitable amount of hydrochloric acid, will digest fibrin with formation of the ordinary products of pepsin-proteolysis, it is to be presumed that all proteoses passing through the kidneys will undergo at least some change prior to their excretion in the urine.

However this may be, it is very evident that the proteoses formed in gastric digestion cannot be absorbed as such directly into the blood-current. Introduced into the blood, they behave in such a manner as to warrant the conclusion that they are truly foreign substances, and the system makes a brave endeavor to remove them as speedily as possible. The same may be said of amphopeptones, from which we may conclude that all of these products of pepsin-proteolysis undergo some transformation during the process of absorption, by which their toxicity is destroyed and their nutritive qualities rendered fully available for the needs of the body. Discussion of this question, however, will be left until the next lecture.

In view of these pronounced physiological properties of the proteoses, it is interesting to recall the now well-known fact that many of the chemical poisons produced by bacteria are proteose-like bodies, chemically, at least, closely akin to the proteoses resulting from pepsin-proteolysis. Thus, Wooldridge [2] as early as 1888 pointed out that an alkaline solution of tissue fibrinogen exposed to the action of anthrax bacilli suffered some change, so that when introduced into the blood it possessed the power of producing immunity to anthrax. This observation was verified by Hankin,[3] who further showed that the substance formed by the anthrax bacilli was a veritable albumose, and that it truly possessed the power of producing immunity. Sidney Martin [4] carried the matter still further, and by growing the anthrax bacilli in a pure solution of alkali-albuminate prepared from blood-serum, proved the formation of both primary and secondary albumoses, as well as of peptone, leucin, tyrosin, and a peculiar alkaloidal substance of pronounced toxic properties. Martin finds that the albumoses are not as poisonous as the alkaloid, and surmises that the alkaloid is contained in the albumose molecule in the nascent state; further, he suggests that the albumoses in small doses may exert some protective influence, while in larger doses they act as vigorous poisons. How true this may be I cannot say, but my own experience convinces me that the anthrax bacilli grown in a culture medium composed of alkali-albuminate, prepared from egg-albumin, to which the necessary inorganic salts and some glycerin have been added, do give rise to albumoses and peptones which are truly endowed with toxic properties.

Albumose-like bodies have also been obtained by Brieger and Fränkel [5] with the bacillus of diphtheria. These, too, were endowed with powerful poisonous properties, and when introduced into the tissues of the body gave rise to reactions resembling those produced by the Löffler bacillus. In my own laboratory recent experiments made with the bacillus of glanders have shown that when grown in a slightly acid medium containing alkali albuminate, albumoses, peptones, and crystalline bodies such as leucin and tyrosin are formed in considerable quantities. Kresling [1] has reported similar results. With the tubercle bacilli, many like results have been recorded. Thus, among others. Crookshank and Herroun [2] have reported the finding of albumoses, peptone, and a ptomaïne when the bacilli have been grown in glycerin agar-agar and also in fluid media.

Koch [3] has made a special study of the albumose which he considers as the specific toxic agent of the so-called tuberculin. This albumose was found by Brieger and Proskauer [4] to have a somewhat peculiar composition, inasmuch as it contains forty-seven to forty-eight per cent. of carbon and only 14.73 per cent. of nitrogen, agreeing, however, in this respect very closely with the peptone formed from egg-albumin by the action of bromelin.[6] Still more recently, Kühne [6] has made a thorough study of this albumose, as well as of the other products elaborated by the growth of the tubercle bacillus. He designates all of the peculiar albumoses formed by these bacilli as *acrooalbumoses*. They are endowed with marked chemical and physiological properties, causing a rise of temperature when injected into the blood, as well as other phenomena more or less pronounced. It is thus evident there is ample ground for the statement that all nutritive media in which pathogenic bacteria have been planted are liable to contain, sooner or later, toxic substances, many of which at least are closely related to, if not identical with, the albumoses. It is not my purpose, however, to consider these points in detail, nor to quote the many results obtained by other workers in this direction.

I wish merely to call attention to the fact that the proteoses, and likewise the peptones formed by pepsin-proteolysis, are more or less toxic when introduced directly into the blood, and that they share this property with the proteoses formed by bacterial organisms, or by the enzymes which they give rise to. In other words, these primary cleavage or alteration products of the proteid molecule, however produced, are more or less poisonous, and if introduced into the blood-current without undergoing previous change may show marked physiological action. It is, of course, not to be understood that these bodies are all alike. They are surely closely related and possess many points in common, especially so far as their chemical properties are concerned, but their chemical constitution and their physiological action must vary more or less with their mode of origin.

In any event, it is very evident that the proteoses and peptones formed in the alimentary tract by pepsin proteolysis must undergo some transformation, before reaching the blood-current, by which their peculiar physiological properties are modified. This modification may be associated with a conversion into the serum-albumin, or globulin of the blood. However this may be, the fact remains that these proteoses formed so abundantly during digestion can be absorbed and serve as nutriment for the animal body, but between their formation as a result of proteolysis and their passage into the blood they are exposed to some agency, or agencies, doubtless in the very act of absorption, by which a further transformation is accomplished. With this point we shall be able to deal more in detail in the next lecture.

[To be continued.]

[1] Untersuchungen über den Pepsin-fermentgehalt des normalen und pathologischen Harnes. Zeitschr. f. Biol., Band 25, p. 208.

[2] Versuche über Schutzimpfung auf chemischem Wege. Du Bois-Reymond's Archiv f. Physiol., 1888, p. 527.

[3] British Med. Journal, October, 1889.

[4] Proceed. Royal Society, 1890, vol. 48, p. 78.

[5] Untersuchungen über Bacteriengifte. Berlin. klin. Wochenschrift, 1890, p. 241 and 268.

[1] Ueber die Bereitung des Malleins und seine Bestandtheile. Abstract in Jahresbericht f. Thierchemie, Band 22, p. 634.

[2] Journal of Physiology, vol. 12, p. 9.

[3] Deutsche med. Wochenschrift, 1891, p. 1180. [4] Ibid.

[5] Chittenden: On the Proteolytic Action of Bromelin, the Ferment of Pineapple Juice. Journal of Physiology, vol. 15, p. 303.

[6] Weitere Untersuchungen über die Proteine des Tuberculins. Zeitschr. f. Biol., Band 30, p. 221.

Original Articles.

HYGIENIC VS. DRUG TREATMENT FOR TYPHOID FEVER.

By CHARLES E. PAGE, M.D.,

BOSTON, MASS.

"The chief advantage of the medicinal antipyretic treatment seems to be that the patient is able to die with an almost normal temperature," remarks Dr. Simon Baruch,[1] in an editorial on the treatment of typhoid fever. This is not the off-hand fling at medicine of a tyro, or quack, but the careful statement of a veteran among New York's leading physicians.

A "notable discussion" has been going on for the past five years among the most thoughtful medical men in this country, as to the crying need of a radical modification from the prevailing treatment in acute diseases. Typhoid fever being one of the most prevalent, as well as one of the most distressing and fatal of these disorders, has formed the chief topic in the discussion; but it is very important for us to know that, while the technic, or detail of treatment, differs with every disease, the principle involved applies equally to the treatment of scarlet fever, pneumonia, influenza fever (la Grippe), etc.

It is a question of the Brand (cold bath) treatment for typhoid fever, on the one hand, and the expectant, or symptomatic drug treatment, on the other. Concerning the results of the latter, Dr. Delafield, in an instructive paper on typhoid fever, read before the New York Academy of Medicine, states that the mortality in the city hospitals alone, from 1878 to 1885, averaged 24.66 per cent., while the records of the Board of Health of New York (1876 to 1885) show 7,712 cases of typhoid fever, with 3,184 deaths, or about forty-one per cent.

To the writer's mind it is beyond the possibility of belief that so large a proportion of typhoid fever cases would result fatally if left absolutely alone with no treatment whatsoever. If this strikes anyone as a rash statement, let him study the question carefully after reading the following, from Dr. George L. Peabody, another of the prominent regulars of New York. In a paper read before the Practitioners' Society, New York, December 6, 1889, Dr. Peabody says:

"The results in the treatment of typhoid fever continue to be so bad in general in this country as to constitute a chronic opprobrium to the art of medicine. . . . Those who still adhere to the expectant plan of treatment are still in the large majority here. The expectant plan seems in a general way to make us quite content with our bad results; and to lead us to expect the patient to die if he becomes gravely ill." Can human language describe a more wretched state of affairs than this?

One distinctive feature in the "fatal expectant plan," as it has well been called, is that the physician expects in typhoid fever, a "run" of twenty-one to twenty-eight days, as a matter of course, during which the temperature of the patient varies between 105° F. and the normal point, though it often goes below normal, under the influence of stiff doses of antipyretic drugs.

The following description and the wretched effects of the regular drug treatment appear in Dr. Peabody's paper to which allusion has been made: "In this plan of treatment, practically nothing is done[2] unless symptoms in themselves very disturbing or grave, or even threatening, develop, and then much is often done that is likely to be pernicious in its effects. If a patient have a headache, he receives the bromides or an ice-cap, or both, depending on its severity; if he develop a bronchitis, he is given opium, or cough mixtures, or inhalations; if he suffer from tympanites, he is given turpentine, or turpentine stupes are applied; if he have diarrhœa, he is given opium and astringents; if hemorrhage from the bowels occur, to the opium is added tannic acid or gallic acid, or some equally useless and disturbing drug; if he become delirious, the dose of opium is increased, or he is physically restrained; and, most pernicious of all, if his temperature reach what is considered a dangerous height, an elevation which, long continued, would become incompatible with life, he is given a *large dose* (his own italics) of some antipyretic drug, and his temperature is suddenly reduced to a level which may be several degrees below the normal. Often this objectionable procedure is repeated in an almost rhythmical way for several days or weeks; and if, accompanying the fall of temperature thus produced, there is a degree of prostration and feebleness of heart which is alarming in itself, then, to counteract this bad symptom for which the drug and the doctor are responsible, alcoholic and other stimulants are given in large amount.

"This method of treatment," he continues, "if it be proper to call that a *method* which seems to lack all true system, is often dignified by its advocates by the appellation *rational*. In fact, however, it would be difficult to devise a more irrational method."

Could any mental scientist, or faithist, formulate a more villainous description of the routine drug treatment than is given above by one of the foremost men in the profession, who has, himself, but recently become a convert to the Brand method in typhoid fever? And yet, he has described the still prevailing treatment throughout this country, from city to cross-roads. If the people are, or seem to be, satisfied with it, it is simply because they have no idea of a better way.

Having shown by statistics that none can dispute the undue mortality from the drug and stuffing treatment, and by the evidence of an acknowledged authority the manner in which it is brought about, let us consider the slight mortality under the bath method, and the way in which the happy results are achieved.

In 19,017 cases of typhoid fever, according to statistics furnished by Ziemsen, Liebermeister, Brand, and others, the mortality was seven per cent., although the cold-water treatment was, in these cases, only practised in a "half-hearted, or modified form." From twenty-three German and French sources, Brand obtained statistics that clearly demonstrated that this treatment, as originally recommended by him, in 1861, has reduced the mortality in typhoid fever to less than four per cent., the basis of these statistics being 5,573 cases, and although these statistics were published six or seven years ago, there has been no claim from any quarter that they have been or can be controverted.

The number treated by Juergensen, Vogl and Brand themselves, up till 1887, amounted to 1,223 cases, of which twelve only died, or one per cent. Moreover, not a single one of these twelve deaths occurred in any case that came under treatment before the fifth day. There can be no doubt as to the exactness of these figures, since the cases were observed by well-trained medical men in university clinics and military hospitals.

The Brand method is evidently based upon the theory that the fever, so far from being in itself the disease, is rather the means of cure. Hence, no measures are resorted to for the purpose of at once reducing the temperature.

The aim is to strengthen the heart, and refresh the nervous system, to promote the comfort of the patient, to keep the skin moist and in condition to perform its functions, and, in brief, to help the organism in its efforts to eliminate the offending matters and to heal the lesions in the stomach and intestines; and all this is accomplished through the invigorating influence of the bath.

[1] The Lessons of a Notable Discussion, Journal of Balneology, July, 1892.

[2] One very harmful thing is always done from the start, viz.: the patient, though without appetite, perhaps even loathing all thought of food, is constantly fed. He must have so many ounces of some kind of slop-food, commonly milk, with the addition at stated times of beef-tea (known to the expert as practically identical with urine), and usually a stimulant at stated times, or when the patient seems to require it; champagne is often given persistently, "because it is the only thing the stomach will retain." If the object sought were to produce the ugly symptoms enumerated by Dr. Peabody, no better scheme could be invented than the foregoing.

It is all in direct contrast, in practise, to the routine drug method, which I can liken to nothing better than a system of constant wheel-trigging, or hanging on behind when nature is pulling a big load up hill.

The Brand method consists of immersing the patient in a comparatively cold bath whenever the temperature rises to 103° F., or above, for the space of fifteen minutes, constant flat-hand rubbing of the body being practised by the attendant, and, so far as possible, by the patient himself, during every moment of the time. Under no circumstances is this friction of the skin to be omitted during the bath. "By these frictions the superficial cutaneous vessels are dilated, and because of the reaction induced by it the skin, which was of a dead white when the patient entered the bath, becomes of a ruddy hue under the hands. It may become cyanotic if friction does not actively counteract the contraction of the arterioles produced by the cold impact."

The temperature of the water should be about 65° to 67° F. It may be a full bath, to the neck, if convenient, or the "half bath" with laving of the water over the body, and the patient should wear a heavy, cold compress about the head on entering the tub, or the water should be freely laved over the head.

On emerging from the bath the night-gown may be put on without drying the skin, and the patient well wrapped in blankets immediately, and returned to bed to be snugly tucked in sufficient covers to secure soon a feeling of comfortable warmth, which may be hastened, upon occasion, by means of a sufficient degree of massage or muscle squeezing, over the bed covers, the feet receiving attention of the same character. It is much better to secure warmth of the extremities by friction and pressure, than by the application of direct heat. The Germans have an adage to the effect that the fever patient cannot catch cold; and it were well if nurses and other attendants could so comprehend this matter as to avoid the mischief so constantly done through excessive fear of draughts, of throwing aside the bed covers, and the like, when they promote the patient's comfort and chances of recovery. A sufficiently ventilated sick-room is seldom found, and even when the attending physician does his best to secure fresh air for his patient he finds it difficult to persuade the household to fully co-operate with him.

The bath may be repeated every three hours, so long as the temperature of the patient remains, or returns to 103° F. It often happens that no appreciable reduction results from the bath, but as we have already observed, the immediate object sought is not the reduction of temperature. There is nothing especially exhilarating in the thought of being taken from a warm bed and plunged into a cold bath—far from it; but the very persons who would disclaim against such a procedure for a fevered body, have been very likely themselves plunged into the sea to kick and splash about in water considerably below that of the bath we are considering, and often under conditions when they really derive harm from their sport, as in the case of "thin blooded," or anæmic persons, who emerge from the water with blue lips and discolored finger-nails. Such "pleasure seekers" are far more chilly and uncomfortable than any patient in the Brand bath, though even the latter may not find the bath particularly agreeable. It does, however, often prove so. In the case of one little girl six years of age, residing in St. Paul, whose treatment I directed by telegraph, the patient went first to the bath, with considerable trepidation, but so well pleased was she with the effects that, to quote from her mother's report, "she actually coaxed for, and received, four more baths during the day." Fasting and cold bathing aborted the disease. She was allowed nothing but water for the first seventy two hours, and, in fact, rather gloried in her three days' fast, at the expiration of which she was practically convalescent. She made a very rapid recovery. Only one bath was given on the second day, and none at all thereafter. Lest it might be surmised that the case was not typhoid fever, since the doctor and patient were too widely separated to make the diagnosis clear, I will hasten to state that the family physician was in attendance, and declared the case to be a typical one. It was the second case in the family, the father being first attacked. He had for upward of two weeks the regular drug treatment, when they became frightened and wired me the symptoms and requested me to advise them. I directed that all drugging and feeding be stopped until the patient should become convalescent, giving full directions by wire upon all points from day to day. Satisfactory improvement resulted from the change in treatment, and the patient was shortly convalescent. Meantime, the little daughter was attacked, even more violently than in the father's case, but the treatment being begun at the very onset, and given to the limit, with fasting, as already remarked, she was restored to bounding health before her father was out of bed.

In all acute sicknesses there is at the onset no office for food, as there is usually no desire for it, and the condition of the stomach, and often that of the entire intestinal tract, clearly indicates to the expert dietetist that there can be no hope of digestion and assimilation, in default of which only putrefaction and all manner of mischief can result from the ingestion of food. While it is true that Dr. Brand, himself, and most of his followers feed their fever patients pretty steadily, though moderately, throughout the course of the disease, and, still, seldom lose a case that comes early under the treatment, it is doubtless true that with the modification herein recommended—the withholding of food for the first few days, and at any rate until the patient is unmistakably hungry—all curable cases would be shortened, complications lessened, and quite a proportion of cases aborted absolutely.

When constant feeding is practised the baths have to be given for many days together, the number of baths often reaching as high as forty and even more; whereas, under the fasting plan[1] baths are seldom required after the first day or two, simple sponge bathing, and perhaps the "damp bandage," being all that is required for the comfort and advantage of the patient. It is my practice to have the patient wear the damp bandage pretty constantly while the temperature remains above 101° F. It is composed of two-ply coarse linen, wrung tightly from cold water (ice water is usually best, the reaction being more prompt and complete), with two ply of same outside, and is snugly pinned about the body—at the abdomen in typhoid fever, and at the chest in pneumonia, or where the lungs are in the least threatened; and in some cases this "pack" may with advantage be wide enough to cover the body entire, from arm-pits to hips. It will require to be renewed as often as every three hours, and sometimes in half that length of time, or even less, if necessary to prevent its becoming too hot. It must not be allowed to get dry, but had better be thrown off if it cannot, or does not need to, be renewed.

In strong contrast to the effects of the regular drug treatment, as described by Dr. Peabody, are those derived from the bath method as stated by Dr. Baruch: "In typhoid fever, we have it, upon authority which we dare not question, that the cold bath refreshes the nervous system; that it deepens the respiration; that it moistens the tongue, and improves the appetite; that it steadies and slows the pulse; that it improves the digestion; that it increases the quantity and improves the quality of the urine; that it removes stupor and delirium. In short, it lends vigor and tone to the entire system, and approximates the condition of the patient so nearly to the normal that his entire aspect is changed."

Why is it that a remedy which operates so charmingly, and which is in the strictest sense regular, since a few of the most thoughtful men in the regular profession during every generation from the time of Hippocrates to the present day have made use of it, has been, and still is,

[1] See MEDICAL RECORD for February 24, 1894, for history of many cases of fasting: Should Therapeutic Fasting be Called Starving?

almost universally ignored by the profession? Alas, it is too simple for the grasp of the super-scientific youngsters, who, hearing nothing about it, or at any rate, not much, except that it is the sheet-anchor of the irregulars, not unnaturally regard it as altogether out of the regular line. There is not enough of mystery about it to impress the mind of the average medical man, whose head has been so crammed at school with drug theories (the baneful operation of which has been so graphically described by Dr. Peabody) that there is little room left for common-sense innovations after leaving alma mater. It is a matter of profound regret that none of our medical schools teaches anything of the water-treatment, except in the most superficial way.

Outside of the regular profession the water treatment has been largely used, and always with a high degree of success, and it is well for the profession to consider whether we can afford longer to allow the irregulars a practical monopoly of this most potent and beneficent remedy. So great is my appreciation of the importance of hydrotherapy, that I hail as a benefactor of the race the man who makes intelligent use of water in the treatment of disease, whether he be college bred or not; and I am not, therefore, able to share the sentiment of one of the ablest advocates of the Brand method, who speaks of the duty which the profession owes to itself and to those who intrust their lives and health to its keeping, to "wrest from the quack a weapon against disease whose power stands second to none in the catalogue of therapeutic agents." In my humble opinion the real quack is he who continues to ignore the lessons of Priessnitz and Kneipp, as well as the few of the most eminent men in the regular profession, and delays adding to his equipment this most powerful and yet soothing remedy.

It is no longer necessary to urge the safety of allowing the fever patient all the fresh water his thirst demands, but it is necessary to state that the fasting patient will not only have no extraordinary thirst, but it soon becomes necessary to prescribe water, either cold or warm, in order to maintain the fluidity of the blood, which is being constantly depleted of this element. The patient is really scavenging on the waste and effete matters which constitute, in great measure, his disease, and his blood is as well supplied with solid matters as is that of the cormorant who feeds wholesomely on the decaying carcass of a mule or other creature. It is my custom to prescribe two to four ounces of moderately, and *always soft*, hot water (with placebo) every hour or half-hour, by the clock, the amount and frequency depending largely upon the amount and complexion of the urine, which should be carefully observed from day to day.

357 Boylston Street.

A CASE OF ACUTE SOFTENING OF THE BRAIN PRESENTING HYSTERICAL SYMPTOMS AND SIMULATING HYSTERIA.[1]

By THEODORE DILLER, M.D.,

PITTSBURG, PA.

PHYSICIAN TO THE NEUROLOGICAL DEPARTMENT OF THE PITTSBURG FREE DISPENSARY; VISITING PHYSICIAN TO THE INSANE DEPARTMENT OF ST. FRANCIS HOSPITAL.

Mrs. B——, widow, aged fifty six, was referred to me by Dr. Mark Rodgers, and was seen by me for the first time March 16, 1894. She was a very stout woman, weighing over two hundred pounds, but had always led an active life and had always enjoyed exceptionally good health.

About six weeks before my first visit to her, she, upon returning from a trip to Ohio, learned of a painful affection of the right arm, from which her grand-daughter had suffered during her absence and was indeed yet, to some extent, suffering upon her return, it being still enveloped in bandages. Mrs. B—— asked many questions about it, expressed great solicitude for her grand-child, cautioning her to beware of paralysis, as several members of the family had died of some such affection. A few days later she began, in a vague manner, to complain of certain numbness in her right arm. It was jokingly suggested that her concern for her grand-child had brought on the trouble. But she persisted in saying that the numbness was growing worse each day, and afterward that she was losing strength in the arm, and still later that her right leg was becoming similarly affected. Some few days after the onset of her trouble she began to exhibit some hesitation in speech, *e.g.*: She would stop short in telling something, saying: "There! I cannot go on," or "I forgot it," or "I can't think of it now." She seemed never to be at a loss for any single word, nor did she misplace words or incorrectly name objects. These symptoms became more pronounced each day; but she continued, as formerly, to eat heartily and sleep well at night, nor was there any change in her general appearance. But all the while she insisted that her condition was very serious.

When she was informed that I was expected to visit and examine her, she manifested the liveliest interest in my coming, asking at frequent intervals whether I had arrived.

On March 16th I examined her. She was lying in bed, because, as she stated, she was unable to stand or sit up. A causal observation discovered nothing. Upon attempting to converse with her she exhibited an unwillingness or inability to reply at any length. But short replies (always relevant) came from her after a pause. I could not find that memory was markedly deficient. The mental condition was that of a real or assumed general hebetude. I placed a handkerchief over her eyes and proceeded to test sensation of her right arm with two pins. A number of times she located two pins at the normal distance; again she felt but one when two were actually in contact with her arm a foot apart; again she felt two, three, four, or five (I never used more than two); when none was in contact with her arm she felt one, two, three, or none, both with and without my suggestion. Altogether these tests were valueless, except (as it seemed to me at the time) in offering an argument showing the presence of hysteria. A sharp prick of the pin caused a quick withdrawal of the arm. The grasp of the right arm was about one-half that of the left. She complained of a corresponding numbness and loss of power in the right leg; but these were not tested. No other symptoms presented themselves. Her appetite was good and she was sleeping well. An examination of the urine showed it to be normal. After I had completed my examination she suddenly exclaimed; "Well, doctor, do you think my case is hopeless?"

I concluded that the case was a hysterical one and prescribed small doses of bromide, suggested that there would be a progressive improvement from day to day. During the week following my first visit she very slowly grew worse, as she had during the preceding week. But she managed to sit up an hour or two each day. She insisted upon the medicine being given to her regularly, reminding those about her as the time approached for its administration; evidently she considered herself a very sick woman and wished to impress others with this idea; at the same time she was apparently very watchful of all that was going on about her. It became necessary to move her from the second to the third story. At the time it was expected that she would need very substantial assistance. Her brother first carried up her easy-chair, expecting to return for her, and was surprised when near the top of the stairs, on looking back, to see the patient following close behind him unaided. For some days prior to this she had constantly required assistance in making any movements. Acting upon my suggestion, this assistance was made a form or feint instead of a real help, and seemed, her daughter stated, to be just as helpful as when it was genuine. One day when she wanted something when there was no one at hand to serve her,

[1] Paper read before the Pittsburg Academy of Medicine, April 2, 1894.

she called in a very loud, impatient voice, so that the servant on the first floor easily heard her and was startled.

By March 23d, she had apparently lost much of her interest in her surroundings, and would answer only by a "yes," or a "no;" the paralysis of the right arm and leg was apparently complete; she ate as much as usual, but had to be fed by the spoon.

March 24th.—Temperature, normal. Stupor deepening.

March 25th.—Temperature, 99.6° F. Plantar reflexes active; in general appearance looks as well as when in health. Pulse rather feeble. Respiration, slightly accelerated. Would make no reply to questions. Pupils equal and very responsive to stimulus of light. Conjunctivæ sensitive to touch. A pinch of the skin causes her to draw up her face into a painful expression. Passes urine freely in bed.

March 26th.—Temperature, 102.6° F., and respirations, 38. Swallows nourishment and medicine without difficulty.

March 27th.—Temperature, 103.6° F. Respirations, 42. Coma apparently deepening; but conjunctivæ are still sensitive, and pinching skin brings expression of pain to the face. A dose of castor-oil produced a free evacuation of the bowels. Continues to pass urine involuntarily. Swallows liquid nourishment and medicine.

March 28th.—In morning, seemed somewhat better, but in evening, condition critical. Temperature, 104° F.; respirations, 50; pulse feeble, thready, difficult to count (probably about 125). For the first time unable to

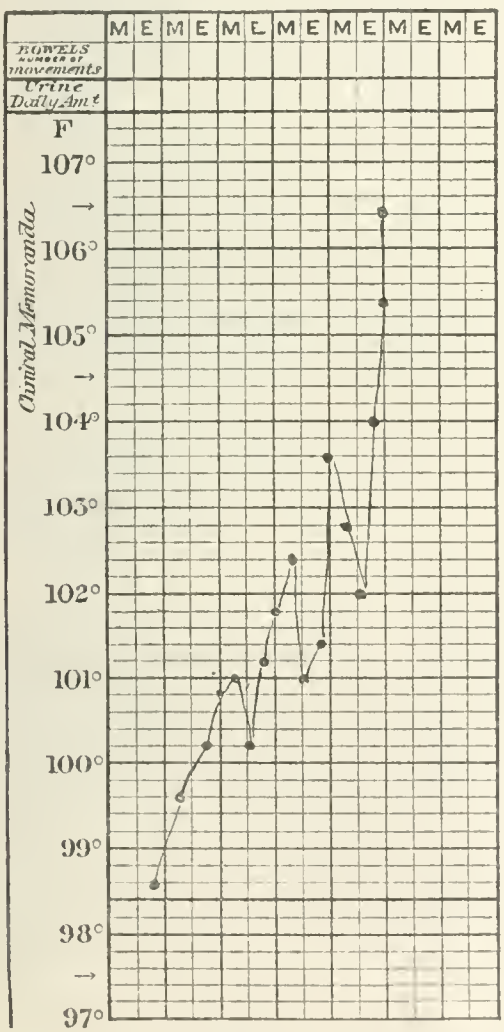


Fig. 1.

swallow; all skin reflexes absent; conjunctivæ insensible to touch. Temperature continued to rise during night, reaching 106.4° F. at 2 A.M. Death occurred at 2.45 A.M.

Autopsy, twelve hours after death. (Brain only examined.) Rigor mortis well marked. Examination of the base of the brain revealed a most remarkable condition of the arteries. The laminæ of both internal carotid arteries, just where these vessels enter the cranium at the anterior clinoid processes, were found much narrowed and entirely occluded by firm, hard, dark-brown clots. The left posterior communicating artery was completely obliterated; from its attachment to the posterior cerebral artery its diameter lessened, until it finally terminated in a thread-like extremity. Distributed over all the large arteries of the base were numerous yellowish plates of thickening ("endarteritis deformans" of Virchow) But there was no calcification present in any of these degenerated arteries. No embolus or thrombus could be discovered.

The annexed diagram of the circle of Willis shows the

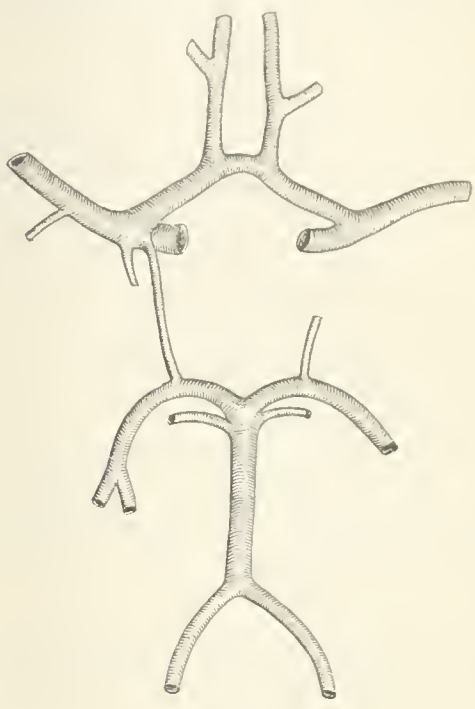


Fig. 2.

exceedingly limited source of blood-supply which the brain (especially the left hemisphere) had for probably many months. The two internal carotids being firmly plugged, the entire blood-supply was through the two vertebrals. As the left posterior communicating artery was occluded, the left hemisphere received a very deficient blood-supply, and this in a very roundabout manner, viz., *via* vertebrals, basilar, right posterior cerebral, right posterior communicating, right internal carotid, right middle cerebral, right anterior cerebral, anterior communicating, and left anterior cerebral.

An extensive softening of the left hemisphere occupy-

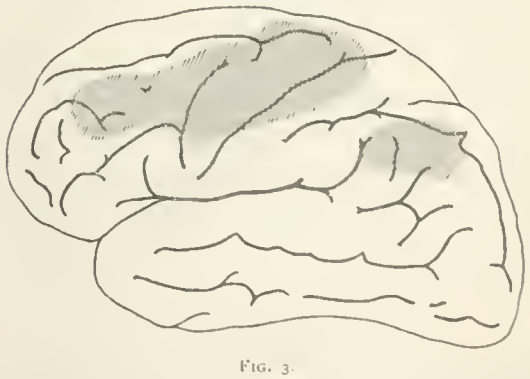


Fig. 3.

ing the upper two-thirds of the ascending frontal, extending slightly into the ascending parietal. A spot in the inferior parietal and the posterior two-thirds of the middle frontal convolution was present. The uppermost part of this softening presented, for an area equal to that

of a silver quarter, a yellowish appearance (*plaque jaune* of Charcot). The underlying white substance in the centrum ovale was softened, the process stopping a little short of the internal capsule. The basal ganglia were intact. Certain portions of the softening in the lower part of the ascending frontal presented a distinctly reddish appearance, especially in the cortex.

Remarks.—The case is one of interest viewed both from a clinical and pathological standpoint.

For a time I regarded the case as one of hysteria. Drs. Mark Rodgers and W. Jones, who saw the case, shared this view. But with the appearance of fever I began to feel that there was some organic change in the left hemisphere of the brain. The history of the case seemed to preclude hemorrhage or embolism. Meningitis and tumor also appeared unlikely. Abscess or softening then seemed to be the condition most probably present.

It is certainly remarkable that the affection should have begun as it did—having its beginning apparently as the result of a psychical impression which the patient received as the result of deep concern for the threatening paralysis (as she thought) of her grand-daughter's arm.

The morbid condition present was an acute atheromatous or senile softening. When the condition of the blood-vessels at the base of the brain is considered, it must be admitted that the predisposing conditions were, and probably had been for a long time, present, favoring an acute softening, especially in those portions of the brain supplied by the left middle cerebral artery.

To reconcile the clinical symptoms with the morbid changes present, I would suggest, in lieu of a better one, the following explanation:

The predisposing conditions for acute softening being present in such a high degree, it is evident that only a slight precipitating or exciting cause was necessary to actually produce that condition. The mental anxiety of the patient for the welfare of her grand-daughter's arm furnished this exciting cause.

CAUSATION, PATHOLOGY, AND SYMPTOMS OF RETRO-PHARYNGEAL ABSCESS.[1]

By H. W. BERG, M.D.,

NEW YORK.

To the orthopedic surgeon, the condition known as retro-pharyngeal abscess involves a diagnosis of disease of the upper cervical vertebræ or of the basilar process of the occipital bone. But clinically, this condition occurs by far more frequently as a complication of other diseases. In these latter cases there is neither disease of the cervical vertebræ, nor, indeed, any bone disease whatsoever. It is with the view of distinguishing these two varieties of retro-pharyngeal abscess, namely, those occurring as a result of bone disease, and those occurring independently of bone disease, that I wish to call attention to this subject. The clinical history of these abscesses shows a marked difference in the two varieties in respect to their etiology, pathology, symptoms, and treatment.

Etiology.—As already hinted, a considerable class of these abscesses occur in connection with bone disease, and especially with disease of the three upper cervical vertebræ. This form of abscess is analogous to psoas abscess, occurring in connection with disease of the vertebræ below the sheath of the psoas magnus; retro-œsophageal abscess, a rare and fatal form of abscess resulting from disease of the vertebræ, or, indeed, analogous in its origin to other so-called cold abscesses, occurring in connection with osteitis of the hip-, knee-, ankle-, and other joints. This form of retro-pharyngeal abscess would therefore very properly be designated as chronic retro-pharyngeal abscess, to distinguish it from the much larger group which is the result of suppuration in the soft tissues behind and around the pharynx, which should be designated as acute retro-pharyngeal abscess.

[1] Read before the Orthopedic Section of the New York Academy of Medicine, March 16, 1894.

Such suppuration, resulting in such an acute post-pharyngeal abscess, occurs as a complication or sequel of pharyngitis, tonsillitis, diphtheria, both of the streptococcus and Klebs-Loeffler variety, syphilitic and tubercular inflammation of the lymphatics of this region; and finally it may also occur as a result of suppurative inflammation of the connective tissue behind the pharynx during or after any of the acute infectious diseases, such as measles and scarlet fever. I have treated a number of such abscesses occurring several weeks after the eruption of measles. It is a peculiar fact that, while the chronic osteitic form of retro-pharyngeal abscess occurs quite frequently in adults, the acute form occurs with much greater frequency in very young children. Why this should be so is readily explicable; let us take, for instance, the abscess following tonsillitis. In adults this shows itself as a suppurating tonsillitis, known as quinsy sore throat; the pus collects either beneath the tonsil or at the immediate vicinity of the tonsil, gravitating to the lowest point it can attain, until nature or the surgeon evacuates the sac. Such patients, as a rule, will not lie down on account of the difficulty in breathing and swallowing. In a very young child, however, such purulent collections forming about the tonsil, as in the adult, also gravitate to the lowest point; but here the almost constant recumbent position of the little patient makes the back of the pharynx the lowest point, hence the more frequent occurrence of retro-pharyngeal abscess in these little subjects.

There is another form of retro-pharyngeal abscess which results from the impaction of foreign bodies, like fish-bones, in the posterior wall of the pharynx; these abscesses are properly designated as traumatic, retro-pharyngeal abscess. Thus Adams reports in the *London Lancet* of 1847 two cases of retro-pharyngeal abscess due to impaction of fish-bones in the pharynx. John Bokai, of Pesth, whose work upon this subject was published in Leipsic in 1876, reports 144 cases of retro-pharyngeal abscess in children, of which by far the larger number (129) were idiopathic in their origin, and resulted, according to him, from a lymphadenitis retro-pharyngealis. It will be readily granted, in the present state of our knowledge concerning suppurative processes, that what he considered a lymphadenitis was probably a pharyngitis or tonsillitis of the streptococcus or Klebs-Loeffler variety with pyogenic cocci.

These so-called idiopathic abscesses Bokai called primary retro-pharyngeal abscess. All others he classed as secondary. Thus, of the cases reported 3 were secondary to pus formed in other portions of the throat, and sinking to the back of the pharynx, 4 secondary to spondylitis cervicalis, 7 occurred in the course of scarlet fever, and 1 was traumatic.

Pathology.—I do not intend here to study the pathology of abscesses in general, but shall only call attention to some essential points peculiar to some of the varieties of retro-pharyngeal abscess. All of these abscesses have not a similar pathological anatomy. Indeed, it is found that the post-pharyngeal abscess occurring in cervical Pott's disease differs in very essential respects from all other forms of this disease. This form of retro-pharyngeal abscess has its seat anatomically behind the pharynx, but very important facts would be lost sight of were we satisfied with this vague localization of the pus. These abscesses, originating in the necrotic and purulent disintegration of the bodies of the vertebræ and the inter-vertebral disks, necessarily destroy the periosteal covering of the bone, so that the abscess, when it has become sufficiently prominent at the back of the pharynx to be termed a retro-pharyngeal abscess, is no longer sub-periosteal. The pus, however, does lie underneath the common ligament of the vertebral column. This ligament is a strong band of fibres extending from the body of the axis above, along the front of the bodies of vertebræ to the upper bone of the sacrum. This dense fibrous band is much more intimately adherent to the inter-vertebral disks than to the centre of the bodies of the vertebræ; it is composed of several layers

of fibres of varying length, but closely interlaced with each other. The most superficial and longest fibres extend between four or five vertebræ; a middle set of fibres extends between two or three vertebræ, and the deepest layer passes from one vertebra to the next. This peculiar arrangement gives great strength and resistance to the anterior common ligament, so that pus developing below it finds great difficulty in burrowing through. As a result we find that retro-pharyngeal abscess due to Pott's disease has the external layer at least of the anterior common ligament as an important portion of the wall of the abscess, separating it from the pharynx. Dissection of this portion of the neck shows that such abscesses have between them and the pharyngeal wall, in addition to the anterior common ligament, the so-called pre-vertebral fascia, which is an offshoot from the deep surface of the strongest fascia of the neck, namely, the deep cervical fascia. This pre-vertebral fascia passes behind the carotid vessels, of which it helps to form the posterior sheath, and behind the sterno cleido-mastoid muscles of which, together with the deep layer of the cervical fascia, it also forms the sheath. If, then, these abscesses have become large enough to break through the anterior common ligament, the pus comes to lie beneath the pre-vertebral fascia. Limited by this fascia, it gravitates to the lowest point; thus the abscess is directed by the pre-vertebral fascia behind the carotid vessels and sterno-cleido mastoid muscles, and comes to present in the posterior triangle of the neck. The pre-vertebral fascia being further continued over the brachial plexus and subclavian vessels, and finally assisting in forming the axillary sheath, the abscess directed by it may come to present even in the axillary space. We find, then, that a retro-pharyngeal abscess due to Pott's disease may be felt in the throat, or later on at the posterior triangle of the neck, or even in the axilla. It is for this reason that recent German authorities have advised the operation for the cure of post-pharyngeal abscess in general, to be performed by external incision at the posterior triangle of the neck, passing behind the carotid vessels and draining the abscess through this tract. But while this mode of operation would appear to be logical in this variety of retro-pharyngeal abscess (although even here the advisability and practicability of this method of operation is questionable), there is no logical reason why this method of operation should be adopted in any of the other forms of retro-pharyngeal abscess; for in all the other forms of this disease pus is really retro pharyngeal, lying behind the muscular wall of the pharynx and in front of the pre-vertebral fascia. This stout fascia does not restrain the pus, and these abscesses are apt to present at the pharynx and later on underneath the lower maxilla, or at any portion of the neck in front of the sterno-cleido-mastoid. Not being restrained by the anterior common ligament they can more readily come to be retro-œsophageal, breaking into the œsophagus or into the posterior mediastinal or pleural cavities.

Symptomatology and differential diagnosis. I believe that the cases I have seen, both those due to Pott's disease and those from other causes, have been characterized by difficulty in deglutition as their earliest subjective symptom. This and a peculiar nasal voice, very much resembling that characteristic of post-diphtheritic paralysis of the fauces, have been the earliest characteristic manifestations; they always call for a careful examination of the throat, both visually and by digital exploration, when positive objective signs of the difficulty will be found. The nasal voice, due obviously to the fact that the pharynx is encroached upon, is not a so-called croupy voice. It is not hoarse or barking; on the contrary, the cough is soft and excessively gurgling, owing to the collection of mucus in the pharynx and behind the nose. This gurgling is manifest not only in the cough but in breathing and speaking. If the pus be high up behind the naso-pharynx, the patient will breathe with his mouth wide open both at expiration and inspiration; if the pus be behind the glottis, the patient will have stenosis, to a greater or less extent, of the glottis, and the difficulty in breathing will not only be an inconvenience, but may be as severe as that obtained in croup. This is due not only to the pressure of the abscess upon the larynx, but to the resulting œdema of the glottis. This latter condition is owing to serous infiltration of the structures surrounding the entrance to the larynx. Generally there is a soft cough, due to the attempts to get rid of the mucus flowing into and irritating the larynx. All of these symptoms begin mildly, and increase in severity with the increase in the size of the abscess.

The principal physical signs are those obtained by digital examination of the throat; when such an abscess is suspected, an examination of the back part of the pharynx, from behind the nares above to as far as the finger can reach below, should be made. This can be done either while the patient's mouth is held open by a gag, such as that attached to the O'Dwyer intubation case, or by protecting the finger by placing the handle of a spoon transversely between the teeth. A rapid sweep of the posterior pharyngeal wall from above downward and return from below upward should be made. If an abscess be present, it will present a soft, fluctuating mass, varying from one-quarter of an inch to an inch or more in diameter. At this place one cannot feel the bony spinal column as can be felt in the other portions of the back of the throat. When such an abscess has been diagnosticated, it should be the aim of the examiner to feel for some point in the abscess rather softer than the rest of the wall, and this will show the point of election for evacuating the pus. In addition to this digital exploration of the abscess, there are other objective signs; the neck is apt to be held stiffly, not to the side, as in torticollis of Pott's disease, but rigidly, with the head in slight opisthotonos, the object being to prevent rotation of the neck. Every effort of the patient is directed toward getting as much breathing space in the back part of the pharynx as possible. The mouth is as a rule kept open, and there is dribbling of the saliva from the lips, especially in the younger patients; the lymphatics about the angle of the lower jaw are sometimes enlarged; in the later stages of the abscess there is swelling of the throat laterally, and even fluctuation can sometimes be felt externally between the angle of the lower jaw and sterno-cleido-mastoid; sometimes, in old cases of the retro-pharyngeal abscess of Pott's disease, an abscess can be felt in the posterior triangle of the neck, and in rare cases even in the axillary region. Fever is present to a slight extent in acute abscesses of this class, but is never present in the chronic abscesses, as, for instance, those of spondylitis.

The clinical discussion of this condition would be incomplete if we neglected to call attention to some of the conditions with which retro-pharyngeal abscess may be confounded. The first and most important of these is croup. It is true that patients suffering from such an abscess in an advanced stage do have difficult respiration, as shown above, but the croupy metallic cough is never present unless the abscess occurs as a complication of diphtheria or croupous laryngitis. Quinsy sore throat, while giving rise to a similar gurgling in breathing, cough, dyspnœa, and drewling from the mouth, can always be diagnosticated by the localization of the abscess on digital exploration. A tuberculous patient was for two years treated by his family physician for tuberculous laryngitis. At the time of my examination I found that the hoarseness and difficulty in swallowing were due to a slowly-developing abscess in the post-pharyngeal region, due to cervical Pott's disease; this abscess was opened externally behind the sterno-cleido-mastoid muscle and a drainage-tube inserted. It never healed, and the patient died of pulmonary tuberculosis four months after the operation. From post-diphtheritic paralysis affecting the muscles of the pharynx, soft palate, and the pillars of the fauces, this condition can be differentiated by a digital exploration: the history will sometimes aid, although frequently the paralysis is the first intimation that the patient has had diphtheria.

It is essential always to come to a positive conclusion as to whether the abscess is the result of Pott's disease of the vertebræ, for the reason stated above, namely, that these abscesses are apt, if let alone, to point externally in the manner already set forth. As to the time it takes a retro pharyngeal abscess to develop, this varies with the causation of the abscess. Abscesses due to bone disease develop, as usual, very slowly, in some cases months elapsing before the abscess gives rise to much inconvenience. On the other hand, acute abscess of this variety complicating tonsillitis or the acute infectious diseases, may develop within two or three days. Although these remarks have for their object rather a discussion of the manner of the occurrence of retro-pharyngeal abscess, I cannot refrain from saying a few words as to treatment. Bokai in his report of a hundred and forty-four cases of this disease states that all were opened through the pharynx, and he is able to report a hundred and twenty recoveries. What I have said about pathological anatomy will bear me out in the statement that these abscesses, except perhaps those due to Pott's disease, should all be evacuated through the pharynx. Of the six cases which I treated in private practice during the past year, five were evacuated through the pharynx, and one, the adult above referred to, behind the sterno-cleido-mastoid. I have not seen sepsis follow the opening of these abscesses in the pharynx. The one operated externally discharged for four months after the operation. I think the external operation should never be done unless the abscess is actually pointing externally. I cannot consider it justifiable to submit the patient to a dangerous surgical operation to reach the abscess from without, when no advantages are to be derived thereby. That the operation under these circumstances is a dangerous one in the hands of all but the most expert surgeons, is readily conceded, when it is remembered that the knife must dissect the neck in the posterior triangle, care being taken to get behind the carotid sheath, avoiding injury to the most important anatomical structures.

245 Seventh Street.

GAVAGE (FORCED FEEDING) IN THE TREATMENT OF ACUTE DISEASES OF INFANCY AND CHILDHOOD.

By L. EMMETT HOLT, M.D.,

NEW YORK.

PROFESSOR OF DISEASES OF CHILDREN, NEW YORK POLYCLINIC; ATTENDING PHYSICIAN TO THE BABIES' HOSPITAL, TO THE NURSERY AND CHILD'S HOSPITAL, ETC.

During the summer of 1891, in my service at the New York Infant Asylum, Dr. Charles G. Kerley, then resident physician, made quite extensive experiments in the use of gavage as a means of controlling obstinate vomiting in young infants. Dr. Kerley read a report of his cases at the meeting of the American Pediatric Society in September of that year, and published it in the transactions of the society. These experiments demonstrated to my satisfaction two things: first, that gavage was a very simple procedure, and secondly, that it was one of great value in the treatment of diseases of early life.

In November, 1891, I was attending a private patient with scarlet fever with complicating diphtheria. The case was a desperate one, with profound sepsis, hyperpyrexia and delirium, and great prostration almost from the beginning. By the fourth day nothing whatever in the shape of nourishment or stimulants could be gotten down without a struggle, and the child was being worn out by efforts that were well-nigh fruitless to get her to take even the smallest quantity of food or stimulants. At this time gavage was begun and continued throughout the rest of the illness. On account of the condition of the throat the catheter was passed through the nose, and the child was fed regularly every six hours six ounces of peptonized milk, with whiskey and digitalis. Hardly an ounce of the food was regurgitated, and the relief to the child and to the nurses was very great. Although this patient died of sepsis on the eleventh day, life was prolonged four or five days by gavage, and I think by this only.

Since that time I have rarely found it necessary to use the nose for feeding, and I believe that it will not often be required. In the following year I made a preliminary report to the Clinical Society on the subject of forced feeding in cases of severe acute illness, and at the Academy of Medicine the same year, in a discussion upon the treatment of diphtheria, I demonstrated the method of gavage before the Section in Pediatrics.

During the past two years gavage has been in daily use in three institutions with which I am connected, the Babies' Hospital, the Nursery and Child's Hospital, and the New York Infant Asylum. Our experience has now extended to observations upon upward of four hundred cases, in most of which gavage has been repeated many times. It has been tried in almost every variety of acute disease in infants and small children, and has won its place as one of the most valuable of our therapeutic measures at this time of life.

The technique of gavage is very simple. The ordinary apparatus used for stomach-washing is all that is required, viz., a funnel, eighteen inches of rubber tubing, a soft rubber catheter, and a few inches of glass tubing for connection. The catheter should have a double eye. No. 14, American scale, is the best size for infants under six months, and about No. 17 for older children. A four-ounce funnel is large enough for infants, while for older children it is an advantage to use one holding six or eight ounces. The child is placed flat upon the back in its crib, and the head steadied by an assistant. The tongue is depressed with the left forefinger, and the catheter, previously oiled, is pushed rapidly down the pharynx until nine or ten inches have passed the lips. The funnel is now raised high in the air for a few moments to allow gas from the stomach to escape. The food is poured into the funnel and rapidly runs into the stomach. As the last of the food leaves the funnel the catheter is tightly pinched and quickly withdrawn. This last step is an important one in order to prevent trickling of food in the pharynx, which may provoke vomiting. Sometimes the food remains in the funnel, and will not run into the stomach. This is not ordinarily from blocking the eye of the catheter by mucus, but from gas in the tube. In a few moments this generally rises to the surface of the liquid, and then the food flows readily. If regurgitation of the food takes place it is generally immediately after withdrawing the tube. In many cases it may be prevented by allowing the gas to escape from the stomach before putting the food in, and in others by holding the jaws separated for a few moments after the catheter has been withdrawn.

In young infants no gag is required, but in older children one is quite necessary, since otherwise they may bite the catheter in two. Where a gag is needed the ordinary one accompanying intubation sets will answer the purpose. Two assistants are usually required to feed an older child. It is important that the child should be held flat upon its back.

The time consumed in feeding by gavage is from ten to thirty seconds. In infants this is very easily done. In the institutions referred to all the nurses have been taught to do it, and they learn with very little experience to do it very quickly.

The uses of gavage may be briefly stated as follows:

1. In premature infants its value has been well established on the continent of Europe, in connection with the use of the incubator. As yet we have had but little experience with it in this country.

2. It is useful in controlling persistent vomiting in very young infants where the vomiting occurs partly from habit and partly from exaggerated pharyngeal reflex. Dr. Kerley's published paper established this point conclusively, and subsequent experience has confirmed his observations. Dr. R. B. Kimball, attending physician to the Summer Branch of the Babies' Hospital, is soon to publish a large number of cases treated in the

summer of 1893, also confirmatory of this point. I will not enlarge upon it.

3. In acute diseases where for any reason children refuse all food, or struggle violently against everything that is offered them. In very many cases of severe illness in children from two to five years of age, the point is reached, after four or five days have passed, when the child absolutely refuses to take anything, and nothing is gotten down excepting by holding the nose. This is, to my mind, one of the most promising fields for the application of gavage. In very severe cases of scarlet fever, diphtheria, broncho-pneumonia, typhoid, and empyema just this necessity is felt.

4. In serious brain disease where the patient cannot be fed by ordinary means. This may occur in tubercular meningitis, chronic meningitis, and in many other diseases where delirium or coma is a symptom. Life is not only prolonged but existence made more tolerable, and the patient is much more easily cared for by the attendants.

A few illustrative cases will serve as types of many: A child, aged three, with chronic meningitis, was fed for six weeks by gavage; by no other means could anything be gotten down excepting by the expenditure of a great deal of time, struggling, and holding the nose.

A child, aged two, with empyema and very marked asthenic symptoms, after two weeks' illness absolutely refused everything in the way of nourishment, and was in danger of dying from inanition. For two weeks all food was given by gavage, at the end of which time the child was able and willing to drink its milk from a cup, and take stimulants without difficulty.

A private patient, aged twenty months, with double pneumonia and very marked prostration, had reached the point, by the tenth day, when almost nothing could be done in the way of nutrition. After gavage for two days the temperature gradually fell, the patient was able to take food naturally, and made an excellent recovery.

In a recent case of tubercular meningitis seen in consultation in private practice—the case was hopeless for five days before death—all the food was given by gavage. After the case closed, the attending physician said, "You have no idea what a comfort the gavage was to the family." This was especially noticeable after the struggles to give food which had preceded its use.

A recent case of diphtheria in private practice in a little girl aged five affords a striking illustration of the benefit of this means of treatment. The patient was delirious, profoundly septic, temperature 105° F. and over for a week; pharynx, tonsils, uvula, palate, and part of the mucous membrane of the mouth covered by pseudo-membrane. In the words of Dr. O'Dwyer, who saw the case, "the symptoms were about as bad as they could be." After the fifth day, to give either food or stimulants by ordinary means was absolutely impossible. She was being worn out with the constant teasing and forcing. Even at the risk of heart failure three nurses held her while I employed gavage for the first time. Not more than three ounces of food had been gotten down in the course of the previous twelve hours. Four ounces of food and one ounce of brandy with digitalis were given without difficulty, and with but little more disturbance than was necessary to make the child swallow a tablespoonful. From this time on gavage was practised regularly every six hours; the amount of food was gradually increased until eight ounces at a time were given at once. This was kept up for a week; not once was the food regurgitated, and the case made a complete recovery. In my own opinion the life of the patient was saved by this means.

To cite further cases is unnecessary, enough has already been said to show that gavage is easy, simple, and free from danger, and a very great resource in these very difficult cases.

In the adult when food is refused by the stomach we may have recourse to rectal alimentation, but in little children this is extremely unsatisfactory, and in most cases is an entire failure. As compared with holding the nose, and forcing the child to swallow, anyone who has seen the two things done will, I think, have little difficulty in deciding which is easier.

In most of the cases to which I have referred the food given has been completely peptonized milk, diluted according to the age of the child; but for infants our hospital milk and cream mixture in proportions suitable to the child's age. Stimulants, medicine, everything that is to be given may be poured in at once.

In older children where six or eight ounces at a time are given, gavage need not be repeated more than once in five or six hours. In infants the intervals should be one hour longer than the customary interval of feeding.

Stomach washing is required in conjunction with gavage in most cases in infants; once at least every day the stomach should be washed before feeding.

In conclusion I can only say to those who are unfamiliar with this therapeutic measure that a careful trial will convince anyone of its very great value.

15 East Fifty-fourth Street.

Clinical Department.

PYÆMIA COMPLICATING TYPHOID FEVER, AND PHLEBITIS FOLLOWING PNEUMONIA.

By ROBERT L. NOURSE, M.D.,

ASHLAND, WIS.

The above-named complication of typhoid and sequelæ of pneumonia are, I believe, sufficiently rare to justify my recording the following cases, recently occurring in my practice:

Case I.—Annie D——, aged nine, of Norwegian parentage. Previous health fair, though she is a thin and anæmic child. Was taken sick October 31st with typhoid fever. (Her mother was then convalescing from the same disease.) This pursued the usual course of a case of typhoid of average severity until the stage of decline was reached, about the middle of the fourth week, when, instead of the temperature becoming normal and ushering in convalescence, it became irregularly progressive, fluctuating from day to day from 100° to 104° F., with accompanying rigors and alternating profuse perspiration. In a few days she complained of pain over the left hip, and on examination I found a deeply-seated swelling, which soon proved to be an abscess, originating from beneath the gluteus maximus muscle. A few days subsequent to this another abscess, the size of a hen's egg, was found on posterior surface of the left leg, at the lower angle of the popliteal space. These were both opened. At the same time a third abscess appeared on the left side of the nose, just above the alæ, which seemed to perforate the nose and communicate with an ulcer on the inner side. Three days later a fourth abscess made its appearance on the right shoulder, anterior surface. This was also about the size of a hen's egg. Ten days later a fifth abscess appeared on the lumbar region of the back. This opened spontaneously, much to the child's delight. After this she made a slow but uninterrupted recovery. Sulphide of calcium seemed to exert no influence over the suppurative process in this case, as, indeed, I have yet to see a case of any description in which it did have any perceptible effect. Murchison, quoted by James H. Hutchinson in Pepper's "System of Medicine," vol. i., page 294, says: "Pyæmia is an occasional complication of typhoid fever." But the latter authority says it is certainly rare in this country. Tonics and nutritious diet was the treatment.

Case II.—Mrs. S——, aged thirty two; American; married, mother of six children; was taken sick December 10th with la grippe. A week later, on being exposed, had a chill, which ushered in a lobar pneumonia of the left lung. This was complicated with considerable pleurisy, which caused a great deal of pain.

Convalescing was somewhat delayed owing to an extension of the pneumonic process, and consequent debility resulting therefrom. But when finally given permis-

sion to sit up for a couple of hours, she unwisely stood up and walked about, being on her feet considerably the first day. That night the left leg began to swell, and to be exceedingly painful and sensitive to touch. Neuralgic pains darted along the entire length of limb and into the groin and back. The following day a swelling one inch by one and a half or two inches in size could be felt over the internal saphenous vein, an inch below its exit from the saphenous opening on the inner surface of the thigh. A similar bunch could be felt in the left groin just above Poupart's ligament. These were excessively tender to touch, as, indeed, was the vein throughout its entire length.

The swelling on the thigh became slightly discolored, being of a brown or coppery hue. The vein from the groin to the popliteal space could be felt as a hard, round cord, considerably enlarged, and which rolled beneath the skin when attempt was made to grasp it between the fingers. Considerable swelling of the whole leg, but particularly below the knee, and later œdema occurred. Rest in bed, opium internally to control the pain, a strip of belladonna plaster over the tumor, and hot fomentations to the entire leg, constituted the treatment. The trouble subsided to a great extent in three weeks, though the induration and occlusion of the vein still persists; collateral circulation and reduction of swelling being greatly aided by elevation of the limb, and later an elastic bandage. Nonat claims to have immediately arrested phlebitis following typhoid fever by the application of fly-blisters along the course of the nerve.

This patient tells me she has been troubled with varicose veins of both limbs during each of her pregnancies, and once had phlegmasia alba dolens.

This case emphasizes the necessity of warning those patients who have had varicosities against a too abrupt getting upon their feet after debilitating diseases.

February 28, 1894.

DEPRESSED FRACTURE OF SKULL—SIMPLE FRACTURE OF SKULL—FRACTURE OF THE RADIUS—RECOVERY.

By DILLON J. SPOTSWOOD, M.D.,

FAIRFORD, ALA.

As all cases of brain surgery are interesting, it will probably not be amiss to relate briefly a case of depressed fracture of the skull, and fracture of the middle of the shaft of the radius.

Bryant F——, colored, aged twenty-two, a healthy laborer employed in the Sea Board Lumber Co.'s dry kiln, on January 6th was assisting his fellow-workmen in raising the kiln door, an immense wooden structure weighing a ton or two. This door is lifted by means of a windlass and chain. For some reason the windlass became unmanageable, the men releasing their hold after having raised the door some distance. The crank, or handle, revolving with great rapidity, struck F—— upon the upper right portion of the forehead and left forearm, with the results above mentioned.

The fracture was situated on the frontal bone, one and a half inch above the right external angular process, two and a half inches from right external auditory meatus, the upper edge of fracture running into the coronal suture. The fragment of bone was tightly wedged beneath the parietal bone and dura mater. The fracture was irregularly quadrilateral, one and a half inch long by one and a half inch wide, with a simple fracture running from the lower left inferior angle of depressed fracture to the superciliary ridge.

The man walked from the kiln to my office, a distance of one-eighth mile, finding me absent. Upon my return I found the man quietly seated, waiting. When questioned, he said that he had hurt his head and arm, but complained more of the arm. He was placed upon the sofa in recumbent position, head elevated. As his pulse was quite weak, a half-ounce of whiskey was administered. Forty-five minutes after the accident he had a very hard general convulsion, all of the muscles of the body twitching violently, with marked opisthotonos. Believing that an immediate operation was necessary, chloroform was administered to relieve convulsions, and the patient was sent to the company hospital.[1]

As my colleague, Dr. F. A. Webb, was absent, the operation of trephining was performed with the assistance of a druggist, who administered the anæsthetic, and the hospital nurse, who sponged, etc.

One-fourth of the head, around the injury, was shaved, washed first with alcohol, then with bichloride of mercury, 1 to 1,000; the remainder of the head was washed, and then saturated with bichloride, 1 to 2,000. Warm bichloride towels covered every portion of the head except where the incisions were to be made.

Chloroform (Squibb's) was used, which gave not the least trouble, the patient's pulse and respiration being excellent throughout the operation.

In administering chloroform it will be found that a hypodermic injection of morphia, gr. $\frac{1}{4}$ and atropia sulph., $\frac{1}{150}$, a half-hour before, always maintains the heart and respiration during chloroform anæsthesia. Ammon. aromat. spirit. ʒ j., should also be given by the mouth. The stomach should contain no food, and the head should be exactly on a level or a little lower than the body. These facts, of course, do not bear directly upon the subject; but as this method has been used in many of the operations witnessed by me, and in my own, I have described it.

An incision three inches in length, running horizontally from about one inch to the right and above the fracture, to a point three inches and a half above the inner extremity of the superciliary ridge, was made; another incision, joining the first at the last-named point, was made two and a half inches directly downward upon the forehead, making a triangular flap. Hemorrhage was controlled by digital pressure upon the edges of the flap, and it was not found necessary to tie a single vessel. The exposure of the skull revealed the depressed and simple fracture which have been described. The periosteum was removed from a space large enough to accommodate the trephine, at the upper left angle of fracture, which was near the middle of the upper portion of the frontal bone. The periosteum was also removed from the edges of the fracture, all around, for about an eighth of an inch. The removal of the fragment of bone exposed a large clot upon the dura mater. This having been removed, the sharp projections of bone were removed carefully by bone forceps. The dura mater was found to be slightly contused, this membrane and the edges of the bone were thoroughly cleansed with sterilized water.

A half-dozen of pieces of large antiseptic catgut were used for drainage, their points of exit being the upper right and lower left angles of the triangle (diagonally downward). The scalp incisions were closed with catgut sutures. The whole surface was now carefully washed with hot bichloride solution, 1 to 2,000, and the usual antiseptic dressing applied.

Union by the first intention was the result, the catgut sutures and drainage being perfectly absorbed.

On the morning of the second day his temperature was 102° F. Sulph. magnes., ℥ j., in lemonade, opened the bowels well. Antipyrine, gr. viij., sodii bromidi, gr. xx., liquor ammonii acetatis, ʒ iv., every two hours, were given, until fever and headache were relieved. No bad symptoms appeared after the third day. Liquid diet was kept up for five days.

Dr. Richard Förster, Professor of Ophthalmology in the University of Breslau, has been named a life member of the Prussian House of Lords.

[1] [The Sea Board Manufacturing Company's mills, near Mobile, at Fairford, Ala., a very large industry, employing seven hundred to one thousand men, having its own physicians and hospital.]

Progress of Medical Science.

Recent Observations on Cystitis.—Dr. Barlow's experimental researches would seem to show that in the case of rabbits, retention of urine, caused by ligature of the urethra, causes suppuration in the latter, but that sections of the freshly hardened bladders of the animals experimented on did not show the least signs of inflammation. Nine cases of cystitis are described. In each of seven cases the urine contained pure cultivations of some one particular microbe, which in five out of the seven was found to be Escherich's bacterium coli commune, while in the sixth and seventh cases the germ, which, furthermore, possessed the property of decomposing urea, was identified as the staphylococcus pyogenes albus. On introducing aqueous suspensions of pure cultivations of these germs into the bladders of rabbits and dogs, Barlow found that the simple injection of bacilli coli commune sufficed to produce cystitis, though the affection could be more readily induced when the injection was supplemented by ligature of the urethra; the staphylococci albi of Case VI., however, proved non-pathogenic, but those of Case VII. were capable of producing cystitis, either with or without the application of the ligature, and that the malady set in before ammoniacal decomposition of the urine was established. Dr. Barlow concludes that such bacteria as possess pathogenic properties for the bladder are capable of producing inflammation when that organ is intact, and that the so called accessory causes render the action of the germs more intense. Decomposition of the urea is necessary for the production of cystitis. With regard to gonorrhœal cystitis, which is, as a rule, not looked upon as a product of the gonococcus, Barlow's observations led him to the conclusion that there is a very rare form of cystitis brought about by the gonococci alone. Catheters may be sterilized in steam in thirty-five to forty minutes; the same result may be produced in fifteen minutes with nitrate of silver solution, 1 to 1,000; or in thirty minutes with corrosive sublimate of the same strength, provided the catheters are first of all coated with sterilized glycerine, and that the bore of the instrument is also syringed out. Patients who are compelled to catheterize themselves should pay attention to the following rules: The syringe should always be kept in a vessel half filled with a solution of nitrate of silver, 1 to 1,000, the catheter in a metal basin. There should also be kept handy two vessels, the one containing nitrate of silver, 1 to 1,000, and the other a three per cent. solution of boracic acid. Before using the catheter it should be syringed out three times with the nitrate of silver solution, then immersed in that solution for from fifteen to twenty minutes, and finally rinsed in boracic acid, and the external genitals, especially the orificium urethræ and the parts around it, be cleansed with the silver solution. The glycerine should be kept in a flask, so that it can be boiled frequently. After micturition, the catheter to be thoroughly washed and syringed with water, also with the boracic acid and silver solutions, and finally rolled up in blotting-paper and put away in the metal box. Apart from cystitis of tubercular or gonorrhœal origin, the treatment of inflammation of the bladder should be directed toward rendering any bacteria in that organ innocuous, at the same time taking care not to neglect such matters as the retention or decomposition of the urine. Little can be expected from the internal administration of drugs, except in cases of ammoniacal decomposition of the urine, in which temporary alleviation may best be obtained by salol. The most rational method of arresting the development of the pathogenic micro-organism of cystitis is by the instillation into the posterior portion of the urethra and the bladder some twenty to thirty drops of a 1 in 5,000 solution of corrosive sublimate after micturition, gradually increasing the strength to 1 in 1,000, but never injecting more than from thirty to sixty minims. A two to five per cent. solution of nitrate of silver may also be used, but not in cases of tubercular cystitis in which corrosive sublimate acts as a palliative.—*Archiv für Dermatologie.*

Intermittent Nephrydrosis.—At a recent meeting of the Paris Société de Chirurgie, M. Tuffier remarked that three points had to be studied in the consideration of intermittent nephrydrosis—namely, the etiology and pathogeny, the pathological anatomy, and the treatment. It seemed to him certain that the affection was almost always directly connected with a movable kidney. Facts sustained this, for it was almost invariably met with in women and nearly always affected the right kidney. The mechanism was that which had been maintained by Landau. M. Tuffier had come to a realization of it experimentally. In eight dogs he had rendered the kidney movable, and had then fixed it in an abnormal situation; in four instances nephrydrosis had been the result, and this proportion was about the same as was observed clinically. This nephrydrosis was accompanied by the formation of a sharp bend in the ureter at the point where it crossed the vessels, about two-thirds of an inch below the hilum of the kidney. Simple compression of the kidney was sufficient to cause the urine to overcome the impediment offered by this bend. The bend could be straightened out, and the nephrydrosis would then disappear at once. Anatomical facts observed in the course of operation also spoke in favor of the same mechanism. In two patients the speaker had distinctly observed the bend in the course of an operation, and in a third patient he had observed, at a point about an inch below the hilum, a sudden change of calibre in the ureter, indicating that there had been a folding at that point. This bend could be made to disappear by a change in the attitude of the person; one of the attachés of the Hôpital Beaujon, who had a movable kidney, perceived that her flank increased in volume and became painful when she remained standing, but that as soon as she lay down and raised her hips decidedly the swelling disappeared, and she felt herself relieved and passed water copiously. Experiments showed, the speaker went on to say, that when the kidney was lowered, at first there was formed, not a sharp bend, but a curvature, and this curvature was sufficient to diminish the flow of urine. At the same time intense renal congestion took place, and the kidney underwent a change of shape. Two types of such change were met with: sometimes the organ took the form of a horseshoe, at other times it was flattened. As for the phenomenon of intermittence, there were two ways in which it could be explained: The bend might be straightened out spontaneously by virtue of the mobility of the kidney; in other cases the tension of the kidney might overcome the impediment and result in the expulsion of the urine. Preference should be given to the operation of fixation of the kidney. The author had practised this in nine cases with success.—*New York Medical Journal.*

Gastro-intestinal Septicæmia of Infants.—From a careful study of a series of twenty-one cases, Dr. Fischl comes to the conclusion that the acute gastro intestinal catarrh so fatal to infants in foundling asylums, etc., is in reality a manifestation of a form of septicæmia. In ten cases examined bacteriologically he found, alike in those in which there was distinct gastro-enteritis and in those in which there was obvious septicæmia, pyogenic organisms; in seven the staphylococcus pyogenes albus, in one the staphylococcus pyogenes aureus also, and in two the streptococcus pyogenes. The organisms were found most constantly in the lungs; the next most common seat was the spleen; and after these the liver and kidneys. The naked-eye changes in the gastro-intestinal canal were often slight, but in some there was great hyperæmia; the number of micro-organisms in the canal was small, and they were situated chiefly in the superficial parts of the epithelium. The kidneys showed frequently parenchymatous inflammation, hemorrhages, and miliary abscess about accumulations of micrococci. Fischl suggests that the organs primarily infected are the lungs.—*Berliner klinische Wochenschrift.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street

New York, April 28, 1894.

THE LANGUAGE OF INTERNATIONAL CONGRESSES.

As each International Congress takes place, the inconveniences resulting from the Babel of tongues become more and more apparent. Many physicians are able to understand the written word in one or two languages besides their own, and think they will have no difficulty in listening to papers read in those same languages, forgetting that there are four arts in linguistic science, namely, reading, hearing, speaking, and writing, and that the possession of one of these arts by no means implies that of the others. It is comparatively easy to acquire the art of reading a language by one's self, but that of hearing—by which we mean the ability to understand and grasp the meaning of the spoken word or phrase—is something that is acquired only by long practice and training of the ear. And thus it is that the man who is able to read a scientific treatise, in German, for example, with perfect ease, is utterly at sea when the same treatise is read *to* him instead of *by* him. The words, as they are uttered, have no meaning to him and are merely inarticulate sounds in his ear. He reads a paper, let us suppose, in his own language. It is one which he, at least, believes embodies new truths which he is anxious that the medical world shall know and appreciate. He sees many of his auditors go out of the room during the reading, others nodding, or perusing the official journal of the Congress, and then, when the discussion of his paper comes he doesn't understand what objections are raised, and consequently cannot reply to them.

This difficulty was even greater at the Rome Congress, where there were four official languages instead of the usual three. Italian is too insignificant a language for a busy man to learn, yet it was the predominant language at that meeting. More than one-half of the members of the Rome Congress were Italians, and ninety-five per cent. of them spoke no language but their own. Many of those from other countries than France and Germany read their papers in French, but their foreign accent was so marked that no one but a born Frenchman could understand them.

Is there no remedy for this barrier to intercourse between men of science? Is it insurmountable? We fear the solution will not be seen in our day, yet the time must come when this condition of affairs will be recognized as intolerable, and when it is so recognized and felt the remedy will be forthcoming. The only remedy is the adoption of an international language. But what language? English is, and is destined to become still more, the leading language of the civilized world, but of its general adoption by international scientific bodies we have little hope. French and German are equally out of the question. There remain Latin and Greek. The former might do as a written language for scientific treatises, but in the form in which it has come down to us, a literary language pure and simple, it is too unwieldy for verbal use. It is a dead language, and too long dead ever to be resurrected. But Greek, on the other hand, is not dead. It is a living language, flexible, and perfectly adapted to all the needs of human intercourse. Modern Greek is a beautiful tongue, easily learned, and lends itself to every form of verbal and literary expression. It is the language of a small nation, and consequently no national jealousies would stand in the way of its adoption by a congress of all nations.

We have before suggested the adoption of this language, and our suggestion has been adopted and enlarged upon by others. Among them is Dr. Rose, of this city, who has recently published a pamphlet upon the subject which we would commend to the consideration of our readers. In it he shows that the alleged difficulty of acquiring Modern Greek is exaggerated, this exaggeration being due in great part to the absurd method by which the ancient language is taught in our preparatory schools and colleges—a method which would render the acquisition of any language an almost impossible task. If one-quarter of the time now wasted in classical Greek, which differs very little from the Greek spoken and written to-day in Athens, were devoted to the teaching by a rational method of the modern tongue, every school-boy would not only be able to speak Greek fluently and correctly, but also to read Homer and Xenophon as easily as the college student now reads Shakespeare and Chaucer.

We say again, we have little hope that this suggestion will be adopted in the near future, but we are confident that when the absolute necessity of some common international language shall come to be recognized, it will be Modern Greek in preference to all others that will be adopted. In the interests of science we would that that day might come soon.

THE ELMIRA REFORMATORY.

AT the time of the report upon the Elmira Reformatory we expressed surprise that an institution which had heretofore been held in such esteem should be credited with such serious abuses. We referred also to some of the facts bearing on the other side, and presented by the Board of Managers. We are in receipt of a memorial of the Board of Managers relating to the recent investigation by the State Board of Charities, in which the case for the Managers is most forcibly presented.

As a result of this memorial and of other influences, Governor Flower has appointed the Hon. William L. Learned, of Albany, Dr. Austin Flint, of New York, and the Hon. Israel T. Deyo, of Binghamton, commissioners to take testimony and conduct the examination of witnesses as to the truth of the charges.

We trust that, as a result of this investigation, the exact

truth will be learned and justice done. It is unfortunate that the fortunes of the Reformatory should be mixed up with newspaper rivalry and politics, yet such is the case.

We believe it only justice to place on record the following remarks as to the physician in charge of the Reformatory. The memorial says:

"The committeeman, in his excessive desire to malign the institution it was his duty simply to investigate, animadverts upon the fact that the Reformatory physician is the son of the president of the Board of Managers. His capacity or ability is not brought in question. The report admits that the physician, Dr. Hamilton D. Wey, devotes each forenoon, from eight until twelve or one o'clock, and the testimony shows sometimes until two or three, to the duties belonging to his office. It nowhere pretends that he is inexperienced, careless, or inefficient. The testimony proves that he has given in every case prompt and conscientious attention to the sick; he has inspected the quantity and quality of the food; he supervises the sanitary condition of all parts of the institution; and not a single instance of unprofessional conduct has ever been proven against the Reformatory physician.

"He alone has put into shape and use the gymnasium, and the physical training and culture now in vogue in the institution. He is, upon all questions of prison health and reform, and upon all topics that relate to the betterment of the physical training and the condition of its inmates, a man of national repute and standing. In all penological congresses, in all assemblies where men of experience meet to discuss improvements in prison conduct and discipline, Dr. Hamilton D. Wey is a justly acknowledged authority."

A DIRTY CITY.

The Women's Health Protective Association of Pittsburgh, Pa., is making an effort to improve the sanitary condition of the city by organizing a municipal system for the removal of garbage. At present all refuse is removed by private companies, or not at all. The poorer classes cannot and do not remove refuse, and it simply accumulates. Alleghany City has the highest death-rate in the country from typhoid fever, and Pittsburgh is a close second. This is not a surprising condition in towns where decaying matter is allowed to accumulate. It is extraordinary that any city in a civilized country should tolerate such a condition. Yet we learn that the Pittsburgh Council has just rejected a plan for the systematic removal of its garbage. Some communities are so stupid that they require the visitation of an epidemic in order to educate them to even the most ordinary knowledge of the value of municipal hygiene.

The *Pittsburgh Medical Review* editorially states that one of Alleghany's philanthropic select councilmen proposes to present a drinking fountain to that fair city. As all well-regulated fountains should have an inscription, the *Review* suggests the following:

"Erected to the memory of one hundred and sixty-one citizens who drank of this water and died of typhoid fever during the year 1893. This water is warranted to be drawn from the Alleghany River, at a point where the discharges of eighteen sewers of Pittsburgh are mingled with the stream, and that each drop contains on an average two hundred bacteria."

A HEALTHY LOCALITY.

The St. Paul-Minneapolis combination beats the world in the matter of vital statistics. While the mortality-rate in New York is 26.47, in London 17.11, in Chicago 18.95, and in nearly all large cities ranges from 17.0 to 26.0, it is only 9.61 and 9.60 in St. Paul and Minneapolis. We congratulate Minneapolis on the .01 per 1,000 advantage which it shows over its rival, and we extend to both cities our congratulations upon their superlative salubrity. We are "Yours for Health." But how about the doctors? If these towns have nearly one-third less mortality, there should be a correspondingly less amount of sickness. One death represents about twenty-five cases of sickness, and hence a death-rate of 9.60 per 1,000 would mean that in Minneapolis there are only 25,000 cases of sickness annually as against 600,000 in New York City. Now, if New York had only the death-rate of Minneapolis, a city of 209,000 inhabitants, its total sickness would be only about 225,000 annually. Yet the proportion of doctors in Minneapolis is nearly the same as that of New York, and the question arises, how do they live? Perhaps the people of these great Western cities are of the kind that get ill but never die—a most desirable class from a medico-economic point of view. At any rate the morbidity-rate of Minnesota would be an interesting thing to know. The *Northwestern Lancet* explains the healthfulness of its environment thus:

"The drainage is perfect, the water-supply abundant and of the best, malaria is unknown; phthisis and other diseases that fasten upon particular localities are rarely found here, except as importations; zymotic diseases, when they occur, are, as a rule, of mild type, the malignant forms appearing but rarely; and the worst features of the climate, that is its extremes of heat and cold, are more trying to the nervous system than injurious to the general vitality. In fact, the only diseases that prevail here to an average extent are those with which climate has little to do, such as the diarrhœal diseases of children, cancer, the accidents of childbed, and the like.

News of the Week.

Registration of Births and Marriages.—A resolution condemning the bill now before the Senate fixing the penalty at $100 and imprisonment for a failure to report marriages and births within ten days, was offered by Dr. Daniel Lewis, at the last meeting of the County Medical Society. The resolution was adopted.

Provost Pepper Resigns.—At a special meeting of the trustees of the University of Pennsylvania, held April 23d, Dr. William Pepper resigned his position as provost. This action was taken in opposition to earnest entreaties, and from his feeling that the great growth of the university during his administration has reached a place where it demanded the undivided efforts of the provost. He will continue to hold the Professorship of Medicine, and will devote himself more especially to the interests of the medical school and hospital. At the same meeting Dr. Pepper made a contribution of $50,000, which will be applied to the extension of the hospital buildings. His gifts to all departments have been many and large. The University of Pennsylvania, during the thirteen years of

his administration, has increased in the teaching force from 88 to 268, and in students from 981 to 2,180. About $4,000,000 has been added to the value of the lands, buildings, and endowments. The acquisitions during the current year will amount to $1,000,000.

Professor W. H. Welch.—Our city readers are reminded that Professor Welch, of Johns Hopkins University, will deliver the Middleton Goldsmith Lecture before the New York Academy of Medicine, on this Saturday evening, at 8.30. The subject is "Mixed and Secondary Infections."

Reconstruction of Navy Hospital at Brooklyn, N. Y.—Surgeon-General Tryon has secured in the annual Naval Appropriation Bill, provision for the use of a large sum of money derived from the sale of the Navy Yard lands to the city of Brooklyn, which he will utilize in improving the Navy Hospital at Brooklyn. One of the most important additions will be the construction of an operating amphitheatre with all modern appliances. Two wards of modern design, one on each side of the present main building, are to be erected, of sufficient size to accommodate one hundred men. The building for these wards will be one story in height, with suitable elevation, and built of the same material as the present building. Roadways and walks are to be laid out around the hospital, and the grounds placed in an attractive condition.

Death of Dr. Joseph Workman.—Dr. Joseph Workman, for a quarter of a century superintendent of the Toronto Asylum for the Insane, and the first president of the Ontario Medical Council, died on April 15th in Toronto, Ont., aged eighty-nine years. Dr. Workman was a well-known and valued contributor to medical literature. He had made himself especially familiar with the works of Italian alienists.

Dr. David Crary, Sr., probably the oldest physician in Connecticut, died of old age on April 16th, in Hartford, Conn. He was born in Wellingford, Vt., April 18, 1806, and he practised medicine there and in Hartford for more than fifty years. He was present at the first administration of ether by Dr. Horace Wells, the discoverer of anæsthetics. He also performed the first operation for tracheotomy in Hartford. Dr. Crary was graduated from the medical college at Castleton, Vt., in 1834. He was a member of the Hartford County Medical Society and the Connecticut Medical Society. He was a noted fox-hunter.

Commencement Exercises of the Western Pennsylvania Medical College.—The Commencement exercises of the Western Pennsylvania Medical College, Medical Department of the University of Western Pennsylvania, were held Thursday, March 22d. Fifty-seven graduates received the degree of Doctor in Medicine.

Congress of American Physicians.—Although our cable reports have given us full details of the papers that were read at the International Medical Congress at Rome, yet it would seem as if the approaching Congress of American Physicians and Surgeons need not fear a comparison when such subjects as the following are to be presented: "Morphology as a Factor in the Study of Disease;" "Sewer Gas: its Bacteriology: as a Cause of Disease;" "The Distribution and Control of Leprosy in the United States; the Distribution; the Prophylaxis and Treatment;" "Nephritis in its Surgical Aspects; the Bacteriology of Nephritis;" "The Conservative Surgery of the Female Pelvic Organs;" "The Surgery of the Accessory Sinuses of the Nose;" "The Influence of Infectious Processes on the Nervous System; Pathology and Etiology; the Relation to General Nervous Diseases; the Relation to Mental Disease; and the Therapeutics."

Nor when the list of physicians who are to take part in the discussion is perused need we feel ashamed as a nation.

Annual Dinner of the Alumni Association of the New York Hospital.—The second annual dinner of the Alumni Association of the New York Hospital was held on Monday evening, April 23d, at Hotel Marlborough. Dr. Charles T. Poore, President of the Association, acted as toast-master. Speeches were made by Drs. Shrady, Culver, Davis, Weir, Amidon, Delavan, Baylies, Adams, Higgins, and Richards, the exercises closing with music and singing by Drs. Barstow and Conner.

The D. Hayes Agnew Memorial.—The State Legislature, at its last session, made an appropriation of $80,000 to the Pennsylvania University Hospital for building purposes, provided that an equal sum of $80,000 be raised by the friends of the hospital, and paid in cash, available for construction purposes. The managers of the hospital, appreciating the eminent propriety of the movement, have consented to give to the entire wing the honored name of D. Hayes Agnew.

Toward the additional $80,000 to be so raised, about $60,000 can now be counted upon as available in cash on or before May 1, 1894, leaving only about $20,000 more to be secured by that time, so that building operations may begin this spring, and the State appropriation be drawn and expended within the two years contemplated in the act.

It is to be hoped that, in addition to the building fund, there may also be secured a sum sufficient for the beginning of an endowment.

All those who desire to join in this memorial can do so by sending their subscriptions to the treasurer, Mr. Eugene Delano, of Messrs. Brown Brothers, at the banking-house, southeast corner of Fourth and Chestnut Streets, Philadelphia.

District Medical Society, Union County, N. J.—At the annual meeting of the District Medical Society of the County of Union the following gentlemen were elected: *President*, Norton L. Wilson, Elizabeth; *Vice-President*, Walter E. Clodek, Rahway; *Secretary*, E. B. Grier; *Treasurer*, F. Westcott, Scotch Plains.

Passaic County Medical Society. — The Passaic County Medical Society, on Tuesday, April 24th, celebrated its fiftieth anniversary of organization. Dr. Alexander W. Rogers delivered an historical address. The meeting was largely attended by the members and their friends.

Organization of the Anti-vaccinationists.—An Anti-compulsory Vaccination League has been organized in Brooklyn with the following officers: Dr. H. Hitchcock, *President;* Dr. Alice Campbell, *Vice-President;* and E. C. Townsend, *Secretary*. The league demands the repeal of the laws and ordinances, State and local, com-

pelling people to submit to vaccination, and also demanding equal recognition for the homœopathic method of "varioline" treatment with that of the regular vaccination.

Typhoid Epidemic in Windsor, Vt.—An epidemic of typhoid fever prevails at Windsor, Vt. About 130 cases have been reported, or 1 to every 14 of the population. Twelve have died. The State Board of Health attributes the epidemic to washings and sewage from a farm-house polluting the source of the public water supply.

Daniel E. Marston, M.D., died in Monmouth, Me., April 14th, aged fifty-eight. He graduated from Bowdoin in 1859, and served in the army during the rebellion.

Chicago has had typhoid fever, the World's Fair, William T. Stead, and now it is suffering from small-pox.

Commercial Pepsins.—A Russian physician, Dr. P. N. Konovaloff, has examined thirteen kinds of pepsin of the trade, and is convinced that there is not one of really good quality. Dr. K. thinks that the best thing is the pure gastric juice of the dog. We presume that Konovaloff's observations apply to European products alone.

The Work of the Laboratory in Germany speedily becomes a marketable product. Already the diphtheria antitoxine solution of Behring is advertised for sale, with the announcement that it confers immunity against diphtheria.

United States Quarantine Physicians for European Ports.—The detail of surgeons from the Marine Hospital Service for duty at European ports during the coming summer has been made. Three of the appointments are the same as last year: Dr. Woodward to Hamburg, Dr. Stimpson to Rotterdam, and Dr. Brown to Havre. The other appointments are as follows: Dr. Magruder to Naples, Dr. Perry to Genoa, Dr. Vaughn to Bremen, Dr. Carmichar to Antwerp.

The Rhode Island Anti-vaccination Bill.—The Anti-vaccination Bill before the Rhode Island Legislature came dangerously near being passed by the House last week. Although a bill carrying such a menace to the public health was under consideration, there was such a disgraceful apathy on the part of the legislators that the House was obliged to sit for four hours with locked doors to compel the attendance of members. After a bitter discussion, the bill was finally lost on the deciding vote of the speaker. That such a proceeding could have occurred in a civilized community in the year 1894, is not a fact to be passed over lightly. If anything marks the true advance of a community toward a higher plane of social enlightenment, it is the attention which such a community pays to questions of public sanitation and hygiene. The average community is not overprotected by proper and sensible statutes regarding public health; but if there is one such, it is beyond question the enforcement of vaccination. To abolish any such regulation is to step back two centuries.—*Boston Medical and Surgical Journal.*

Some of the Characteristics and Work of the Late Professor Brown-Séquard.—"When, in 1852," says the London correspondent of *The Lancet*, "Claude Bernard published in the *Comptes Rendus* the results of his experiments in the section of the cervical sympathetic nerve of the rabbit, Dr. Brown-Séquard followed this up the same year by showing that the effects of the section of the sympathetic nerve were the results of the paralysis of the blood-vessels. It may truly be said that he had the 'fever of work.' Any idea that passed through his active brain was immediately consigned to any scrap of paper—newspaper wrappers, old envelopes, visiting cards—that were at hand. These scraps he would pack in a box, there to lie forgotten. His method of research differed entirely from that of his predecessor, Claude Bernard. The latter would follow obstinately the trail of an idea that had germinated in his mind, and, without swerving from the path, trace it to its logical conclusion; Dr. Brown-Séquard, on the other hand, worked by intuition, his deductions being singularly rapid and apparently savoring of revelation. Once he espoused any cause, scientific or other, he would defend it most obstinately. Thus, on the occasion of the *coup d'état*, his too-openly expressed Republican sentiments drove him to London, where the Hospital for Paralysis was founded expressly for him.

"In the pursuit of physiological knowledge he never spared his own person, and would, without hesitation, expose himself to discomfort and even risks; thus in his experiments on the transfusion of blood into the decapitated head of the criminal, the warm blood injected came from his own veins. In his researches on digestion he swallowed sponge tampons attached to a cord, which tampons he removed saturated with gastric juice. In Mauritius, whither he returned in order to study an epidemic of cholera raging there, he on several occasions deliberately swallowed cholera dejecta.

"When, in 1889, he invented the method of treatment by organic extracts, it was on his own person that the first trials took place. And this leads me to speak of the real value of this much-vaunted and much abused method. I think that the hopes indulged in by the deceased *savant*—that in the injection subcutaneously of orchitic juice there has been found, not only a panacea for senility, but a remedy for locomotor ataxy, neurasthenia, and other disorders of the nervous system—have proved to be illusory. Suggestion plays a leading part in the cases reported. It is, however, only right that I should mention a case of ataxy under the care of Dr. Legroux, where both patient and physician were convinced that a long-continued course of this treatment had worked surprising results. I have seen the patient myself, and he walks well, whereas locomotion used to be almost impossible.

"But the principal debt of gratitude humanity owes to Dr. Brown-Séquard is that he has thus drawn attention to the juice internally secreted and reabsorbed into the circulation by ductless and other glands. Thyroid injections and feeding are a direct outcome of what was regarded as his particular fad, and everyone is acquainted with the marvellous results yielded by this mode of treatment in myxœdema. It is no exaggeration to say that, as far as can be judged, Dr. Brown-Séquard has invented a new system of medicine which has a great future before it. For the past year he had suffered from phlebitis of the right leg, but he was well enough to recently visit the Riviera, and his sudden demise has come as a surprise to his friends. His disappearance from the scientific arena is an irreparable loss, and his death leaves the world distinctly poorer."

Reviews and Notices.

Venereal Memoranda. A Manual for the Student and Practitioner. By P. A. Morrow, A.M., M.D., Clinical Professor of Venereal Diseases in the University of the City of New York; Surgeon to Charity Hospital, etc. New York: William Wood & Co. 1894.

This is the second edition of a very useful little work, especially for students, and the eight years intervening have made a number of changes necessary. In comparing the one with the other, this volume shows the effect of modern bacteriological research in connection with venereal diseases, and especially with gonorrhœa. The etiology of the latter disease has been rewritten and the gonococcus is given full credit. The size and general make up of the work has not been altered.

Aus dem Jahrbuche der Wiener K. K. Krankenanstalten. 1. Jahrgang für das Jahr. Wien und Leipzig: Wilhelm Braumüller. 1892.

An account of the work done in the various departments of the "Rudolfstiftung" hospital for the year.

Transactions of the American Pediatric Society. Fifth session. Bailey & Fairchild. 1893.

This volume of the transactions is edited by Dr. Floyd M. Crandall, and contains a number of interesting papers on infantile diseases.

Tumors, Innocent and Malignant. By J. Bland Sutton, assistant surgeon to the Middlesex Hospital, London. With two hundred and fifty engravings and nine plates. Philadelphia: Lea Brothers & Co. 1893.

In this work, which treats more particularly of the clinical features and appropriate treatment of tumors, without going into the details of operative procedures, the writer has eliminated such growths as have been proven to depend upon micro-organisms. Cancer is retained, and indeed forms a very important feature of the book. By "cancer" he understands a malignant adenoma, "the species being determined by the gland in which the cancer arises." We commend the avoidance in the illustrations of repulsive conditions, from which little is to be learned and which may be made to disfigure a work of this kind. The illustrations are for the most part interesting and instructive, and are not confined to tumor in the human body. The execution in the colored plates is far below the present day standard of excellence. The special index showing the distribution of tumors, according to the various organs in which they develop, serves the purpose of syllabus as well. As a whole, it may be said to be a book worth having.

Catalogue of the Museum, Royal College of Surgeons, Edinburgh. By Charles W. Cathcart. Conservator; Fellow of the College. Volume I.: The skeleton and organs of motion. Edinburgh: James Thin. 1893.

The most important part of this museum's possessions is the "Bell Collection," purchased from Sir Charles Bell in 1825. The object of the catalogue is to make this, together with the general collection, of more practical use to students and physicians. Each number has full descriptions of specimens, etc.

Operative Surgery. By Th. Kocher, M.D., Professor at the University and Director of the Surgical Clinic at the Berne University. With one hundred and sixty-three illustrations. New York: William Wood & Co. 1894.

Exhaustive surgical text-books and systems are numerous, but works to which one can turn in a hurry, before an operation, for brief, explicit information, hints as to technique, points on regional anatomy, and, in fact, just the thing you feel you lack, are indeed rare. Probably no one work ever written gives the operator the desired answer at each interrogation. It is well, then, often to have two books of reference in these practical subjects, provided one has not been too closely copied from the other. The work here presented will respond to most questioning in regard to latest and best methods. It gives evidence, too, of having been made largely from knowledge acquired and tested, and not by a process of extraction from a hash of the writings of other men and other days. Simplicity and conservatism are features throughout, and the instructions deal more with where and how to cut than why and when. No one need hope that in possessing this rather elaborate *vade mecum* he can save himself the trouble of learning surgery, of becoming proficient by clinical experience, or of acquiring skill through practice. He who has reached that point where he can look upon himself as a surgeon, as well as he who is still only an occasional operator, will find in Dr. Kocher's work elements of instructive aid.

Grundriss der Kinderheilkunde. Von Dr. Carl Seitz, Vorstand der Kinderpoliklinik am Reisingerianum und Privatdocent an der Universität München. Berlin: Verlag von S. Karger. 1894.

A work of 478 pages, covering all the medical diseases of childhood, hygiene and diatetics pertaining to this age, including methods of examination, care of the very young in health and disease, abnormalities and deformities. Necessarily many subjects, such as syphilis, and special departments, notably that of dermatology, as well as the eye and ear, have received little attention. These subjects, we believe, are best treated of in special works, and while we would not have them left out entirely, the author has done well in not devoting too much space to their consideration.

Many chapters bear evidence of extensive research, good judgment, and close observation. The treatment is often distinctively German and at times at variance with American therapeutical views. Specialists in children's diseases and German-reading physicians in need of a new work, will do well to add this to their collection.

An Anatomist's Anomaly Blank. Designed for the Use of Dissectors in Recording any Noteworthy Anomaly that may be Found. By A. Hewson, M.D. Philadelphia: P. Blakiston, Son & Co. 1894.

The sheet has proper spaces for the student's name, the principal normal physical characteristics of the subject, and for anomalies of each of the principal organs or classes of tissues, in proper order and sequence. The proper recording of the anatomic peculiarities occurring in the thousands of dissections made in the country would eventually result in interesting and valuable scientific lessons.

Nursing: Its Principles and Practice. For Hospital and Private Use. By Isabel Adams Hampton, Superintendent of Nurses and Principal of the Training-school for Nurses, Johns Hopkins Hospital, etc. Philadelphia: W. B. Saunders. 1893.

This book contains twenty-eight chapters that outline and explain the exact course of study and work in a training-school that fits an educated woman to obtain an honorable and lucrative employment; the duties of a nurse in a hospital and in a private family; methods of procedure in emergency and accident; of bandaging, keeping records, and necessary tests; the care of instruments and appliances; and the use and varieties of the bath. There are excellent definitions, an explanation of common abbreviations in medicine and of the metric system, together with directions for the preparation of solutions. There are numerous illustrations that add to the instructive quality of the text. Miss Hampton speaks from abundant knowledge, and has compiled a valuable text-book for nurses and for those whose duty it is to train nurses. It is convenient in size, and available in price: two dollars. The minutest details concerning the nurse's technique, according to modern methods, are explained in it; and so exhaustive is the description that

no novice can fail to be impressed with the dignity of the profession of nursing. As an exposition of the subject, it is thoroughly practical and available.

Hypnotism, Mesmerism, and the New Witchcraft. By Ernest Hart. New York: D. Appleton & Co. 1893.

Earlier printed in the *Nineteenth Century* and the *British Medical Journal*, the papers in this little book are brought together for readier reference and more available circulation. Written in a clear and familiar style, they are destined to correct many of the popular impressions concerning the possibilities and value of hypnotism. The conclusion is that any remedy which induces further paresis in an already weakened will is one to be carefully avoided. Luys's experiments at the Charité Hospital during a visit by the author are carefully reviewed, and the looseness of this experimenter's methods is amply proved. No doubt hypnotism, its claims, its original presentment, and the sanguine expectations entertained concerning its value, have already had their day. And the "day" of new things, sudden, violent, intense, has been calculated to be about two years and a half.

Notes on the Newer Remedies. By David Cerna, M.D., Ph.D., etc. Pp. 177. Philadelphia: W. B. Saunders. 1893.

This is a serviceable little work, in which the author, as implied in the title, has given the therapeutic applications and conventional modes of administering the remedies more recently brought forward. There is neither evidence nor pretence to originality, the ideal exemplified being that of the ready-reference *vade-mecum*. However, in this field it will fill a useful want.

Alcoholism and its Treatment. By J. E. Usher, M.D., etc. Pp. xi., 151. New York: G. P. Putnam's Sons. 1893.

In this compact little *brochure* the salient points connected with the pathology of inherited and acquired alcoholism are given in a discriminating and lucid manner. The chapters on "Insanity and Alcoholism," "Alcoholic Trauma and Crime," and "Alcohol and its Legal Relations," will be found suggestive; while those on treatment are replete with helpful information.

A tabular statement of the ingredients of the various nostrums recommended from time to time, as afforded by elaborate analysis, adds interest to the exposition.

Access to the information distributed throughout the book is facilitated by a good index.

Syphilis and the Nervous System. A revised reprint of the Lettsomian Lectures for 1890. By W. R. Gowers, M.D., F.R.C.P., etc. Philadelphia: P. Blakiston, Son & Co. 1892.

These lectures, which originally appeared in the medical journals, are well known to readers of periodic literature, so that in their present form they require hardly more than a reiteration of the commendation which they evoked at the time of their delivery.

Dr. Gowers's felicitous powers of statement are well exemplified in these lectures, which are indeed impregnated with a suggestiveness which finds expression in a literary style of true distinction.

Transactions of the American Ophthalmological Society. Twenty-ninth annual meeting. Hartford: Published by the Society. 1893.

Contains numerous interesting papers, several of which are illustrated.

Die Krankheiten der Nase, ihrer Nebenhöhlen und des Nasenrachenraumes. Von Dr. Carl Zarniko. Hals-, Nasen-, und Ohrenaerzt in Hamburg. Mit 132 Abbildungen. Berlin: Verlag von S. Karger. 1894.

The first part deals with propædeutics, and contains some instructive illustrations to facilitate the study of these intricate anatomical regions, and several pictures made from photographs to show the use of specula, etc., while figures of instruments are freely scattered through the text. The text is cut up into paragraphs in the usual German fashion, and besides the sub-headings there are marginal notes, which make reference to any particular subject easy.

The second part treats of special pathology and therapy, and gives the impression of having been prepared by a painstaking and careful observer well up in his specialty. All that is new in this branch appears to be touched upon in one way or another. The book is written for the general practitioner, and one who wishes to get a good knowledge of nose troubles will here find abundant opportunity to first ground himself firmly in the very necessary anatomical requirements to a proper appreciation of diseased conditions and their modes of cure.

Early Human Embryos and the Mode of their Preservation. By Franklin P. Mall, Professor of Anatomy, the Johns Hopkins University.

This is a reprint from the Hospital Bulletin No. 36, urging greater care in the preservation of specimens for embryological study.

Studies from the Department of Pathology of the College of Physicians and Surgeons. Vol. III. 1892–1893.

Contains ten reprints, one being an illustrated report on the recent sanitary inspection of one of the sources of the Croton water-supply.

A Syllabus of Surgery Arranged in Conformity with the American Text-book of Surgery. By N. Senn, M.D., Ph.D., LL.D., Chicago; Professor of the Practice of Surgery and Clinical Surgery in Rush Medical College; Professor of Surgery in the Chicago Polyclinic; Surgeon-in-chief in St. Joseph's Hospital, etc. Philadelphia: W. B. Saunders.

This syllabus of lectures is intended to meet the requirements of the surgical lecturer in the preparation of his daily work, and will surely prove an aid in the presentation of his subjects in a systematic and succinct manner. To the student who feels the bewildering effects of the didactic lecture this little work will come as remembrancer, and will obviate the necessity of note-taking in the class-room. Its especial field of usefulness will of course be found in the class-room recitation, and quiz in connection with the American Text-book.

The Year-Book of Treatment for 1894.

This, which is the tenth of the series, contains the usual amount of extractive matter from current literature (especially that published in the English language), with an addition of a new article upon medical diseases of children by Dawson Williams, and another upon Bacteriology by William Hunter.

Out of the large mass of matter presented, even one who devotes much time to the weekly and monthly journals will find something new, and to him who must rely upon such sources for picked and condensed articles the work must have a decided value. The summary of the therapeutics, dealing as it does chiefly with new remedies, is a good feature of the work. Although one feels that many chapters might with advantage be more edited and less extracted, the purchaser will be repaid in the information he will find upon almost any subject he may chance to look up. We are gratified at the frequent mention of the Record in extracts from its "Editorial" as well as from its "Original Article" departments.

Only Three of the New England States remain as yet without any statutory regulations of the practice of medicine: Rhode Island, Massachusetts, and Maine. The Rhode Island State Medical Society is making a vigorous effort to have a law enacted by the next Legislature providing for regulation of medical practice in that State.

Society Reports.

ELEVENTH INTERNATIONAL MEDICAL CONGRESS.

Held in Rome, Italy, March 29, 30, and 31, and April 1, 2, 3, 4, and 5, 1894.

SECTION ON PRACTICAL MEDICINE.

(Continued from p. 504.)

Treatment of Rheumatic or Hepatic Diabetes.—Dr. Monin, of Paris, recommended the administration of permanganate of potassium, in doses of ten drops of a five per cent. aqueous solution gradually increased to thirty drops twice a day, after each of the principal meals, given in a glass of old wine. As a drink in these cases he prescribed a hot infusion of maté. This medication reinvigorates the vital forces, reduces the thirst, and causes a notable diminution of the amount of sugar in the urine, without the necessity of resorting to a strict anti-diabetic regimen. In cases of diabetes with enlargement of the liver, this treatment brings about a reduction in size of the organ within ten or twenty days, and at the same time an improvement in the symptoms associated with hepatic congestion. Another constant effect of the permanganate is an increase in the number of red blood corpuscles and in their proportion of oxyhemaglobine.

The hot eight per cent. infusion of maté, taken without sugar at meal-time and between meals, in amounts varying, according to circumstances and the thirst of the patient, from two to six quarts a day, adds greatly to the good effects of the permanganate. The maté should be used in powder, and this powder should be taken together with the infusion suspended in it. The richness of ilex paraguayensis in tannin and chlorine combined and the considerable proportion of the soluble salts of potassium and of magnesium which it contains explain in part its useful anti-diabetic action. Maté reduces the amount of sugar excreted in the urine in the same way as does opium, but, unlike the latter drug, produces no narcotism, constipation, or cardiac depression. On the contrary, the reawakening of the psycho-physical forces, the regulation of the action of the bowels, and the tonic action of maté upon the heart are properties which render it of special service in cases of diabetes mellitus.

Dr. Monin, in conclusion, said that he had employed the course of treatment here outlined in upwards of forty cases, and was able to affirm in the most positive terms its great efficacy in the hepatic or arthritic forms of diabetes. The nervous and pancreatic varieties of the disease are less favorably affected, although a palliation of the symptoms in grave forms of these varieties may often be obtained by means of the permanganate and maté.

Acetonic and Ethyldiacetic Intoxications.—Dr. Virgilio Machado, of Lisbon, read a paper with this title, of which the main points were that there is no acetone in normal urine, and that the presence of acetone or of ethyldiacetic ether in the blood gives rise to nervous symptoms very like to those of diabetic coma.

Congenital Syphilis of the Kidneys.—Dr. Roberto Massalongo, of Verona, reported a case of congenital renal syphilis in a child of eight months, who had also specific cutaneous lesions, resulting in death with uræmic symptoms. The renal arteries presented marked signs of endo- and peri-arteritis, and the same lesions were found in lesser degree in the liver and spleen; there was connective-tissue sclerosis of the kidneys. The histological changes found were similar to those seen in late renal syphilis (chronic interstitial nephritis) in distinction to those of precocious renal syphilis (parenchymatous nephritis, glomerulo-nephritis). Although in this case the lesions were of intrauterine development, the anatomical changes were those of the late adult form of renal syphilis. It must therefore be admitted that even in precocious syphilis of the kidneys the anatomical changes of interstitial nephritis may occur without a previous stage of the parenchymatous lesions. Syphilitic infection, at least the congenital variety, may primarily compromise in an acute manner the arterial system and produce in consequence dystrophic alterations in various organs. A micro-organism, as yet undiscovered, is without doubt the direct or indirect cause of the primary alteration of the arterial system. The syphilitic mother should be put upon an energetic course of treatment from the very beginning of pregnancy.

Gout and Uric Acid Concretions.—Dr. Mordhorst, of Wiesbaden, read a paper with the following conclusions: 1, The acids in the body oppose the destruction of the nitrogenous bodies, including uric acid; 2, the more alkaline are the body juices the more rapidly follows the destruction of the already formed uric acid and the less likely is the occurrence of uric acid deposits; 3, the deposition of uric acid depends especially upon the high acidity of the urine; 4, piperazine in daily doses of fifteen to forty-five grains has no appreciable solvent action on uric acid; 5, of all remedies bicarbonate of sodium is the only one that will satisfactorily reduce the alkalinity of the body juices without producing any harmful by-effects; 6, those mineral waters which contain the greatest proportion of bicarbonate and chloride of sodium and the least of lime salts are the best for use in gout; 7, the best of these is the Wiesbaden "gout-water;" 8, only neutral and alkaline urine, not clouded by lime phosphate, is capable of preventing the formation of uric acid concretions, or of dissolving those already formed; 9, the Wiesbaden "gout-water," so poor in lime salts, alone can produce such an alkaline crystal-free urine; 9, in the treatment of these cases a suitable diet, as free as possible from meat and alcoholic drinks, is indicated; 10, the prevention of gouty deposits is obtained for the most part by muscular exercise, warm clothing, mineral baths, cold frictions, massage, and electricity.

Cold as an Etiological Factor in Chlorosis.—Dr. Augusto Murri, of Bologna, said there was a winter form of chlorosis due to the action of cold. In cases in which chlorosis already exists, intense and prolonged cold applied to the cutaneous surface induces hemolysis, but this action is also observed occasionally in healthy individuals. The mechanism of this hemolysis is probably to be found in modifications of the vaso-motor nerve conditions. The treatment of winter chlorosis consists in hydrotherapy and in long confinement of the patient in bed.

The Action of Diphtheritic Poison on the Blood.—Dr. Giuseppe Mva, of Florence, said that diphtheritic infection always caused a greater degree of hemocitosis (as was first remarked by Bouchut), but that this affects in no way the prognosis of the disease. On the other hand, the diphtheritic poison exerts no strong deleterious action on the red blood globules or on the hemoglobine. With this fact stand in close relation the renal lesions, so often observed in the course of diphtheria.

Subacute Poliorromenitis.—Dr. I. Monteverdi, of Cremona, read a paper with this title. The affection observed in his patients resembled clinically the disease called by Concato scrofulous poliorromenitis, or phthisis of the serous membranes. Its unvarying symptomatology showed that it was independent of other infective processes or of visceral diseases, and constituted a nosological entity. The tuberculous nature of the disease, regarded as probable by Concato and Picchini, was confirmed by autopsy in some of the author's cases. The following conclusions were formulated by Dr. Monteverdi as the result of his observations: People living in country districts. Heredity has very little influence. Intestinal disturbances, typhoid fever, scrofulous affections, and amenorrhœa are the most common of the predisposing causes; those affected are usually in a depressed general condition. The disease not infrequently occurs as a sequela of influenza. Its onset is usually subacute without any definite prodromic period, one serous membrane being first attacked, usually the peritoneum, the others

being invaded secondarily. The fully established disease ordinarily involves the peritoneum and both pleural sacs, the pericardium frequently escaping. The peritoneal form is usually accompanied by serous exudation, but the pleurisy is more commonly dry, and seldom, if ever, serous on both sides. Pericarditis is very rare, and endocarditis has never yet been observed. The serous membranes of the joints are occasionally attacked, but the meninges are always spared. In severe and fatal cases there is often hypertrophy of the heart.

The pulse is generally weak but regular, and almost always frequent, especially at the beginning of the disease. The liver and spleen are usually normal, being only exceptionally enlarged. At first the urine is scanty, but it becomes normal in quantity later, especially if the disease assumes a favorable course. It is usually turbid, throwing down a copious deposit, its reaction is acid, specific gravity 1010 to 1039, is sometimes albuminous, and may contain chlorides, phosphates, urates, carbonates, and uroindican, but never sugar.

In some cases tuberculous utero ovaritis is found at autopsy, and in one instance the presence of a salpingo-oöphoritis of the left side with anteflexion of the uterus was made out during life.

The fever is usually of the quotidian intermittent type, with exacerbation between four and six o'clock in the evening, less frequently remittent.

The termination of the disease is usually favorable when the fever is not high. The elevation of temperature occurs for the most part without a previous chill, and subsides, especially in mild cases, with moderate sweating. The duration of the disease was from two to twenty-six months in the cases observed by the author, being in half the cases less than seven, usually between two and six.

The treatment of poliorromenitis is rather medical than surgical, and is based on anti-microbic lines. Care must be taken also to increase the secretions by means of diuretics, purgatives, and sudorifics, in order to favor the absorption of the exudates, and combined with this is the symptomatic treatment, varying in special cases according to the indications.

Hysterical Fever.—Dr. Giacomo Lumbroso, of Livorno, reported a case of hysterical hyperpyrexia occurring after influenza, in which the temperature ran at times as high as 113° F., the type of the fever being usually remittent, though for a while it was continued. Repeated examinations showed that the elevated temperature existed in certain regions only, which regions were also often hyperæsthetic. He attributed the phenomena to functional lesions of the thermic centres.

Vetch Poisoning.—Dr. Giovanni Montano, of Lavello, Italy, described a disease produced by the common Italian bean, *vicia faba*, characterized by an icteric discoloration of the skin, disturbances of the nervous system and of the abdominal organs, and the passage of bloody urine, but without fever. The affection attacks individuals having a special idiosyncrasy, often hereditary, in regard to this vegetable or the odor of its flowers. Physical misery, mental troubles, cold, alcoholism, syphilis, and malaria are not to be reckoned among the predisposing causes. For predisposed persons to acquire the disease, it is not at all necessary that they should have made a quasi-exclusive diet of these beans, that the beans should be spoiled, or that the individuals should have inhaled the odor of the flowers for any length of time; they need only have eaten a few sound beans or taken a mere whiff of the odor of the flowers in order to be attacked with "favismus," as the author designates the affection. The pathogenesis of the disease is probably to be referred to a blood-poisoning which causes immediate and exaggerated hemolysis, hemoglobæmia, biliary pleiocromia, and hemoglobinuria. The course, duration, and result of the disease vary according to the intensity of the cause and the predisposition of the individual. In mild cases and those occurring in young persons, castor-oil, lemon-juice, black coffee, and cold applications to the epigastrium are of service, but in very severe cases nothing can avert the fatal issue.

Strumectomy in Basedow's Diseases.—Dr. Mikulicz, of Breslau, presented a communication with this title, in which it was held that extirpation of the thyroid was indicated in all cases of Basedow's disease in which even the slightest signs of tracheal stenosis are present. How far the operation is indicated in other cases where no such symptom exists must be determined by further experience. All operative procedures which cause a diminution in size of the thyroid gland, even the simple ligature of the arteries supplying it, may bring about an improvement in the symptoms or even effect their disappearance. Some cases of Basedow's disease are entirely cured by the operation, but how this cure is brought about is not very clear as yet; it may possibly be in one of three ways, viz., a diminution of the functional activity of the gland substance; a relief of the stretching and irritation of the sympathetic nerve fibres; or, finally, in the removal of pressure, however slight it may be, from the trachea.

Chylothorax.—Dr. Giuseppe Mya, of Florence, reported a case of chylous effusion into the right pleural cavity, the second or third clear instance of this disease which he had found in medical literature. He exhibited some of the fluid removed from the chest, and gave the analysis which he had made of it.

Observations on the Function and Pathology of the Heart.—Dr. Luis Ortega Morejon, of Madrid, presented a communication with this title, in which he held that the auricular appendages serve primarily as balances of compensation for the auricles, and also to mix the venous blood with the chyle on the right side and to oxidize the plasma on the left.

Cerebral Echinococcus.—Drs. Mya and Codivilla, of Florence, reported a case (with presentation of the patient) of echinococcus cyst in the centrum ovale in a man twenty-four years of age. The diagnosis was made from the symptoms presented by the patient, and an operation was performed resulting in a perfect cure.

Bovine Tuberculosis.—Dr. Nocard, of Belfort, said that bovine tuberculosis was on the increase in Europe, and the sole cause of this increase was contagion, heredity and other alleged etiological factors being of relatively insignificant importance. Contagion, however, acts only when healthy animals remain for a long time in close intimacy with the diseased, hence isolation of those affected with the disease would suffice to put an end to the spread of the affection. The clinical diagnosis has been so difficult hitherto that it was almost impossible to realize this much-to-be desired result; now, however, nothing is more easy, for an injection of tuberculine suffices to render the disease evident even when the lesions are almost infinitesimal. From this we may deduce a method of prophylaxis at the same time simple, cheap, and efficacious, to wit: All the animals in an infected locality should be submitted to the tuberculine test, those recognized as diseased being removed and slaughtered; then the stable of the healthy animals being thoroughly disinfected, no new animals should be admitted to it until they have been shown by the tuberculine test to be sound.

Al Nauchah.—Dr. Hassan Pasha Mahmoud, of Cairo, Egypt, read a paper on al nauchah, which is, he said, a form of continued fever not hitherto described. It occurs in Egypt at all seasons, but chiefly in spring and summer. Three stages are usually well defined, namely, of invasion, of increase, and of decline. The duration of the disease is about three weeks. It is very regular in its course, and its convalescence is less prolonged than that of typhoid fever, relapses during this period being, however, quite common. Once the patient has fully recovered, a second attack does not occur. The treatment is rather symptomatic than specific, special regulation of the diet being absolutely necessary.

Pleuritic and Malarial Fevers.—Dr. Luigi Marescotti, of Rignano Flaminio, Italy, presented a communi-

cation in which he said that pleuritic fever, by reason of its intermittent character, was often popularly mistaken for malarial fever, and hence improperly treated. By the time that the disease becomes so serious that the patients seek medical advice, it is generally found that it is tuberculous in character. The author had met with many such cases in his practice in the Roman Campagna during the past two years.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, December 27, 1893.

H. P. Loomis, M.D., President, in the Chair.

Microcephalic Idiocy with Epilepsy and Blindness.—Dr. Frederick Peterson presented the fresh brain from a case of this kind. The patient was a female, twenty-eight years of age, and was from birth an idiot with epilepsy and some left hemiplegia, belonging therefore to the class of congenital spastic hemiplegias. She averaged one epileptic attack daily until three days before death, when she went into the *status epilepticus* and had seizures about every four minutes, general in character, though sometimes left-sided. Though she could distinguish light she could not find her way about, and had all her life to be cared for like a child. At the autopsy, the skull was found to be microcephalic to some degree. The bones were thickened, and the sutures closely united. The dura was normal, as was also the pia. Both occipital lobes were the seat of great atrophy and sclerosis, the loss of tissue being made up for by widely dilated posterior horns in the ventricles. The cerebellum projected far beyond the posterior lobes; the anterior lobes were small and narrow, and the atrophy and sclerosis extended partly into the motor area on the right side.

Extensive Typhoid Ulceration.—Dr. George P. Biggs presented the intestine from a case of typhoid fever. It was interesting on account of the extensive lesions of the cæcum and ascending colon. The case presented the ordinary clinical history of typhoid fever and had progressed to the fourth week, the temperature remaining quite high for most of the time. She did quite well up to about twenty-four hours before death, when she complained of abdominal distention and pain. The autopsy showed acute general peritonitis of short duration; no perforation had occurred. There were the usual lesions in the spleen and mesenteric glands, and also in the lower three feet of the small intestine, but from the cæcum up nearly to the hepatic flexure of the ascending colon the ulcers were very large and deep, and were so numerous that almost half of the mucous membrane had been destroyed. The ulcers were very deep, and the one which caused the peritonitis was located on the anterior wall of the cæcum at about the level of the ileo-cæcal valve. Here the ulceration had extended down to the peritoneum. Perforation had not occurred, but on lifting the intestine slight compression was made at this point, and this was sufficient to produce perforation.

The speaker said that the ulcers in the large intestine in cases of typhoid fever were quite common; in fact it had been his experience that an entire absence of them here was the exception rather than the rule. In this case all of the large intestine was involved, one ulcer being found as low down as the rectum, but the ulcers beyond the ascending colon were few.

Dr. S. T. Armstrong said it had not been his experience that ulcers of the colon were frequent in typhoid fever, or that the ulceration was so extensive as in this specimen. He thought it possible that this might have been a case of ulcerative ileo-colitis, in which case the symptoms would probably closely resemble those of typhoid fever.

The President said he would consider the ulcers in the specimen to be characteristic of typhoid fever: the size, the floor of the ulcer, and the clean cut edges should distinguish the typhoid ulcer from the ragged-edged dysenteric ulcer.

Dr. F. Tilden Brown said that about ten days ago, at the Presbyterian Hospital, he had been present at an autopsy on a case of typhoid fever, and there was even more extensive ulceration, very large ulcers being found in the upper part of the rectum. The patient had had several severe hemorrhages, and although a number of the ulcers were exceedingly deep, there had been no perforation.

Dr. Biggs said that in the cases of ileo-colitis which he could recall the mucous membrane, as a whole, showed inflammatory change, and there were comparatively few ulcers of Peyer's patches, and of the solitary follicles. He had noticed these ulcers of the colon especially in the cases of typhoid fever which he had seen this year.

Dr. Armstrong said that in the course of his reading he had seen it stated somewhere that cases of typhoid fever treated by cold baths exhibited unusually extensive ulceration. He would, therefore, like to know whether this accorded with the experience of Dr. Biggs.

Dr. Biggs replied that most of the cases he had seen had had the cold-bath treatment, but he had never before had his attention called to the fact that in such cases the ulceration was more extensive.

Cystic Chylangioma.—Dr. Biggs then presented a specimen of an abdominal tumor removed from a girl seven years of age, who had been suffering with symptoms of intestinal obstruction for eighteen days. The tumor was a lobulated cystic mass measuring $9 \times 6 \times 3$ ctm. One surface was covered by normal peritoneum, while the other was roughened and showed the lines of incision made in its removal. The cyst cavities communicated more or less freely with each other, and were partially collapsed as the result of aspiration of the largest one, and the cutting of many small ones during the excision of the tumor. They varied in size from pin-points to the largest, which were 5 ctm. in diameter, and were held together by adipose tissue. In the natural state, before aspiration, the tumor must have been nearly three times its present size.

Microscopical examination of the whitish fluid from the cysts showed only a few leucocytes and much granular matter. Sections of the more solid portions of the tumor showed irregular spaces, probably dilated chyle vessels, containing granular matter, and more or less completely lined with elongated, flattened cells. Between these spaces was adipose tissue, a few areas of small round cells, and a few small lymphatic glands. The tumor, therefore, was a "cystic chylangioma," probably congenital in origin, which did not cause symptoms until it had attained sufficient size to produce intestinal obstruction.

The speaker said he was indebted to Dr. O. O. Cooper, of Hinton, W. Va., for the specimen, which was accompanied by the following history:

Two years previous to her last sickness, the child had an attack of severe pain all over the abdomen, with vomiting and intestinal obstruction, lasting four or five days. After this she would often stop suddenly, while playing, and complain of severe abdominal pain. When Dr. Cooper was called in consultation he learned that she had suffered constant severe abdominal pain for eighteen days, during which time nothing had been passed by rectum, and the stomach had refused to retain food, the vomited matter being fecal on several occasions. Life had been maintained by the use of nutritive enemata. She was extremely emaciated, had an anxious expression, and her abdomen was so tender it could not be touched. Her temperature was normal, pulse 110 and very feeble. She absolutely refused to take nourishment by mouth because of the vomiting which was sure to follow.

Operation was strongly advised as holding out the only possible chance of recovery, intussusception or volvulus being suspected. Upon opening the abdomen, the whole intestinal tract was found much congested, almost of a mahogany color. An irregular, lobulated, cream-colored tumor, nearly as large as a child's head was found attached to the lower end of the ileum for eight inches. It looked like fat, but was elastic and fluctuating. A trocar was

introduced into the largest lobe, and about five ounces of chylous-looking fluid escaped, leaving the whole mass flabby. Some hesitation was felt about undertaking the removal of the tumor, but as it was rather easily stripped from the gut, excision was finally decided upon. Many ligatures were used, and the wound was packed with gauze. During the operation the patient passed a quart or more of fæces. She rallied well, said she felt better than she had in weeks, and took and retained milk and whiskey by mouth. The improvement was only temporary, however, and she died the following day. No autopsy was obtained.

A few of these chylous tumors of the intestinal canal, originating in the mesentery as in this case, have been described; they are made up of enormously dilated chyle-vessels. They are of congenital origin, but as they grow they give rise to symptoms, usually earlier than in this case.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Special Meeting, February 27, 1894.

CHARLES A. POWERS, M.D., CHAIRMAN.

Compound Fracture of the Oleeranon Process Treated by Secondary Suture.—DR. H. LILIENTHAL presented a young man who, about a year before, had fallen against a buzz-saw and cut the elbow. The limb was dressed at Bellevue Hospital in the extended position. Two weeks afterward he fell and broke the splint, and reopened the wound. At Mount Sinai Hospital compound fracture of the elbow was diagnosed, a splint was put on, the wound apparently healed; but when the splint was taken off the wound broke out again and the compound fracture was again present. On July 17th Dr. Lilienthal wired the broken olecranon to the main bone, and the result had been so good that the patient had regained perfect use of the limb.

Partial Excision of Hyoid Bone for Fistula.—DR. CARL BECK presented a woman, aged forty-five, with a congenital fistula of the neck leading to the hyoid bone; it had closed and reopened from time to time. She suffered from dryness in the back part of the tongue, pain, and some hoarseness. Such cases were rather rare, and as the symptoms were usually unimportant, the patients seldom visited the surgeon. He had usually closed the fistula by introducing the galvano-cautery wire, but it failed in this case, as did also excision of the lining membrane. Finally, on opening up the tract, he found it led to a small cavity on the other side of the hyoid bone, and after removing the right half of this, together with the fibrous lining of the little cavity, and closing with suture, the cure was complete. Curiously enough, the patient had not had since the operation the slightest difficulty with deglutition or speech, and the hoarseness and dryness had disappeared.

Inguinal Hernia Cured by Bassini's Operation.—DR. W. B. COLEY presented about twenty boys and men in illustration of the cure of inguinal hernia by Bassini's method. During the past two years and a half he had thus operated upon 86 cases, 24 adults and 62 children. No mortality. Thus far but one relapse, and this occurred in a case in which he used silk sutures, attended by suppuration, the technique being responsible for the failure, not the operation itself. Later he had used only kangaroo tendon, for both deep sutures and in the aponeurotic layer, closing the skin with catgut. He never used drainage. Since adopting this rule he had had 22 cases with primary union in adults, 46 in children. On one of the boys presented he had first done Cherney's operation about two years ago, and in spite of the fact that he wore a truss there was recurrence. Thereupon he performed Bassini's operation, no truss was applied, and there had not been a relapse, now a year and a half. One patient was a man who had a hernia which could not be controlled by truss, yet since the operation, without a truss, he had pursued his occupation, lifting heavy machinery.

It was generally supposed that we must wait over two years to judge of the probable permanency of cure of hernia by operation, but an analysis of the cases of relapse appearing at the Hospital for the Ruptured and Crippled, cases operated upon in all parts of the country by various operators, but mostly by the best New York surgeons, showed that in 171 of non-strangulated hernia, the relapse had occurred during the first six months in about seventy per cent., and during the first year in about eighty six per cent. Of the remaining fourteen per cent. the relapse took place in five per cent. during the second year, the remainder, or eight per cent., later. During the same period, the past five years, 79 cases had appeared in which there had been strangulated hernia, and these gave about the same percentages as the non-strangulated. Therefore, as most of his own cases had been operated upon over a year, they could be considered cured.

Compound Fracture at the Elbow.—DR. F. KAMMERER presented a boy who had come under his care last May, with compound fracture just above the elbow-joint. He dressed the wound, put the limb up in the extended position; the external wound healed kindly, but after three months it was found the bones had not united, so that he cut down and, after encountering much difficulty, succeeded in freshening the surfaces and uniting the fragments with silver wire. The wire was removed three weeks later, but the bone was kept extended and immobilized six months; then, three weeks after commencing passive and active motion, the result was perfect; motion was normal in all directions.

Venous Angioma of the Hand.—Dr. Kammerer exhibited a man showing the results of an operation for venous angioma of the hand. The tumor had existed thirty-five years, had enlarged, was chiefly on the dorsum, increased in size when the hand was dependent. It did not pulsate. Five weeks ago he made a longitudinal incision over the tumor and excised it, meeting with some difficulty as it extended beneath the extensor tendons and the wrist ligaments, so that at the close of the operation the tendons were bare and some were without the sheath. Healing was allowed to take place under moist blood-clot, and the result had been remarkably satisfactory, better, he said, than could have been obtained by any other method.

Discussion having been called for, DR. LILIENTHAL thought silk could be sterilized in hernia cases at the time of the operation, so that it would not cause suppuration. He used it just out of a boiling solution. DR. KAMMERER and DR. B. F. CURTIS had also had no special trouble with silk.

DR. COLEY replied that it was not a question whether it was possible to sterilize silk so that suppuration would not take place, but rather whether, with the usual care devoted thereto, it did not more or less frequently cause suppuration. Billroth's results and others', showed that this material was much more likely to be attended with suppuration than was kangaroo tendon, as demonstrated by his own cases. Dr. De Garmo had told him that he had given up silk because he had had a number of cases of suppuration. Kangaroo tendon possessed the advantage that it held long enough and finally was absorbed.

The Radical Cure of Hernia by a New Method.—DR. A. M. PHELPS presented a patient and illustrated by drawings a new method for the radical cure of hernia. Relapse in oblique hernia took place at the internal ring, and no matter how strong the walls outside, if the internal ring had not been fortified, relapse was quite likely to take place. To this end he had proposed a method which deviated somewhat from trodden paths. A long incision was made, extending at least two inches beyond the internal ring through the muscles, the sac was opened, the intestine replaced. In a thin sac the suture should be passed with a needle around the neck, and half of the sac, or a little more, cut away, the stump in-

verted with the forceps into the abdominal cavity, and the ligature tightened. This secured the stump within the cavity. A single stitch or two across the neck of the sac was then necessary. The muscles should be dissected up from the transversalis fascia a distance of an inch and a half, either way, from the internal ring. The internal ring being a hole in the transversalis fascia, it should be closed, and to do this its edges were denuded, then, half an inch to an inch on either side of the ring, two parallel longitudinal incisions were made, after which it was easy to bring the fasciæ together over the stump, interrupted silk sutures being used. Over this fascia he placed loops of silver wire or catgut; four to five, two to three inches in length, would suffice. They were passed underneath the cord from the internal to the external abdominal ring. Over the loops the transversalis muscle was carefully stitched with interrupted sutures, the cord being brought through the muscle direct. The first layer of wire ran transverse to the inguinal canal. Over the transversalis muscle another layer of wire loops was passed, at right angles with the former. Each loop was stitched to the muscle to prevent slipping. Over the second layer of wire the internal oblique was stitched with interrupted sutures. The external oblique was stitched together. If there was a thick layer of superficial fat the wound was dressed open, otherwise closed. A small drainage tube was inserted down into the sac when the sac had been inverted into the abdominal cavity; but when the sac was cut away a few strands of catgut passing to the deeper layers of muscle would suffice for drainage. Dress at the end of the third day. Thus far he had seen no suppuration. His cases were too recent to speak of permanent cure.

Where the sac was large and thick, he utilized the mass as a pad placed against the internal parietes to prevent recurrence of the hernia. Its peritoneal surface was freely scarified, in order that adhesions might quickly form between it and the abdominal peritoneum. It was drawn in by a catgut suture which was brought out at a small opening made for that purpose above the ring, and fastened. The incision into the sac should always be closed by catgut sutures before introduction into the abdominal cavity. The mouth of the sac should be stitched together with one or two interrupted sutures, not sufficient to cut off the circulation of the sac. A drainage-tube was inserted into the sac for two or three days.

The operation described by Dr. Phelps was criticised by Drs. Bryant, B. F. Curtis, Kammerer, Coley, and others. They thought the presumptive advantages were not real, and that the technique was attended by dangers not incident to other approved methods. Dr. Manley meant to give the procedure a trial, believing that no method yet proposed for the radical cure of hernia was perfect. Dr. Dawbarn mentioned his method of occluding the inguinal canal by making use of the testicle, described in Wood's "Handbook of the Medical Sciences."

A Method of Differential Diagnosis in Œsophageal Stricture.—Dr. H. Lilienthal reported a case of œsophageal stricture in a man in which it was a question whether there was regurgitation of fluids from the stomach or from an œsophageal diverticulum or dilatation. The regurgitation took place whenever the patient stooped forward. The plan adopted was to pass a tube through the stricture into the stomach, introduce a colored fluid, then allow the patient to swallow some clear water. Then on bending forward the fluid regurgitated was clear, showing that it came from a diverticulum, not from the stomach. The method had also been successful in another case.

Dr. Torek said he had reported a case in a German paper in which he was able to say that the obstruction to the œsophagus was pressure by an aortic aneurism, from the fact that its pulsations were transmitted to a tube introduced into the stricture.

Intussusception of the Ileum Produced by Bicarbonate of Sodium; Demonstration on a Rabbit.—Dr. R. T. Morris exposed the ileum of a rabbit, placed a bit of bicarbonate of sodium upon its surface, whereupon it was observed to undergo intussusception. The circular fibres first contracted, narrowing the gut, then the longitudinal fibres contracted and drew the narrowed portion into the adjoining part. Chloride of sodium did not have this effect, and could be used to produce reverse peristalsis in determining the direction of the gut.

Stated Meeting, April 5, 1894.

D. B. St. John Roosa, M.D., President, in the Chair.

The Library.—Dr. Egbert H. Grandin, chairman of the Committee on Library, read the names of a number of donors of books since the last meeting, announced that there would be a sale of triplet volumes to private parties during the present month, and gave notice of a proposed amendment to the by-laws, permitting Fellows to take books and journals to their homes for a period of two weeks. Later the President requested Dr. Grandin to make a statement as to the work which the Committee on Library proposed to carry out during the summer, which he did, and concluded by expressing the hope that some of our wealthy citizens who wished to donate five hundred thousand dollars to some worthy purpose would remember the library of the Academy.

A Valuable Painting.—The President called attention to a valuable painting donated by some members of the Academy, representing Ambrose Paré on the field of battle, making the first ligation of a wounded artery, in the presence of the King of France, it being a copy by the author himself of his original picture in the School of Medicine.

Membership Invited.—The President called attention to the advantages of membership in the Academy, and hoped the Fellows would propose the names of those of their acquaintances known to be qualified by three years' practice worthy of the honor.

Some Recent Measures in the Treatment of Epilepsy, with Special Reference to the Use of Opium; the Reader's Experience with Fleschig's Plan.—Dr. Joseph Collins read the paper. Among remedies which had been recommended within the last few years were borax, antipyrine, antifebrine, various bromides, nitroglycerine, antirabic inoculations, hypodermic injections of cerebral extract, duboisin, cannabis indica, opium, etc. Dr. Collins approved of a wholesome scepticism in approaching new remedies for epilepsy. Many had been tried, highly recommended for a time, then had fallen into disuse. He knew of nothing yet discovered which at all approached bromide of potassium in value. About a year ago Flechsig, of Leipsic, published an article, giving satisfactory results from the administration of large doses of opium for a period of six weeks, followed by good doses of bromide of potassium. In view of the reasonableness of the method and its introduction by so high authority, Dr. Collins decided to give it a trial, and through the kindness of Dr. Dana, Dr. Fisher, and others he had been able to apply it in fifty cases, a small number having been seen in private practice. The dose of the opium was started at one grain, the daily amount was rapidly increased to fifteen grains or more. At the end of six weeks the opium was suddenly dropped, and the patient was put on half-drachm doses of bromide of potash, repeated four times a day, and after this had been continued awhile the quantity was gradually decreased to about forty grains a day.

Most of the cases treated were old ones on Blackwell's Island, of the *haut mal* type, with some mental deterioration. The conclusions reached were: the plan suggested by Flechsig was not a specific; all the cases except one were benefited; the fits stopped for a time; relapse generally occurred in a period varying from a few weeks to a few months; the frequency of the fits for the first year after the treatment was lessened at least one-half; attacks occurring after relapse were much less severe in character;

the plan was particularly valuable in ancient and intractable cases; in recent cases of idiopathic epilepsy it could not be recommended; the opium plan was a valuable adjuvant to the bromide plan as ordinarily applied; the opium acted symptomatically, and merely prepared the way for, and enhanced the activity of, the bromides.

Dr. E. D. Fisher, who arrived after the reader had concluded, said the cases treated by Dr. Collins which had been seen by him were benefited by the method, but he had very grave doubts whether any cases could thus be cured. The plan seemed best adapted to chronic cases. While he had not seen danger from the use of the opium, the stupid state of some of the patients seemed somewhat greater; at least the attendants had found them more tractable.

Dr. Frederick Peterson thought that in chronic cases of epilepsy where ordinary treatment failed Flechsig's plan was undoubtedly useful.

Fears the Opium Habit.—Dr. W. H. Thomson argued that epilepsy was an organic disease, whose distinguishing symptom was suddenness of attacks of the nature of a convulsion, loss of consciousness, or fainting, etc. An organic disease could not be cured by a functional medicine, such as the nervines, to which class opium belonged. As an adjuvant to the bromides, which when used properly constituted our most reliable agents, he preferred chloral, and especially antipyrine, to opium. A weighty objection to the opium plan was the danger that the patient might take on the opium habit as soon as he passed from under the surveillance of the physician. He ventured to say that Flechsig himself would abandon the treatment after a year or two.

Dr. Collins had noticed no deleterious effects from the opium method, and he had seen no tendency to the formation of the opium habit. Two patients had become maniacal, but while on the bromides and after an interval following cessation of the opium sufficiently long to convince him the opium had had nothing to do with it. Regarding opium being only a functional medicine, causing no anatomical changes which could be discovered, this was equally true of epilepsy, although it was at present generally regarded as an organic disease. Besides, opium caused cerebral congestion, while epilepsy was followed by cerebral anæmia, and it seemed reasonable that by keeping up the circulation in the brain with opium the epileptogenous discharge could be obviated, which had been done by this treatment. Nor was it unreasonable to suppose that a functional medicine which maintained a physiological state during its use might not end in cure of an organic disease. He had not claimed, however, more than a valuable adjuvant to the bromides in Flechsig's plan.

The President remarked with feigned surprise that he had heard during the discussion no reference to the treatment of epilepsy by cutting the muscles of the eyes, from which he would infer that this method had little standing among neurologists.

Appendicitis Strictly a Surgical Disease.—Dr. John A. Wyeth read a paper in which he related cases in support of the belief that appendicitis should always be regarded as a surgical disease. Numerous papers relating to the general subject of appendicitis had appeared in recent medical literature. The danger to life which made appendicitis strictly a surgical disease was peritonitis, and this might occur with or without perforation. Septic germs or ptomaïnes might escape where there was disease short of perforation and precipitate peritonitis. Fecal odor in the peritoneal cavity where no perforation existed was now and then encountered. In the whole range of materia medica there was no remedy which would cure appendicitis and prevent infection therefrom. The physician was powerless, save in allaying pain and rendering the patient comfortable. The author had not seen a single death from the affection which could not properly have been ascribed to delayed skilful interference. With all respect to the diagnostician, he did not believe it was possible to determine by symptoms whether perforation was or was not about to occur. This did not imply that by a study of symptoms one could not make out perforation in a good proportion of cases when this had occurred.

The death-rate from appendical operations at present was eighteen per cent. It ought easily to be brought down to five per cent. by avoiding unnecessary delay, and if all cases were operated upon within the first twenty-four hours by skilful surgeons it would be reduced to one or two per cent. The surgeon might be mistaken now and then and operate where it was not necessary, but the error would be on the side of safety. Opening into the peritoneal cavity was not a dangerous procedure, and the likelihood of hernia occurring at a small incision was slight. In none of Dr. Wyeth's cases had hernia developed. The operation was one which the inexperienced should avoid.

Medical Testimony.—Dr. Simon Baruch related his experience with appendicitis, beginning at about 1880. For the next four years, surgical treatment having been rejected by himself and some of the consultants, the patients died. He then made up his mind that surgery alone offered any hope; that the inflamed appendix, like a bullet, was a foreign body which should be removed. About the first case on record of cure of perforative appendicitis by operation was one in which he called Dr. Sands in consultation. A similar case with successful result had been operated upon for him by Dr. Wyeth. Dr. Baruch advised against giving morphine, as it would obscure the symptoms.

Dr. Dessau, while recognizing the fact that the diagnosis might sometimes be in doubt, and also that some cases of apparently straightforward appendicitis had recovered permanently without operation, was disposed to agree with the author that a surgeon should be called in consultation at the beginning.

Salicylate of Soda in Appendicitis. — Dr. Lesser thought that, since appendicitis had come to attract so much attention on the part of the laity as well as physicians, a great many cases of entero-colitis were mistaken for this affection. The patient's fears were enhanced by the fact that pressure over the region of the appendix in both conditions caused pain. Opium not only obscured the diagnosis, but did actual harm by checking secretions and increasing tympanites. Salicylate of soda increased the secretions, reduced tympanites, relieved pain, and sometimes checked inflammation before the occurrence of gangrene or suppuration, whether in appendicitis, salpingitis, or other pelvic inflammations. It was not unreasonable to suppose that catarrhal appendicitis could be relieved without an operation as well as catarrhal salpingitis. He gave the salicylate of soda in gramme doses every two hours.

Dr. Robert T. Morris said: "This whole question is easily reduced to its principles. Appendicitis is an infective exudative inflammation caused by bacterial invasion of the tissues of the appendix, and persisting after subsidence of acute symptoms. Appendicitis is not at any stage a medical disease, for the reason that the bacteria which cause the infection are not killed by medical resources, although acute symptoms may be made to disappear. Surgery removes the nest of bacteria. The earlier an operation is done the greater the credit to rational practice. A surgical death-rate of one per cent. in appendicitis is a death-rate of inexperience—inexperience on the part of patient, physician, or surgeon. A hernia-rate of one per cent. after the operation is a hernia-rate of inexperience. Death, hernia, and suffering are preventable in appendicitis cases.

"The inch-and-a-half abdominal incision which I employ keeps the patient in bed eight days. He leaves his room on the tenth day. This is practical only after the employment of a technique which unites each cut structure accurately and separately with fine catgut. It is not adapted to pus cases. Curiously enough some surgeons have reasoned that I had easy cases to deal with because of the results of this technique. That is not

true. I have no voice in the selection of cases; these patients are all sent to me by their family physicians, who send cases that they believe to be in need of operation —many of them after desperate complications. There is no theoretical feature about this technique that I employ. It is a practical, every-day routine work in which I am engaged. Appendicitis cases cannot be medical cases because of their nature, but I depend upon the general practitioner to manage the cases apart from my special work, and should feel very uncomfortable were I to be deprived of his counsel and aid. I do not come across any cases of catarrhal appendicitis."

Dr. Wyeth, in closing, expressed the opinion that salicylate of soda would prove powerless where there was a septic process affecting the peritoneum, and he was afraid that, like other remedies, resort to it would simply lead to delay in calling a surgeon and thus keep up the mortality rate. One should not take the risk of removing the appendix through an inch and-a-half incision. Working in the dark, he might cause perforation or break the walls of an abscess and infect the general peritoneum. It was much better to make an opening large enough to see what one was doing, and to introduce gauze and shut off the diseased area. There was little danger of hernia. In none of his cases had hernia developed. The patient should remain in bed six weeks.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, March 26, 1894.

Seneca D. Powell, M.D., President, in the Chair.

Advertising and the By-Laws.—The President said that he had been requested by the comitia minora to call attention to the by-law which forbade advertising, fixing one's name to nostrums or proprietary articles, etc. Complaints had been received which would have the attention of the Committee on Ethics.

Brief Note on Some Cases Recently Admitted to the Surgical Service of the New York Cancer Hospital.—Dr. Charles A. Powers read the paper. The cases entering the Cancer Hospital were classified as operable surgical cases, operable gynecological cases, and inoperable cases. The paper had to do with the operable surgical cases, of which there had been over twenty the past month or two, exclusive of non-malignant tumors. Cancer of the breast was much the more common—eight operable cases, four inoperable. In one of operation on the lower jaw, there had been death from septicæmia.

A surgical division of the cases was into those in which it was thought the disease could be thoroughly excised, and the patient would have a fair prospect of cure; cases in which the surgeon was in doubt whether he could go beyond the limit of the disease; finally, cases which were frankly incurable, but in which a palliative operation would afford a fair chance of prolonging life and adding to the patient's comfort. Examples of the three classes were given. Of the second class the case of Mrs. H—— was related, who fifteen months before had noticed a little hardening in the upper quadrant of the right breast. A physician called it large milk veins. It slowly increased. Dr. Powers found a mass as large as a mandarin orange; skin movable; nothing felt in the axilla. Excision of the breast and axillary glands in February. Microscopical examination showed the mass to be carcinoma. The prognosis was dubious, because one could not be assured but what some diseased glands remained. An example of the third class was that of a patient who had a mass of evidently cancerous tissue involving the breast, with adhesion to the chest-wall, the overlying skin red and adherent, the nipple retracted, a mass the size of a pigeon's egg in the axilla. He removed the breast and axillary fascia, but even after an extensive dissection it was observed that not all diseased tissue had been removed, so that recurrence seemed certain. Eighty-one per cent. of the cases belonged to the third class, only nineteen per cent. giving any prospect whatever of radical removal and cure. The lesson taught was not new, that if we would cure cancer we must attack it very early, while the disease was yet essentially local.

The Management of Incurable Cases of Cancer.—Dr. Daniel Lewis read the next paper. It was justifiable to inquire what cases were curable, and to draw a line between them and cases which were incurable. It might be assumed that in all cases there was a time when cure could be effected by operative measures. But this stage was usually passed when patients applied for treatment at surgical clinics, a fact which hospital records demonstrated.

In the management of incurable cases, the most successful general tonic was indicated. On account of its depressing mental and physical effect, he had not for many years told a patient that she had cancer. Any other designation was preferable, as neoplasm, rodent ulcer, sarcoma. The friends, however, could be informed of the true nature of the disease. Occasionally surgical interference was indicated and different kinds of dressings called for. In cancer of the female breast, before ulceration the growth of the tumor had been decidedly retarded by hypodermic injection of ten minims of a twenty per cent. solution of chloride of aniline in alcohol. Almost without exception the patient had thus been relieved of pain. The agent was without color, thus being free from an objection to pyoktanin.

When ulceration of the surface occurred he applied an antiseptic dressing of antipyrine, drying the surface carefully, dusting the powder over it, covering with a thick layer of absorbent cotton, putting on a bandage to support the breast. In rare cases it was justifiable to operate in order to relieve the patient of the weight of the growth and disagreeable odor and discharge. Aristol had superseded iodoform. Opiates should be deferred as long as possible. Clay's Cheyenne turpentine, which had been used, abandoned, and again taken up at the London Cancer Hospital, had proven of benefit in cancer of the breast. An excellent dressing where it could be easily applied was a soft tampon saturated in ten per cent. solution of aristol and benzol.

Regarding palliative operations in cancer, nothing would relieve the patient so much, where the tongue was affected, as removal of the diseased mass, although cure was not expected. The same was sometimes true of cancer of the orbit. Moreover, recurrent cancer was usually less painful than the primary disease.

Cancer of the Female Genital Tract.—Dr. H. J. Boldt read a paper on this subject, leaving out the question of treatment. Primary cancer of the vulva was a great rarity. The majority of cases were complicated by disease of the vagina or uterus. The most common form was dermoid. It occurred most frequently between the fortieth and sixtieth years. Nothing definite was known of the etiology. A small, hard, rounded, irregular, slightly elevated mass was felt, covered by thick layers of scaly epithelium. The growth was slow, the symptoms slight at first; then the nodules became large, superficially denuded; pain then became a prominent symptom, purulent secretion of disagreeable odor, slight hemorrhage. It was unusual for the disease to pass to the other labium, but spreading took place toward the perineum, thigh, vagina, rectum. Death from septic infection perhaps in two to five years. Syphilis and lupus might, but should not, be mistaken for it. It was even more rare to find primary cancer of the vagina than of the vulva. It might occur during any period of life, but usually between the twentieth and fortieth years. Epithelioma might be large enough to obstruct the vagina. In other cases there were several smaller nodules. The course was rapid, and being usually recognized late, the prognosis was unfavorable, for the symptoms seldom attracted much attention on the part of the patient early in the disease. The first symptom noticed usually was hemorrhage after coitus. Examination would show a

hard induration surrounding an ulcer with indurated base, bleeding easily.

Cancer of the uterus was most frequent between forty-five and fifty. The cervix was oftenest affected, although cancer of the body was not rare. In all varieties the advanced stage led to induration of the broad ligaments and lymphatics, the exudative material going on to produce pressure upon the nerves, vessels, ureter. The bladder was frequently involved by extension, the rectum seldom. Hydronephrosis sometimes occurred from obstruction of the ureters. The division of cancer of the cervix according to location was of little practical importance to the practitioner. The forms were dermoid, scirrhous, adenoid, medullary. The adenoid form was most common, and it soon became transformed into the medullary form. Every adenoma of the cervix was likely to change into cancer. The etiology, as far as known, was catarrh with erosions, ulcerations, and lacerations. Regarding the symptoms, it was unfortunate that at the beginning stage they were so slight as to be overlooked. Frequently the patient was first impressed by hemorrhage at coitus, although leucorrhœa and perhaps some hemorrhage had existed before. Later the discharge often took on the appearance of meat-juice, and when exudative material became sufficient it caused pressure upon the nerves and pain in their area of distribution, sometimes œdema of the extremity. Nutrition began to suffer, the skin presented a pale yellowish hue. There might be uræmia from obstruction of the ureters. The principal cause of death was exhaustion; next, peritonitis; sometimes thrombosis of the iliac veins. When conception took place abortion was apt to occur about the third month, as stated by Hanks. The diagnosis of cancer of the cervix could not at the beginning be made without microscopic examination of some of the cervical tissue. Polypi hanging from the central canal could usually be distinguished from cancer of the cervix by careful examination showing a line between the tumor and cervix.

Primary cancer of the Fallopian tubes was rare, its existence being denied by some. Cancer of the ovary was not so rare.

Pain of Cancer Allayed by Electricity.—Dr. A. D. Rockwell thought the treatment of incurable cancer must be very incomplete without electricity. Some would remember a brief paper which he had recently read before the Society, describing a case in which strong currents through large electrodes alone had controlled the pain of cancer of the kidney. In this case it required more than 100 milliamperes, running up even to 175, to relieve the pain. Large clay electrodes were used. He thought the relief was chemical and mechanical, that the vaso-motor nerves were influenced, hastening circulation and thereby relief of pressure upon nerves of sensation.

Dr. A. F. Currier thought that if we compared the result of treatment fifteen years ago with that of to-day, it would be seen that advance had been made. The treatment was removal as early as possible. He did not think paste and powders were of much value in giving permanent results. In addition to the knife and scissors he recommended the cautery, which went more deeply into the tissues than could be done with the knife alone. Employ the most powerful tonics which would place the patient's general health on the highest plane possible.

Keep Down the Odor.—Dr. A. H. Smith recommended the preparation composed of sweet-almond oil charged with ozone for overcoming the fetor of cancer. He recommended cannabis indica for the relief of pain, which was free from most of the objections pertaining to opium.

Dr. Collyer recommended total removal of the disease if possible, and use of the knife for control of hemorrhage in uterine cancer under certain conditions. Cheyenne turpentine was apt to be impure. The actual cautery would check hemorrhage and prolong life. Codeia was less likely to lead to a habit than morphia.

After some further discussion, the Society adjourned to partake of the collation.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

MENSTRUATION IN HEART DISEASE—ABDOMINAL SECTION FOR PERFORATION DUE TO GASTRIC ULCER—RESECTION AND SUTURE OF INTESTINE—MICROSCOPICAL AND BACTERIOLOGICAL DEMONSTRATIONS—DIPHTHERIA CULTURES—INFLUENZA BACILLI—MALARIA ORGANISMS—PULMONARY DISTOMIASIS—TROPICAL DISEASES—LAW CASES—LUNACY PROSECUTION—CHARGE OF NEGLIGENCE IN DIAGNOSIS—CONVICTION OF A QUACK—OPHTHALMOLOGICAL CONGRESS—DEATHS OF PROFESSOR HENRY SMITH AND DR. D. DAVIES.

London, March 31, 1894.

The relation of heart disease to menstruation was not very long ago discussed at the Royal Medical and Chirurgical Society, and it has lately been brought before the Obstetrical Society. The text-books speak of menorrhagia as a result of cardiac disease, and they go on copying each other, although long ago Dr. Mathews Duncan entered a caveat. The experience cited at the Society shows that on this point, instead of being a common accompaniment of heart disease, menorrhagia is rare; in fact, amenorrhœa is much more frequent. No doubt, on considering the tendency of valvular imperfections to produce congestions of viscera, some one put down as a guess that heart disease gave rise to menorrhagia, and the assumption once started has been promulgated as fact. Auscultation of applicants in the out-patient obstetrical departments of hospitals cannot elucidate such a point, for most of the women apply on account of some menstrual derangement. There seems a great tendency nowadays to dwell on the association of one disease with another, and the occurrence of some malady, during the progress of another, is chronicled as a discovery, while broader clinical features are sometimes neglected. Menorrhagia, often merely a temporary symptom, is therefore put down as connected with valvular imperfection of many years' standing, which is producing, perhaps, no other symptom.

Mr. Hutchinson was invested with the insignia of the Presidency of the Royal Medical and Chirurgical Society on the 13th, and the papers of the evening were appropriately surgical. One was by Mr. Morse, of Norwich, relating a successful case of abdominal section and suture for perforation of the stomach in a case of gastric ulcer. The diagnosis was made and operation resorted to within five hours. The contents of the stomach were found in the peritoneal cavity, which was washed out. The perforation was found and closed. The patient was well in three weeks. Some interesting remarks were made by several surgeons, and Mr. Morse was congratulated by the President on his success.

Mr. Lockwood then related a case of resection and immediate suture of an intestine which had been strangulated eighty-one hours. This was the first case he had been able to treat thus since he proposed the plan at this Society in 1891. Mr. Lockwood considered as factors in his success, the care taken to avoid death from shock by the cessation of the anæsthetic, the application of warmth and stimulants, speed in operating, disinfection of sac and protection of the peritoneum from infection, and absence of intestinal paralysis at the time of operating. We have lately had some interesting microscopical bacteriological papers. Thus at the Medical Society on the 17th, Dr. Wethered related his further investigations on diphtheria cultures. These give considerable aid in diagnosis, but can only be carried out in hospitals or laboratories properly furnished for the purpose. It is not always easy to distinguish diphtheria from follicular tonsillitis by the naked eye, but Dr. Wethered thinks there is no danger of mistaking the organisms of each under the microscope, and in case of doubt cultures should be made. At another society Dr. Kanthack demonstrated pure

cultures of influenza bacilli on both gelatine and agar-agar. This bacillus he found always present in the bronchial secretion in influenza, and, as it is not found in any other disease, is probably the cause. It is not commonly found in the blood, but Dr. Klein, when ill, found it in his blood as well as in his sputum. Dr. Kanthack also showed specimens of the streptococcus of pneumonia, and pointed out the distinction between that and the bacillus of influenza.

The organisms of malaria were exhibited at a third society (Hunterian) by Dr. Manson. They are delicate, and it is difficult to transport them. Those shown were crescentic bodies, stained with methyl-blue, and in the centre were dark pigmented spots. Other forms were described by Dr. Manson, the relations of which to each other have not been determined. Two forms now well known were, he said, 1, the intra-corpuscular with pale black pigment in the centre, and showing amœboid movement at the edge, and, 2, the central spherical mass of pigment to which flagellæ are attached, while a third form consists of oval, egg shaped, red bodies. Dr. Manson also showed microscopic specimens of sputum containing ova from a case of pulmonary distomiasis, a common disease in China and Japan. The parasite lives in burrows in the bronchi and in the lung substance, where the ova are deposited and then coughed up in myriads. The cough is spasmodic and the sputum sanguineous, thus suggesting aneurism, which is so common in the East that when these symptoms occur with a history of acute hemorrhage the first diagnosis is, said Dr. Manson, always aneurism, but the sputum should he examined to eliminate distomiasis. He spoke of aneurism as being as common in the East as phthisis in London. He also said this distomiasis may affect the brain, giving rise to typical Jacksonian epilepsy, and suggested that such cases might be treated surgically. A week or more previously Dr. Manson read a paper at the North London Society, on "Tropical Diseases," which he illustrated by microscopic preparations and lantern slides. In that paper he treated both of malaria organisms and the filariæ. It will be seen, therefore, that he is doing much to disseminate the results of his great experience in the East, for which his stay-at-home brethren are naturally thankful.

We have lately had some important proceedings in the law courts. A doctor at Eastbourne was prosecuted by the Lunacy Commissioners for having more than one patient of unsound mind in his house at the same time. He was acquitted, and the judge spoke highly of his conduct in relation to his patients. At the same time the Commissioners were said to have only fulfilled their duty in prosecuting. This shows the necessity of care in receiving doubtful cases, and the danger to which a doctor who takes such patients is exposed. Should every patient who is at times certifiable be certified? If not, those who receive them should be in some way protected from such prosecutions. Perhaps it could be done by means of consultations. The patient's private attendant and a specialist in lunacy might consult and reduce to writing their opinion that the case was not one for an asylum but would benefit by medical supervision. Armed with such a certificate, which could be renewed from time to time, the medical man who took charge of such a patient would be better able to defend himself if prosecuted.

A lady brought an action against her attendant for negligence in not diagnosing small-pox when first called to see her servant. There was some contradictory evidence and the jury pronounced in favor of the doctor, but he will be a loser no doubt in pocket, and his mental anxiety must have been great. Here is another illustration of the dangers to be encountered in practice and the necessity of being awake to the possibility of the invasion of an infectious disease when there is no reason to suspect exposure.

Another trial is more satisfactory. An advertising quack has been convicted of having obtained sums of money by fraudulent pretences. It was a very bad case, and the judge regretted he could not give more than five years' penal servitude. That term, however, may be enough for the convict to reflect on the folly of his course. He is an old offender, and the police had no little difficulty in securing evidence. He had been a bill-poster, but set up as a curer of diseases, and obtained patients by placarding public conveniences and advertising. In the case on which the prosecution was entered he had squeezed the last penny from a poor Irishman, who went to Liverpool to see him.

The Eighth International Ophthalmological Congress promises to be a success. Already more than two hundred ophthalmologists have intimated their intention of going to Edinburgh for the occasion, so that August will be lively in the northern capital.

Yesterday the remains of Mr. Henry Smith, F.R.C.S., were committed to the grave. He died on Sunday, aged seventy. His name will be familiar to you as the author of the "Surgery of the Rectum," and as Surgeon to King's College Hospital (lately Consulting Surgeon and Emeritus Professor). He was for a long time closely associated with the late Sir William Ferguson, whose assistant he was at King's.

Another death is that of Dr. David Davies, aged seventy-six, who did good service to Bristol as its medical officer of health for twenty-one years. On his retirement his son was appointed to the office.

THE USE OF PURGATIVES IN THE TREATMENT OF TYPHOID FEVER.[1]

To the Editor of the Medical Record.

Sir: In regard to the use of purgatives in typhoid fever, I would refer to some facts which are a matter of history.

This means of treatment was in use long before Delarroque published his experience with it.

Indeed, he recognizes himself that he took his idea from writers of a previous period, and principally from Stoll. But as Valleix[2] says, "If we can draw from these writings like inspiration, we cannot feel authorized, from statements they make or which are there indicated, to judge of the efficacy of remedies." The reason of this is evidently based on the fact that the diagnosis of typhoid fever was not at that time clearly determined. It was Beau who first published the results obtained by Delarroque with the use of purgatives, at the Necker Hospital in Paris, where the mortality was ten per cent. Later Delarroque published the same facts,[3] and in 1847 his work on typhoid fever appeared, which was evidently destined to show that the fever is due to alteration of the bile, and that the method by free evacuation of the bowels has a manifest superiority over every other form of treatment. Andral, also, made free use of purgatives in the treatment of typhoid fever, and had a somewhat larger mortality than Delarroque.

The observations of Louis and Barth go to show that the action of purgatives is not injurious in typhoid fever, and that very probably they have a beneficial effect upon the issue of the disease, although the malady did not appear to be shortened by their use. The purgatives employed by the authors cited, were seidlitz-water, castor-oil, and calomel. "One of these purgatives must be given every day; and if they are alternated, it is done merely so as not to fatigue the patients, for the essential matter is to purge." It has been said that the use of purgatives in typhoid fever occasioned intestinal hemorrhage. It is probable when hemorrhage took place, it was a mere coincidence. In the large number of typhoid patients formerly treated with purgatives, intestinal hemorrhage rarely occurred. Not only is this true, but it is also occasionally true that intestinal hemorrhage seems to be really brought on by the constipation from which

[1] This communication is prompted by an article in your issue of March 10, 1894, entitled "Eliminative and Antiseptic Treatment of Typhoid Fever," and by a letter from Dr. Osler in Medical Record of March 31, 1894.

[2] Guide du Médecin Praticien, vol. i., p. 44.

[3] Bull. de l'Acad. de Méd., Paris, 1837, t. i., p. 482.

the patient suffers. As an instance of this, I would offer the following case:

S. M——, twenty eight years of age, married, English, housewife, entered my service at St. Luke's Hospital on December 30, 1893. At that time she had all the usual symptoms of typhoid fever at the eighth day of the disease. Tub-bath treatment was immediately begun. Patient progressed favorably until the seventeenth day of the disease. On that day patient was comfortable. In the afternoon she had a large, light-colored, constipated stool, which was accompanied with the loss of two ounces of fluid red blood. Five minims of Magendie's solution were administered hypodermically, the ice-coil applied over the abdomen, and the tub-baths discontinued. The hemorrhage did not recur, and there were no subjective symptoms from the one referred to. The following day I ordered the following laxative: Mass. hydrarg., gr. j.; syrupi rhei aromat., and olei ricini, āā ʒ j. This dose was followed by four large, formed stools, without any hemorrhage. Patient was feeling very comfortable. Four days later another laxative dose was given with good results, and in view of a tendency to constipation; subsequently, patient progressed toward recovery and is now convalescent.

I am confident, in this case, that the constipated condition of the bowels was the immediate cause of the slight intestinal hemorrhage. Not to have administered a laxative would have been bad practice, and would probably have led to recurrence of more abundant hemorrhage. I may add that I have frequently known fever to continue in typhoid fever, especially toward its terminal period, and not to disappear, despite other treatment, until laxatives had been repeatedly taken.

The most important indication, in case of intestinal hemorrhage, writes Liebermeister,[1] "is to limit the movement of the bowels, as far as possible, and therefore the main remedy employed is opium in small doses." In instances similar to the one of which I have just given a short abstract, treatment with opium would have increased the difficulty, and thus no doubt brought on another and more severe loss of blood from the bowel. Of course, one should always bear in mind in such cases, "that the quantity of blood which appears in the stools is by no means a reliable measure of that actually lost, as more blood frequently remains in the intestines than appears externally."[2]

Still, the rapid fall of temperature, feebleness of pulse, extreme prostration, and sudden pallor will usually indicate its severity, and may be regarded as a guide to the danger of giving laxatives.

Baglini's advice, now two centuries old, of avoiding the use of active cathartics in the treatment of typhoid fever, should not be invariably followed, not even when there is slight or moderate intestinal hemorrhage. It is for the physician to weigh carefully the accompanying conditions, and to act in accord with sound judgment when it is question of active interference. The treatment by an occasional purgative, by intestinal antisepsis, and by the free use of water by the mouth, has been considered eminently rational by the writer in many cases of typhoid fever. The attention of my house staff at St. Luke's Hospital has been directed to it on several occasions during the past and former winters. Although this statement is made, I am willing to add that I now advocate, as a wise supplementary method in many instances, the treatment with cold baths. It is just and broad-minded, however, not to ignore the experience of the past, and to give due credit to those who have preceded us in our work.

BEVERLEY ROBINSON, M.D.

Carbolic Acid in Tetanus.—Carbolic acid, in doses of one-half centigramme, repeated every one or two hours, is said by Bacelli to cure tetanus.

[1] Cyclopædia of the Practice of Medicine, vol. i., p. 225.
[2] American System of Medicine, vol. i., p. 332.

PURGATIVE TREATMENT OF TYPHOID.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In a recent issue Dr. Osler reminds me that I must not claim to be the introducer of purgation as a method of treatment in typhoid fever, and points out that M. Larroque, of Paris, advocated purgation so far back as 1841. I can assure Dr. Osler that I should be the last in the world to claim credit for what did not properly belong to me. However, if Dr. Osler had honored my paper with more than a cursory glance he would have seen that I made no such claim. I am not novice enough to be unaware that so primitive and general a therapeutic procedure as purgation had in all probability been applied in this disease. Even had I never heard of the old humoral pathology or of the attempts to deliver the body of its harmful occupant by bleeding, purging, sweating, etc., yet the reiteration of warning against purgation in all the text-books I had ever seen and in all the lectures I had ever heard must have told me that I could not have been the first to advocate this practice. What I did claim to have introduced was a plan of treatment very much at variance with the present teaching, and having as its objective point removal and destruction of the bacillus and its toxic product. The several features of this plan, together with the views regarding their interdependence and the necessity for their association, are, I think, clearly set forth in the published paper, MEDICAL RECORD, March 10th.

Yours, etc.,

W. B. THISTLE.

TORONTO, April 15, 1894.

Therapeutic Hints.

Multiple Warts of the Face.—

Flowers of sulphur	grammes	20
Glycerine	"	50
Pure concent. acetic acid	"	10

Encephalitis following Contusion.—We should treat such an inflammation precisely as we would treat it in other regions of the body, always remembering that in the brain, by reason of the bony case in which it is retained, it is impossible for an exudation or hemorrhage to find its way to the surface without surgical assistance. —KEEN.

Psoriasis.—

Ichthyol,
Salicylic acid,
Pyrogallic acid,
Aristol.....āā grammes 2½.
Vaseline,
Lard,
Lanoline.....āā grammes 30.

This salve is very active, and should only be used in very small quantities.

—BESNIER.

Pain after vaginal douche may be due to water entering the uterus. Laudanum enemata are advised. Order douche only lying on back and with a not too strong jet. —ROULIN.

Epilepsy.—

Bromide of potassium	100	parts.
Tincture of calabar bean	35	"
Water	470	"

Give ʒ iv. increased to ʒ vj. and finally to ʒ j. daily.

—POULET.

Bilious Remittent Malarial Infection.—Rectal injections of carbolic acid. Hypodermics of quinine. For the profound nervous depression:

℞. Sodium arsenate..... gr. iij.
Strychnia sulphate..... gr. jss.
Distilled boiled water..... ℥ xss.
S. Teaspoonful.

—PEPPER.

Medical Items.

Contageous Diseases — Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 21, 1894.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	10	7
Scarlet fever	123	19
Cerebro-spinal meningitis	2	4
Measles	286	28
Diphtheria	181	62
Small-pox	19	3
Cholera	0	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0

Children's Diseases in Constantinople.—In the Pediatric Section of the recent Congress, Dr. Violi read a paper on the diseases of children most commonly occurring in Constantinople. Typhoid fever was very common prior to the seventh year, assuming sometimes a severe and sometimes a mild form. The best treatment consisted in free ventilation of the sick-room, cold sponging, and small doses of phenacetine. He had abandoned the use of quinine, which was difficult of administration to children and was moreover of little use. Dengue and influenza had, he said, many points of resemblance, yet it was not difficult to differentiate the two affections at a time when both were epidemic in his city. The most common diseases among children in Constantinople are those of the respiratory organs. Rachitis is also very frequent by reason of the defective alimentation of infants among the poorer classes.

The Next International Congress of Gynecology will be held in Geneva, Switzerland, in September, 1896.

Death from Gluttony.—A boy, fifteen years of age, living in London, spent his Easter holiday in Blackheath, where he ate thirty oranges, a whole cocoanut, and a mince pie, quenching his thirst with cider and various effervescent drinks. In the evening he had several cups of tea, and later some cake and lemonade. Before the dawn of the following day he was dead, and the coroner's jury brought in a verdict of "death from natural causes."

The Cholera in Constantinople is on the increase. The director-general of the tobacco monopoly in Turkey died of the disease recently, and as he had previously eaten of oysters, the government came to the conclusion that that was the cause of the growing epidemic, and has consequently issued an edict prohibiting the sale of shellfish of any kind.

The Roman Press on the Congress.—The daily papers of Rome were unsparing in their denunciation of the management of the Congress, the organization of which they described as "iniquitous," a disgrace to Italy and to Rome, and an insult to the medical profession of the world. It really was not quite as bad as that, though far from perfect.

Troglodytism and Alcoholism as Etiological Factors in Tuberculosis.—Dr. Tison, of Paris, read a paper with this title in the Section on Hygiene at the Rome Congress, in which he compared modern habitations to the holes of the troglodytes. In many warehouses, offices, and banks in the larger cities artificial lights must be kept burning all day, and even in many sleeping-rooms the rays of the sun never penetrate. This mode of living is a fruitful predisposing cause of tubercular disease. The speaker held that all buildings in cities should be constructed with a large open court, not a mere well, where the sunlight could enter freely, so that the inside rooms could receive as much light and air as those facing the street. Referring then to the abuse of alcoholic beverages, the speaker said that their habitual consumption in large quantities, even short of drunkenness or inebriety, predisposed the organism to attacks by the tubercle bacilli. When these two factors act in concert tuberculosis is almost sure to result. Alcohol is a stupefying poison, and should be given only in medicinal doses, just as digitalin, strychnine, and other drugs of the class.

The Physical Diagnosis of Gall Stones.—Gerhardt observes that the attack usually begins four to five hours after the chief meal, that is, shortly after the entrance of the stomach contents into the duodenum. According to the size and position of the stone after it has passed into the common bile duct, distention of the gall-bladder may be recognized at once, or later (when the gall-bladder has been copiously filled), or not at all. The swelling lies between the right parasternal line and the anterior axillary line, mostly a little to one side of the right rectus muscle. If the gall-bladder is much distended it may give rise to errors in diagnosis. This distention only takes place in a minority of the cases. It may be absent owing to the smallness of the gall-bladder, or to the obstruction being incomplete, or lasting too short a time. It occurs in severe attacks, or in those who have had repeated attacks. The commencement of the attack may last a couple of hours without pain, during which time the gall-bladder may be palpable. The shrinking of the swelling shows the end of the attack. After a severe attack a friction sound, synchronous with inspiration and expiration, and sometimes of diagnostic value, may be heard over the gall-bladder. This is due to local peritonitis, and it explains the continuance of the pain. An ice-bag is more useful here than warm applications. The liver may swell after severe attacks and fever be present. Attacks may occur with pain and fever, but there is neither swelling of the gall-bladder nor of the liver, and no stone is found in the stools. It is thought that the stone slips back into the gall-bladder, but other possibilities exist The swelling of the gall-bladder may be due to obstruction having other causes, but it does not occur in cardialgia, nor in hepatic colic of purely nervous origin. This latter is observed in tabes, hysteria, multiple sclerosis, and may even be accompanied by jaundice. When, after several attacks no stone is found, no friction sound heard, and no swelling of the gall-bladder felt, cholelithiasis may, with tolerable certainty, be excluded, and neurotic hepatic colic may be assumed with great probability.—*The British Medical Journal.*

The Cataracts of Mr. Gladstone.—The truth respecting Mr. Gladstone's eyesight has at last been made public, and the ophthalmic surgeon under whose care the ex-Premier has placed himself is Mr. Nettleship. We understand, says *The Medical Press*, that Mr. Nettleship was recommended to the aged statesman by Sir James Paget, who is a personal friend of Mr. Gladstone's. The rumor that cataract was present in each of Mr. Gladstone's eyes is confirmed, and there consequently remains nothing more to be done than extraction of the lens from one or both eyes, in order to restore vision. Report states, however, that no operative interference will be undertaken until the lapse of six months. Probably this course has been decided on with the view of allowing the good effects of rest from the anxious cares of the leadership of his party to become more manifest in Mr. Gladstone's health.

Charcot's Successor.—Dr. F. Raymond has been recommended by the Paris Faculty of Medicine for appointment to the Chair of Clinical Neurology, vacant by the death of Professor Charcot.

Sir Henry Thompson likes telescopes as well as endoscopes and has recently offered to give $25,000 for the purchase of a new instrument for the Greenwich Observatory.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 45, No. 18.
Whole No. 1226.

New York, May 5, 1894.

$5.00 Per Annum.
Single Copies, 10c.

Original Lectures.

DIGESTIVE PROTEOLYSIS.

THE CARTWRIGHT LECTURES FOR 1894.

BY R. H. CHITTENDEN, PH.D.,

PROFESSOR OF PHYSIOLOGICAL CHEMISTRY IN YALE UNIVERSITY.

(Continued from page 517.)

LECTURE III.

PART I.—PROTEOLYSIS BY TRYPSIN.

IN pancreatic digestion proteids are exposed to the action of an enzyme of much greater power than pepsin, one endowed with a far greater range of activity, and consequently proteolysis, as it occurs in the small intestine, becomes a broader and more complicated process. As you well know, the ferment trypsin manifests its power not only in a more rapid transformation of insoluble proteids into soluble and diffusible products, but there is a diversity in the character of the many products formed which testifies to the profound alterations this ferment is capable of producing. The primary and secondary products of pepsin-proteolysis, as well as unaltered proteids, are alike subject to these changes, and bodies of the simplest constitution may result in both cases from the series of hydrolytic changes set in motion by this proteolytic enzyme. The power of the ferment as a contact agent is astonishing, for in the case of trypsin no accessory body is necessary to bring out its latent power. Water, proteid, and the enzyme at the body temperature are all that is necessary to call forth prompt and energetic hydrolytic action.

Moreover, hydrolysis does not stop with the mere production of soluble proteoses and peptones, but the hemiportion of the latter is quickly broken down into crystalline bodies, such as leucin, tyrosin, lysin, lysatin, etc. This special characteristic of the ferment testifies in no uncertain manner to the existence of inherent qualities in the inner structure of the enzyme peculiar to the body itself. In general properties and reactions, pepsin and trypsin may be closely related; both are products of the katabolic action of specific protoplasmic cells, but the inner nature or structure of the two must be quite different. Pepsin, as we have seen, is powerless to produce any change in proteid bodies unless acids are present to lend their aid. Furthermore, pepsin is limited in its action to the production of proteoses and peptones, while trypsin gives rise to a series of hydrolytic cleavages which result in the ultimate formation of comparatively simple bodies.

Trypsin, however, in its natural environment is dissolved in an alkaline medium. Its proteolytic action is therefore carried on, under normal circumstances, in an alkaline reacting fluid containing 0.5 to 1 per cent. sodium carbonate, and the proteolytic power of the ferment is unquestionably manifested to the best advantage in such a medium. At the same time it will act, and act vigorously, in a neutral fluid, and likewise in a fluid having a weak acid reaction, provided there is little or no free acid present. Thus, in experiments[1] on blood fibrin it was found that, while a solution of trypsin containing 0.5 per cent. sodium carbonate, digested or dissolved 89 per cent. of the proteid in three to four hours at, 40° C., a perfectly neutral solution of the ferment, otherwise under exactly the same conditions, digested 76 per cent, and a 0.1 per cent. salicylic acid solution of the enzyme converted 43 per cent. of the proteid into soluble products.

With hydrochloric acid, trypsin is quickly destroyed, unless there is a large excess of proteid matter present,[1] which obviously means that the acid in such case exists wholly as combined acid. Indeed, experiments made in my laboratory have shown that as soon as free acid, especially hydrochloric, is present in a solution containing trypsin, then proteolytic action is at once stopped. When, however, acids, especially organic acids, are present in a digestive mixture containing an excess of proteid matter, so that the solution contains no free acid; or better, with the proteid matter only partially saturated with acid; then trypsin will continue to manifest its peculiar proteolytic power, although to a considerably lessened extent. Hence, it is evident that the ferment may exert its digestive power under the three possible sets of conditions which, under varying circumstances, frequently prevail in the small intestine.

In considering the general phenomena of proteolysis by trypsin, one is especially impressed by the large and rapid formation of peptone which almost invariably results, from the action of a moderately strong solution of the ferment, on nearly every form of proteid matter. To be sure, primary products are first formed, but these are quickly converted into peptone, and a little experience in studying the action of pepsin and trypsin soon reveals the fact that the latter is especially a peptone forming ferment. In other words, it is peculiarly adapted to take up the work where it has been left by pepsin, and if necessary, carry forward the hydrolytic change even to the extent of a conversion of the entire hemi-moiety into crystalline products.

The primary products of trypsin-proteolysis, however, are not exactly identical with those formed by pepsin. Thus, protoproteoses and heteroproteoses seldom appear in an alkaline trypsin digestion; the proteid matter being in most cases, at least, directly converted into soluble deuteroproteoses,[2] which are then transformed by the further action of the ferment into peptones and other products. Hence, we may express the order of events in the trypsin digestion of a native proteid as follows:

Native proteid.

Amphodeuteroproteoses.

Amphopeptones.

Antipeptone. Hemipeptone.

Leucin. Tyrosin. Aspartic acid, etc.

In the digestion of fresh blood-fibrin with trypsin, there is plainly a preliminary solution of the proteid without

[1] Chittenden and Cummins: Studies in Physiological Chemistry, Yale University, vol. i., p. 135.

[1] Mays: Untersuchungen aus d. physiol. Institute d. Universität Heidelberg, Band iii., p. 378; also Langley: On the Destruction of Ferments in the Alimentary Canal, Journal of Physiology, vol. iii., p. 263.

[2] R. Neumeister: zur Kenntniss der Albumosen. Zeitschr. f. Biol. Band 23, p. 378.

any marked transformation or cleavage occurring, the soluble product being apparently a globulin, coagulating at about 75° C.,[1] viz., at approximately the same temperature as serum-globulin. This body, however, quickly disappears, giving place to true deuteroproteoses as the ferment action commences; for it is not probable that this globulin is a product of enzyme action, but rather represents a simple solution of the fibrin by the alkaline fluid and salts. In any event, this globulin-like substance is not formed in the pancreatic digestion of coagulated-albumin, serum-albumin, or vitellin, and hence cannot be considered as a true product of trypsin-proteolysis.

The fact that deuteroproteoses are the primary product of trypsin digestion again emphasizes the natural adaptability of this ferment to the part it has to play in the digestive process. Its natural function is to take up the work where left by pepsin, and carry it forward to the necessary point; and hence, when acting upon a native proteid the primary products of its action correspond to the secondary products of pepsin-proteolysis. Trypsin is thus equally efficient in the digestion of all native proteids, but the products of such action are always deuteroproteoses, peptones, and crystalline amido-acids. It is to be remembered, however, that in trypsin-proteolysis the deuteroproteoses and the amphopeptones must necessarily be represented by bodies in which there is a preponderance of anti groups. In pepsin-proteolysis, as we have seen, the hemi and anti groups of the proteid molecule remain more or less united, but in pancreatic digestion, the formation of amphopeptone is quickly followed by the breaking down of a portion of the hemipeptone into leucin, tyrosin, etc. thus leaving a larger proportion of the anti moiety in the remaining amphopeptone.

Theoretically, at least, in the case of a vigorous and long-continued pancreatic digestion, all of the hemipeptone formed from any native proteid can be converted into crystalline and other products, thus leaving a true antipeptone resistant to the further action of trypsin. Hence, we are prone to speak of the peptone of pancreatic digestion as antipeptone, although, as can be readily seen, the exact nature of the peptone, *i.e.*, the relative proportion of hemi and anti groups it contains, will obviously depend upon the length of the digestion and the strength of the ferment. Again, it is possible, as certain facts seem to suggest, that the amido-acids which are so readily formed from hemipeptone may come in part directly from the hydration of a portion of the hemideuteroproteose, without passing through the preliminary stage of hemipeptone. If so, we have another source of variation in the relative proportion of hemi and anti moieties in the deuteroproteoses and peptones of pancreatic digestion. Still again, it is to be remembered that in normal digestive proteolysis, as it occurs in the living intestinal tract, the proteid matter to be acted upon has already passed through certain preliminary stages in its transit through the stomach, as a result of which still further variations in the proportion of hemi and anti groups may be possible.

It is thus plainly evident, in view of the ready cleavage of the hemi-group into amido-acids, that the primary products of trypsin proteolysis, the proteoses and peptones must necessarily be composed in great part of those complex and semi resistant atoms which we include under the head of the anti group. However much one may be sceptical about the real existence of so-called hemi and anti groups, there is no gainsaying the fact that a given weight of native proteid, like egg albumin or blood-fibrin, cannot be converted wholly into crystalline or other simple products by trypsin; indeed, it is quite significant that, at the end of a long-continued treatment with an alkaline solution of the pancreatic ferment, there is usually found about fifty per cent. of peptone, while the other fifty per cent. of the proteid is represented mainly by more soluble products, such as the amido-acids. It is also significant that the peptone obtained from an artificial pancreatic digestion, where the proteolytic action has been long-continued and vigorous, resists the further action of the ferment. In other words, it is the so-called antipeptone. In line with this result is the fact that the peptones formed in pepsin-proteolysis, when treated with an alkaline solution of trypsin, are converted into amido-acids and other bodies of simple constitution to the extent of about fifty per cent. This is easily explainable on the ground that the hemi portions of the above peptones are broken down into simple products, while the anti portions remain unchanged, being resistant to the ferment and thus leading to a separation of the two groups, or at least to the isolation of the anti molecules.

There is much that might be cited in further support of these views, but doubtless I have said enough to make it plainly evident that in the pancreatic digestion of any native proteid, not more than one-half can at the most be transformed into crystalline products, while the other half will be represented mainly by a peptone incapable of further change by trypsin. Similarly, the products of pepsin-proteolysis exposed to the action of trypsin may undergo a like separation, the hemi groups only breaking down into simple products. Hence, the whole theory of the hemi and anti moieties of the proteid molecule means simply that, of the many complex atoms composing the molecule, one-half are easily decomposable by the pancreatic ferment, while the other half are more resistant and make up the so-called anti group.

In any active pancreatic digestion of either a native proteid, or of the products of pepsin-proteolysis, the anti group is represented mainly by antipeptone, although there is often found a small amount of a peculiar antialbumid-like body, insoluble in the weak alkaline fluid. Antipeptones, thus far studied, when entirely free from proteoses, are characterized by a low content of carbon, like the amphopeptones from pepsin-proteolysis. The following table shows the composition of a few typical examples:

Composition of Antipeptones.

	From blood-fibrin.[1]	From blood-fibrin.[2]	From antialbumose.[3]	From casein.[4]	From myosin.[5]
C	47.30	49.59	48.94	49.94	49.26
H	6.73	6.92	6.65	6.51	6.87
N	16.83	15.79	15.89	16.30	16.62
S	0.73	—	—	0.68	1.16
O	28.41	—	—	26.57	26.09

From these data it is evident that, while each individual peptone may have a composition peculiar to itself, they are all alike in possessing a relatively low content of carbon. The antialbumid, however, split off in these hydrolytic changes, like the antialbumid formed by the action of dilute acids at 100° C., is characterized by a correspondingly high content of carbon and a low content of nitrogen. As an illustration may be mentioned the myosin antialbumid formed in the digestion of myosin from muscle tissue by an alkaline trypsin solution. This body contains 57.48 per cent. of carbon, 7.67 per cent. of hydrogen, 13.94 per cent. of nitrogen, 1.32 per cent. of sulphur, and 19.59 per cent. of oxygen.[6] It is only necessary to compare these figures with those expressive of the composition of myosin antipeptone, to appreciate how wide a gap there is between these two products of trypsin-proteolysis, and both members of the anti group. Antialbumid, however, is a peculiar product, one which is liable to crop out somewhat unexpectedly, and with varying shades of resistance toward the proteolytic ferments. As formed in pepsin-proteolysis, it is more or less readily soluble in sodium carbon-

[1] Jac. G. Otto: Beiträge zur Kenntniss der Umwandlung von Eiweiss stoffen durch Pancreas ferment. Zeitschrift f. physiol. Chem., Band 8, p. 129.

[1] Kühne and Chittenden: Studies in Physiol. Chem. Yale Univ., vol. ii., p. 40.

[2] J. Otto: Zeitschr. f. physiol. Chem., Band 8, p. 146.

[3] Kühne and Chittenden: Zeitschr. f. Biol., Band 19, p. 196.

[4] Chittenden: Studies in Physiol. Chem., Yale Univ., vol. iii., p. 101.

[5] Chittenden and Goodwin: Journal of Physiol., vol. xii., p. 34.

[6] Ibid., p. 36

ate, and in part readily convertible into antipeptone by trypsin. Still, the same substance, or at least a closely related body, makes its appearance in the form of an insoluble residue whenever a native proteid is digested by trypsin. At times, the amount of this insoluble product may be quite large, even reaching to one-fourth of the total proteid matter ;[1] but when so formed in the intestine it must entail a heavy loss of nutriment, for whenever the anti group is split off after this fashion it becomes very resistant to the further action of the ferment. Separating in this manner from an artificial digestive mixture, it may be dissolved in dilute caustic alkali, reprecipitated by neutralization, and then once again brought into solution with dilute sodium carbonate. In this form it will yield some antipeptone by the further action of trypsin, although even then a large amount of the antialbumid is prone to separate out as a gelatinous coagulum, resistant to the action of the ferment.

The peculiar action of trypsin, however, as a proteolytic enzyme is shown in the production of a row of crystalline nitrogenous bodies of simple constitution whenever the ferment is allowed to continue its action for any length of time, either on native proteids or on proteolytic products containing the hemi group. This, to be sure, is a fact long known, but it gains added significance as year by year new bodies are discovered as products of trypsin-proteolysis with various forms of proteid matter. The very character of the bodies originating in this manner gives evidence of the far-reaching decompositions involved ; decompositions which are perhaps attributable as much to the innate tendencies of the proteid material as to the specific action of the ferment. As representatives of this peculiar line of cleavage, we have first the well-known bodies, leucin and tyrosin ; leucin, a body belonging to the fatty acid series, known as amido caproic acid, $CH_3 (CH_2)_3 CH (NH_2) COOH$; and tyrosin, a body belonging to the aromatic group, having the formula $C_6H_4 <^{OH}_{CH_2} CH (NH_2) COOH$, and known as otyphenol-amido-propionic acid.

These two bodies are therefore representatives of two distinct groups or radicals present in the hemi portion of the proteid molecule ; the first belonging to the fatty acid series, the second to the aromatic group from which come such well-known bodies as indol, skatol, benzoic acid, and other substances prominent in proteid metabbolism. Moreover, these two hydrolytic products of trypsin-proteolysis are formed in considerable quantity, at least in an artificial digestion. Thus, Kühne has reported the finding of 9.1 per cent. of leucin and 3.8 per cent. of tyrosin as the result of a typical digestion, and I have tried many similar experiments with like results. Further, we know from observations made by different investigators that both leucin and tyrosin may be formed in considerable quantities in trypsin-proteolysis as it occurs in the living intestine. But to this point we shall return later on.

Besides leusin and tyrosin, aspartic acid and glutamic acid have long been known as decomposition products of the vegetable proteids. Thus, both acids were discovered by Ritthausen and Krensler[2] in the cleavage of such proteids by boiling dilute acid. Hlasiwetz and Habermann[3] likewise obtained aspartic acid in large quantity by the breaking down of animal proteids under the influence of bromine. Further, Siegfried[4] has recently obtained glutamic acid as a product of the decomposition of the phosphorus-containing proteid, reticulin, from adenoid tissue. As products of trypsin-proteolysis, Salkowski and Radziejewski[5] found aspartic acid in the digestion of blood-fibrin ; and v. Kineriem[1] likewise obtained it in the digestion of gluten from wheat. Both of these acids belong to the fatty acid series, the aspartic acid being a dibasic acid, $COOH.CH_2 CH (NH_2) COOH$, or amido-succinic acid, while glutamic acid, $COOH. C_3 H_5 (NH_2) COOH$, is likewise a dibasic acid, known as amido-pyrotartaric acid.

Of more interest, physiologically, are the recently discovered nitrogenous bases lysin and lysatinin, or lysatin. These two bodies were first identified by Drechsel[2] and his co-workers as products of the decomposition of various proteids, when the latter are boiled with hydrochloric acid and stannous chloride. They were first obtained by Drechsel as cleavage products of casein.[3] Later, Ernst Fischer,[4] working under Drechsel's direction, separated them as decomposition products of gelatin ; while Siegfried[6] obtained them as products of the cleavage of corn-glutin, glutenfibrin, hemiprotein, and egg-albumin, by boiling with hydrochloric acid and stannous chloride. In all of these cases it is obvious, from the method of treatment pursued, that the two bodies result from a simple hydrolytic cleavage of the proteid molecule. Hence, it might be assumed that these two bases would likewise be formed in trypsin-proteolysis. This assumption, Hedin,[6] working in Drechsel's laboratory, has proved to be correct, and furthermore he has shown that the amount of these bases formed in pancreatic digestion is not inconsiderable. Thus, as products of the digestion of three kilos. of moist blood fibrin with an alkaline solution of trypsin, 28 grammes of pure platino-chloride of lysin were obtained, and sufficient lysatinin to establish its identity.

Lysin has the composition of $C_6 H_{14} N_2 O_2$, being a diamido-caproic acid, a homologue of diamido-valerianic acid. Hence, this body, like leucin or amido-caproic acid, is a representative of the fatty acid group, the chemical relationship between the two bodies being plainly apparent from their constitution. The constitution of lysatinin is less definitely settled, but apparently it has the composition of a creatin, its formula being $C_6H_{13}N_3O_2$, in which case it might be more appropriately termed lysatin. The special point of interest, however, connected with this latter body as a product of trypsin-proteolysis is the fact that by simple hydrolytic decomposition, all chance of oxidation being excluded, it can break down into urea.[7] For years, chemists have been seeking to trace out the line of cleavage or decomposition by which urea results in proteid metabolism. In the nutritional changes of the body, nearly all the nitrogen of the ingested proteid food is excreted in the form of urea, but chemists working with dead food-albumin have been heretofore unable to break down proteid matter directly into urea. This, however, Drechsel has now succeeded in doing, and it is to be especially noted that the line of decomposition or cleavage is simply one of hydration, in which the proteid molecule, either through the action of boiling dilute acids, or through the more subtle influence of the hydrolytic enzyme, trypsin, is gradually broken down into cleavage products from one or more of which comes lysatin. The very resemblance of this body to creatin suggested that, since the latter breaks down into urea and sarcosin when boiled with baryta water, lysatin might possibly behave in a similar manner. This, as has been previously stated, was found to be the case, and Drechsel obtained from ten grammes of a double salt of lysatin and silver one gramme of urea nitrate, by simple boiling with baryta water.

[1] Kühne and Chittenden : Ueber die nächsten Spaltungsproducte der Eiweisskörper. Zeitschr. f. Biol., Band 19, p. 196.

[2] Verbreitung der Asparaginsäure und Glutamnisäure unter den Zersetzungs-producten der Proteinstoffe. Journal f. prakt. Chemie, Band 3, p. 314.

[3] Ueber die Proteinstoffe. Liebig's Annalen, Band 159, p. 304.

[4] Ueber die chemischen Eigenschaften des Reticuleten Gewebes. Habilitationschrift. Leipzig, 1892.

[5] Bildung von Asparaginsäure bei der Pancreas-Verdanung. Bericht. d. deutsch. chem. Gesellsch., Band 7, p. 1030.

[1] Asparaginsäure, ein Product der künstlichen Verdanung von Kleben durch die Pancreas-Drüse. Zeitschr. f. Biol., Band 11, p. 198.

[2] Der Abban der Eiweissstoffe. Du Bois Reymond's Archiv f. Physiol., p. 248. 1891.

[3] Zur Kenntniss der Spaltungsproducte des Caseins. Du Bois Reymond's Archiv f. Physiol., p. 254. 1891.

[4] Ueber neue Spaltungsproducte des Sernies. Ibid., p. 265. 1891.

[5] Zur Kenntniss der Spaltungsproducte der Eiweisskörper. Ibid., p 270. 1891.

[6] Zur Kenntniss der Producte der tryptischen Verdanung des Fibrins. Ibid., p 273. 1891.

[7] Drechsel: Ueber die Bildung von Hamstoff aus Eiweiss. Du Bois Reymond's Archiv f. Physiol., p. 261. 1891.

It is thus evident that a certain amount of urea may come from the more or less direct hydrolysis of proteid matter in the intestinal canal, all but the last steps in the process being the result of the ordinary cleavage processes incidental to trypsin-proteolysis. This fact affords additional evidence of the profound changes set in motion by this proteolytic enzyme. It is not, of course, to be understood that all the urea formed in the body has its origin in this manner. Such a method of decomposition taking place in the intestinal tract would be exceedingly unphysiological and wasteful, but we can readily see how such a line of cleavage might result in inestimable gain to the economy in cases where excess of proteid food has been ingested. Under such circumstances, a portion of the surplus might be broken down directly in the intestine into this urea antecedent, and thus quickly removed from the system with a minimum amount of effort on the part of the economy. Drechsel estimates that about one-ninth of the urea daily excreted may come from the direct decomposition of lysatin, the latter obviously having its origin in trypsin-proteolysis.

Another product of trypsin-proteolysis which has long been recognized, although its real nature has not been known, is tryptophan or proteinochromogen. This body is not only a product of the pancreatic digestion of proteids, but it is also formed whenever native proteids are broken down through any influence whatever, the substance coming presumably from the hemi moiety of the molecule. It is especially characterized by the bright-colored compound it forms with either chlorine or bromine, so that for a long time it went by the mystical name of the "bromine body." When brought in contact with either of these agents, it immediately combines with them to form a new compound of an intense violet color, termed proteinochrome. This constitutes the usual test for its presence, a little bromine water, for example, quickly bringing out a violet color when added to a fluid containing the chromogen. The body is readily soluble in alcohol, and hence can be easily separated from the primary products of trypsin-proteolysis such as the proteoses and peptones. Krukenberg considered the substance not a true proteid, but rather a body belonging to the indigo group; but Stadelmann, who has given the matter a very thorough investigation, comes to the conclusion that it is truly a proteid body, in part closely related to peptone, although in many ways quite different. The following composition of bromine proteinochrome, as determined by Stadelmann,[1] shows the general nature of the compound formed when bromine combines with the chromogen:

	A	*D*
C	49.00	48.12
H	5.28	5.09
N	10.99	11.92
S	3.77	3.10
O	11.01	12.00
Br	19.95	19.77

From the average of the several results obtained, it would appear that the proteinochromogen, which could not be isolated by itself in sufficient purity for analysis, must contain approximately 61.02 per cent. of carbon, 6.89 per cent. of hydrogen, 13.68 per cent. of nitrogen, 4.69 per cent. of sulphur, and 13.71 per cent. of oxygen. As a proteid-like body, it is thus especially characterized by an exceedingly high content of carbon and a high content of sulphur. As a product of trypsin-proteolysis, it must presumably come from the cleavage of hemipeptone, which, however, contains only 0.75 per cent. of sulphur. But as we have seen, this latter body breaks down by further cleavage into substances such as leucin, tyrosin, lysin, etc., which contain no sulphur whatever, and as there is no elimination of sulphur in this process through formation of hydrogen sulphide gas or otherwise (putrefaction being excluded by the presence of either chloroform or thymol), it follows that this surplus sulphur must accumulate somewhere. The high content of carbon, however, in proteinochromogen is sufficient evidence that the substance cannot have its origin in a simple cleavage of hemipeptone. On the other hand, everything points to a synthetical process, in which two or more cleavage products of the proteid molecule combine and form a new body, such as proteinochromogen, containing all the sulphur cast off from the hemipeptone in the production of the crystalline bodies, and having in itself properties common to peptone and to a body of the indigo group, the latter obviously coming from some aromatic antecedent.

In view of the apparent complexity of the processes attending trypsin-proteolysis, it is not strange that even simpler substances than those already described should make their appearance. Thus, when it was suggested that ammonia, NH_3, might be formed under the influence of trypsin, it was not considered at all improbable, for in the hydrolytic decomposition of proteids by boiling dilute acid, as well as by baryta water, it had long been known as a prominent product. Obviously, in trypsin proteolysis, the one thing to be guarded against in proving the formation of ammonia is the contaminating influence of bacteria. Hirschler,[1] however, with a full recognition of this danger, made digestions of blood-fibrin with trypsin extending only through four hours and at a temperature of 32° C., and yet obtained plain evidence of the formation of ammonia. Stadelmann,[2] with still greater precautions to exclude all bacterial agencies, using boiled fibrin as the material to be digested and thymol to prevent any possible infection of the digestive mixture, proved conclusively that ammonia was formed as a result of trypsin-proteolysis. Thus, in the digestion of 35 grammes of boiled blood-fibrin with 60 c.c. of a pancreas infusion for three days, 20.8 milligrammes of NH_3 were developed, presumably coming from the liberation of a certain amount of nitrogen attendant upon the formation of such bodies as leucin and tyrosin, which contain considerably less nitrogen than their direct antecedent hemipeptone, or the original proteid. We thus have striking proof of the ability of this peculiar proteolytic enzyme to set in motion hydrolytic changes which may extend even to the production of such simple substances as ammonia, thus making still more striking the parallelism between trypsin-proteolysis, on the one hand, and the artificial hydrolysis produced by boiling dilute acids on the other.

In view of all these facts regarding the nature of the product obtainable by pancreatic proteolysis, it is very evident that many chemical changes may take place side by side in a vigorous pancreatic digestion of proteid matter. We know without a shadow of doubt that all of the bodies enumerated as products of pancreatic digestion are the results of trypsin-proteolysis, and not the products of putrefactive changes. Bacteria, it is true, are able to produce many like products, and in the living intestinal tract exercise an important influence, especially in the breaking down of resistant forms of proteid matter, and in the decomposition of surplus material which has escaped the pancreatic ferment. But all the bodies described above are readily obtainable by trypsin-proteolysis under conditions which exclude all possibility of bacterial action.

Granting, then, as we must, that these various bodies are all products of pancreatic proteolysis when the process is carried on in beakers or flasks, we need to consider next how far such bodies appear in the natural process as it takes place in the living intestine. We know indeed that the natural and the artificial processes are very much alike so far as the qualitative results are concerned, but what differences there may be between the quantitative relationships in the two cases is less certain. One might naturally reason that, with the facilities for rapid absorp-

[1] Ueber das beim tiefen Zerfall der Eiweisskörper entstehende Proteinochromogen, den die Bromreaction gebenden Körper. Zeitschr. f. Biol., Band 26, p. 521.

[1] Bildung von Ammoniak bei der Pancreasverdanung von Fibrin. Zeitschr. f. physiol. Chem., Band 10, p. 302.

[2] Bildung von Ammoniak bei Pancreasverdanung von Fibrin. Zeitschr. f. Biol., Band 24, p. 261.

tion that exist in the small intestine, trypsin-proteolysis would rarely proceed beyond the peptone stage, yet we have ample evidence that, under some circumstances at least, both leucin and tyrosin are formed in considerable quantities in the intestine.

It obviously makes a very great difference to the economy in what form the proteid matter ingested leaves the intestine on its way into the blood-current. It has been more or less generally assumed that, under the ordinary circumstances existent in the intestinal tract, the crystalline and other bodies coming from the more profound changes incidental to trypsin digestion are rarely formed, mainly on the ground that such transformations would entail great loss of nutritive material to the blood. Years ago, Schmidt-Mülheim [1] made a series of experiments on the changes which proteid foods undergo in different portions of the alimentary tract, from which he concluded that leucin and tyrosin are formed in such small quantities in natural pancreatic digestion that they represent only a very small part of the nitrogen absorbed from the intestine. This conclusion has been more or less generally accepted, especially as several observers have reported finding only small amounts of these bodies in the intestine under what might be assumed to be favorable circumstances for their formation. In artificial digestions, on the other hand, as we have seen, leucin and tyrosin, together with the other simple bodies described, may appear in large quantities. Obviously, two suggestions present themselves as explanatory of this difference: either there is such a rapid absorption of these crystalline products from the intestine that they cannot be detected other than as mere traces, or else the natural process takes a different course from the artificial, owing to the rapid withdrawal from the intestine of the antecedent of the leucin and tyrosin, viz., the hemipeptone.

Concerning this point, Lea [2] has recently reported some experimental evidence obtained by a comparative study of artificial pancreatic digestion as carried on in a flask, with similar digestions carried on in parchment dialyzer tubes, the latter so arranged that the diffusible products of proteolysis can pass from the tube into the surrounding fluid. As Lea justly says, this whole question of the formation of leucin by proteolysis is a very important one, since it bears closely upon one of the possible methods by which urea may be quickly formed from proteid food. Thus, we have evidence that when leucin is administered to mammals a portion of its nitrogen, at least, quickly reappears as urea and uric acid in the urine.[3] Further, there is a certain amount of evidence that this transformation takes place in the liver, viz., in the organ where leucin absorbed from the intestine would naturally be first carried.[4]

Obviously, the main point to be gained in a dialyzer experiment is the removal of the soluble products of digestion as soon as they are formed; but peptones are not rapidly diffusible, and the process, as noted under the head of gastric digestion, cannot be considered in any sense as yielding the same results as might be obtained in the living intestine. Still, the method offers a closer approach to the natural process than when carried on in a flask, and the results are of interest. Thus, Lea finds in the first place that in a dialyzer-digestion the proteid is more quickly dissolved, and that there is far less tendency for the formation of an insoluble antialbumid with its natural resistance to the ferment. Still, it is to be noticed that the amount of this antialbumid residue formed by trypsin-proteolysis in a flask is mainly dependent upon the strength of the ferment solution and the character of the proteid undergoing digestion. If the latter is in a fairly digestible form, and the enzyme solution reasonably active, then even the flask-digestion may show almost no residue of antialbumid. Yet there is at least a shade of difference in the two cases, which may be expressed by the statement that trypsin-proteolysis, as carried on in a dialyzer tube, is prone to give less insoluble antialbumid than a corresponding digestion in a flask. Further, the amount of leucin and tyrosin formed in a flask-digestion is always greater than in a dialyzer digestion, other conditions being equal. Naturally, these results help us very little in drawing any conclusions regarding the extent to which leucin and tyrosin may be formed in the intestine. They merely emphasize the fact that the withdrawal of a certain quantity of hemipeptone from the digestive mixture tends to reduce by so much the yield of leucin and tyrosin. It is hardly to be assumed, however, that the rate of withdrawal of peptone from the intestine can keep pace with its formation, especially when it is remembered that the proteid matter coming into the small intestine, owing to its preliminary treatment in the stomach, is in a comparatively digestible condition. Further, the pancreatic juice is a remarkably active fluid, and proteolysis under its influence must make rapid strides. I can easily conceive that proteolysis by trypsin, when carried on in a flask, may lead to the formation of much larger amounts of leucin and tyrosin, and of other bodies as well, than occurs in the natural process; but there is certainly no ground for the belief that leucin and tyrosin are wholly wanting in pancreatic proteolysis as it occurs in the intestine.

With a view to obtaining some positive evidence on this point I have tried a few experiments on animals, the results of which have convinced me that, in the case of dogs at least, both leucin and tyrosin may be formed in natural pancreatic digestion in considerable quantities. Thus, in one experiment a good sized dog, kept without food for two days, was fed four hundred grains of chopped lean beef at 8 A.M. At 2 P.M. the animal was killed and the intestine ligatured close to the pylorus. The lower end of the small intestine was likewise ligatured. The portion inclosed between the two ligatures was then removed from the body and the contents of the intestine pressed and rinsed out with distilled water. In the stomach was found a small amount of semi-digested matter weighing about fifty grammes. The material obtained from the intestine was strained through mull, the fluid rendered faintly acid with acetic acid, and heated to boiling. The clear filtrate from this precipitate was concentrated to a very small volume, and while still hot precipitated with a large amount of ninety-five per cent. alcohol. A small gummy precipitate resulted, which was thoroughly extracted with boiling alcohol and the washings added to the alcoholic filtrate. The precipitate contained some deuteroproteose and a small amount of true peptone.

The alcoholic fluids were evaporated to a small volume and set aside in a cool place. As a result, quite a separation of leucin and tyrosin occurred in the characteristic cystalline forms. No attempt was made to effect a quantitative separation of the two bodies, but the mixed precipitate finally obtained weighed, after recrystallization, over three fourths of a gramme. Leucin was plainly in excess, but considerable tyrosin must have been left in the alcoholic precipitate, owing to its greater insolubility in this menstruum. This experiment is almost a counterpart of one reported by Lea,[1] and like his indicates that both leucin and tyrosin may be formed in not inconsiderable quantities by pancreatic proteolysis as it occurs in the intestine. This being so, one is naturally called on to explain "the physiological significance of a process which at first sight appears to result in a degradation of the potential energy of proteids, under conditions such that the energy set free can be of little use to the economy." [2] But it is quite possible, as Lea has suggested, that these amido bodies have an important part to play in some of the synthetical or other processes of the organism, and that their formation is consequently necessary for the well-being of the body. Whether this is so or not, we

[1] Untersuchungen über die Verdauung der Eiweisskörper. Du Bois Reymond's Archiv f. Physiol., 1879, p. 39.

[2] A Comparative Study of Artificial and Natural Digestions. Journal of Physiology, vol. ii., p. 226.

[3] E. Salkowski: Weitere Beiträge zur Theorie der Harnstoffbildung. Zeitschr. f. physiol. Chem., Band 4, pp. 55 and 100.

[4] W. Salomon: Ueber die Vertheilung der Ammoniaksalze im thierischen Organismus und über den Ort der Harnstoffbildung. Virchow's Archiv, Band 97, p. 149.

[1] Journal of Physiology, vol. ii., p. 255. [2] Lea: loc. cit.

may well consider the formation of these amido-acids in pancreatic proteolysis as a means of quickly ridding the body of any excess of ingested proteid food, with the least possible expenditure of energy on the part of the system. This has always seemed to me the probable purpose of the profound changes which the pancreatic ferment is capable of inducing.

The primary object of both gastric and pancreatic proteolysis is to render the proteid foods more easily available for the needs of the economy, viz., to aid in their absorption and consequent distribution to the master tissues and organs of the body. This is doubtless fully accomplished by the formation of the so-called primary and secondary products of proteolysis, *i.e.*, the proteoses and peptones which are, comparatively, not far removed from the mother-proteid, except in solubility and other minor points. In the ferment trypsin, however, we have a special agent endowed with the power of carrying on the hydrolytic cleavage to a point where exceedingly simple bodies result, and through whose agency any excess of proteid material in the intestinal canal may be quickly broken down into a row of products easily removed from the system. It is to be remembered, however, that the very nature of the proteid molecule precludes the possibility of anything like a complete decomposition into crystalline or other simple products. Full fifty per cent. of the peptone formed must be antipeptone, which cannot be further changed by trypsin under any circumstances, so that, whether the amount of proteid in the intestine be large or small, or whether it is exposed for a longer or shorter period to trypsin proteolysis, there will always be a fairly large amount for absorption. This may well be considered as one of the reasons for the peculiar structure of the proteid molecule, the anti group being always available for the direct nutrition of the body, while the representatives of the hemi group, especially when proteid is present in excess, can be quickly and readily broken down into simple products. In other words, the direct formation of these simple bodies in the intestine furnishes a short path to urea, thus leading to the rapid elimination of any excess of proteid material.

We may well attribute to the epithelial cells of the intestine the power, under normal circumstances, of regulating and controlling, even though indirectly, the order of events in the intestine. Just as the so called secreting cells of the tubuli uriniferi may lose for a time their power to pick out from the blood material destined for the urine, being clogged or exhausted by continued effort, so the epithelial cells of the intestine, which play such an important part in the absorption of proteid matters from the alimentary tract, may, in the presence of an excess of proteid matter, become temporarily exhausted, and, refusing passage to the proteoses and peptone formed by proteolysis, render possible further hydrolytic cleavage into leucin, tyrosin, lysatin, etc.; bodies which, by one method or another, can be readily transformed into urea. At the same time, as already stated, it seems more than probable that some formation of these amido-acids always occurs in the intestine, and that these bodies have some specific part to play in the normal processes of metabolism going on in the body. The more one studies the processes of nutrition in general, the more one is impressed with the view that there is a purpose in everything, and that the formation of even such bodies as leucin and tyrosin may be connected with hidden processes, the key to which has not yet been found. We see an analogous case, perhaps, in the action of the inorganic salts in nutrition, some of which, at least, neither undergo change themselves nor induce changes in the substances, and yet we know their presence is indispensable for keeping up the normal rhythm of the nutritional process of the body.

(To be continued.)

Still Ahead.—Paris has 2,208 medical practitioners, New York has 2,580, not counting homœopaths.

Original Articles.

SOME FACTS BEARING ON THE ETIOLOGY OF TYPHOID FEVER.

By CYRUS EDSON, M.D.,

COMMISSIONER OF HEALTH FOR CITY AND STATE OF NEW YORK.

Typhoid fever, as is well known, is particularly prevalent in the fall and in the spring of the year. It is also significant that many of the great epidemics of typhoid, which have been transmitted through the medium of water-supplies of towns, have been caused by infection occurring during the winter months. In the case of the epidemic that broke out in Plymouth, Penn., a few years ago, the infective material was deposited on the banks of a small stream on the snow, then several feet deep, where it was subjected for a number of days to a temperature of about twenty degrees below zero. A thaw occurring, it was washed into the stream and thence into the water-supply of the town. From twenty to twenty-five days later, a large number of persons in the town were taken sick with typhoid fever.

A very interesting outbreak of typhoid fever has recently occurred in the town of Grand Forks, N. Dak. I am indebted to Mr. W. S. Russell, City Engineer of Grand Forks, for the following facts: The town of Grand Forks is situated on a tributary of the Red River of the North. Its population is about ten thousand. Its water supply is taken from the stream on which it is situated, at a point well above its sewage discharge, which is also into the stream. Sixty miles above Grand Forks is the town of Crookston, with a population of about four thousand. Just prior to November 17, 1893, several cases of typhoid occurred in the latter place, and, as a precautionary measure, the sewers of Crookston and a number of cesspools were thoroughly flushed out with water, causing a discharge into the river of a large body of contaminated water. The river at the time was coated with thin ice. This flushing was done on November 17, 1893. About thirty days later (approximately the period of incubation of typhoid fever, plus the time elapsed for the infection to flow sixty miles) typhoid fever broke out in Grand Forks, and between December 17, 1893, and March 1, 1894, one thousand one hundred and sixty-nine cases occurred in the town. The mortality was exceedingly low, however, only seventy-eight deaths being reported.

We have recently had another example of winter typhoid, that afforded by the city of Buffalo, the details of which, however, are not at present available. Numerous other examples of typhoid occurring during the winter, the early spring, and the late fall, could be instanced, and it seems to the writer that these outbreaks point definitely to the fact that the infection of typhoid fever is much more dangerous during the cold weather, when the temperature of the water is near the freezing point, than at any other time.

Two causes probably operate to effect this: First, oxidization, due to the action of free oxygen and resultant oxidizing processes in the water, affects organic compounds, and destroys germ life more rapidly under the influence of warm weather; second, the micro-organisms of fermentative decomposition of organic matter (including the nitrifying bacteria) in contaminated water are most active when the waters are warm, and these germs or their products are probably inimical to the bacillus typhosus. Cold water, in other words, tends to hold the typhoid bacillus unchanged; to preserve it so that it may be carried great distances by flowing streams, and to render the contamination of the underground currents supplying wells and springs much more dangerous during the cold seasons of the year than in the summer, when oxidation and fermentative changes due to warmth are active.

The Board of Health directed its bacteriologists to make weekly bacteriological examinations of the Croton

water during the year 1893, for the purpose of determining the number of bacteria per cubic centimetre capable of growing in nutrient gelatin at room temperature. This was regularly done under the supervision of Dr. Hermann M. Biggs, Director of the Bacteriological Laboratory. A study of the results obtained is of very great interest, and bears directly on the subject under consideration. The following table shows the average per month of the number of bacteria per cubic centimetre:

January	6,828	July	302
February	5,202	August	394
March	3,122	September	429
April	1,180	October	527
May	1,078	November	705
June	392	December	10,465

The following table shows the average number of bacteria in one cubic centimetre. This has been compiled in order to show conditions during the cold months:

January, February, and March	5,051
April, May, and June	883
July, August, and September	375
October, November, and December	3,872

Mr. Alfred L. Beebe, of the Board of Health Bacteriological Laboratory, in his report analyzes these figures as follows: "It will be noted, first, that there is a steady decrease in the number of bacteria for the first seven months of the year, and a corresponding increase in the remaining five; second, that the number of bacteria is much higher during the colder than during the warmer months (average for January to March, and October to December, inclusive, 4,962; for April to September, inclusive, 629); third, that in nearly every case where the number of bacteria on a given date is abnormally large as compared with that for previous and succeeding dates, a rainfall and the putting into use of a new storage reservoir was, on investigation, found to have taken place some days previous; fourth, that the number of bacteria is very much greater during the months when the ground is frozen than that of the rest of the year (average for January, February, March, and December, inclusive, 6,404; for April to November, inclusive, 626). This latter fact can probably be partly accounted for by the increase of surface wash from rainfall when the ground is frozen, which carries with it into the various water-courses large numbers of soil bacteria." But it is to be partially accounted for because of the facts which I have already given, viz., decreased effect of oxidization in the presence of low temperature.

"The regular decrease in bacteria from January to July, and the corresponding increase from the latter date to the end of the year, are curious, and at first sight apparently exactly the reverse of what would be expected. It has usually been supposed that water contamination was much more dangerous during warm weather, when the heat favored germ propagation. As the average temperature rises during the year, and all forms of vegetable life exhibit increased activity and abundance, it would seem that the bacteria in water should follow the general rule." That the reverse is true finds its explanation in part at least to increased oxidization in summer under effect of heat, to which I have called attention.

The subject may be summed up, to wit: *Experience and science point straight to the fact that water purifies itself much more efficiently and with greater rapidity in warm than in cold weather.*

Flies and the Transmission of Disease.—During the epidemic of cholera at Hamburg, Dr. N. Simmonds examined flies captured in the post-mortem room at the time the bodies were open. In these flies numerous comma bacilli could be demonstrated. When the autopsies were concluded and the room washed, the cholera bacilli could not be found. An attempt was made to find how long the cholera germs were retained by the insects, and it was found that they disappeared in one hour and a half.

THE EYE-TREATMENT OF CHOREA.

A Critical Review of Certain Factors that may Lead to Spasmodic Diseases, and the Treatment of such Conditions without Drugs.

By AMBROSE L. RANNEY, A.M., M.D.,

NEW YORK.

My attention has been attracted by a most remarkable statement that has lately appeared, viz., the following quotation from a brochure, by an author of repute,[1] that has been published relative to the causation of chorea. He says: "The more recent studies of the pathology of chorea have led to a practically *unanimous*[2] conclusion that the seed of the disease is primarily in the blood-vessels and the blood, with secondary degenerative changes in the parenchyma, and that the cause is either some microbe or toxic substance, or both."

If such a conclusion be as nearly unanimous among the leading neurologists and pathologists as this author would assume, the following cases will, perhaps, prove food for their further reflection, and possibly a basis for the development of some new hypothetical theory relative to the satisfactory results that have been obtained by eye-treatment alone.

It is certainly inconsistent with any such visionary theory (although based upon the results of pathological and bacteriological investigation), that many cases of the most aggravated and chronic type of chorea should get well without recourse to drugs; and remain free from any return of the spasmodic movements of the face, trunk, or limbs, whenever sources of peripheral reflex irritation are scientifically investigated and satisfactorily corrected.

If it can be shown (as it has already been to the satisfaction of many) that a thorough relief from eye-strain has alone produced a complete and permanent cure of many cases of chorea that were chronic and apparently hopeless, I doubt if the majority of intelligent practitioners of medicine will concur in the belief that purely local treatment (confined to the muscles of the orbit and the refraction of the eyes) effected such results through elimination of microbes or by neutralizing toxic materials.

It was not long ago that a few enthusiastic pathologists became strongly imbued with the belief that some intestinal poison was to be discovered as the cause of epilepsy—a theory that, to my view, has not to-day the support of the best minds in the profession. It utterly fails to explain the published results obtained by me in twenty-five aggravated cases of that disease, treated exclusively through the eyes,[3] as well as similar cases that have been reported by others.

Neither has the theory that a rheumatic diathesis creates chorea, which was for a long time highly extolled, any practical bearing upon the relief of choreic symptoms in the vast majority of the cases of chronic chorea that are encountered. At the present day, as in decades past, the physician continues to treat choreic symptoms with arsenic, as about the only drug that seems to control them. The changes are rung, from time to time, in very obstinate cases, by incorporating with arsenic tonics, strychnia, cold packs, cod-liver oil, chloral, morphia, picrotoxin, cimicifuga, antifebrin, salol, various electrical currents, experiments with magnets, and such other steps as the medical attendant (in his dire extremity) deems best suited to the exigencies of the case.

Some choreic patients seem for a time to recover under each of the various forms of medication suggested.[4] Some get well only when all of the drugs mentioned have been withdrawn; but a few continue to exhibit their spasmodic contortions in aggravated forms, until.

[1] American Journal of the Medical Sciences, January, 1894.

[2] Italics my own.

[3] New York Medical Journal, January 12, 1894. In this brochure I have given in full the various steps taken during the treatment of each case. The reader is referred to this contribution for many points that bear upon the diagnosis and correction of heterophoria.

[4] There is scarcely a drug in the Materia Medica that has not been at some time employed with apparent benefit in the treatment of chorea.

wearied with attempts to obtain relief, they resign themselves to fate, or in their despair are led to search for sources of reflex irritation.

We are all exposed (from birth until death) to the presence of certain atmospheric germs or microbes. Many forms of these are constantly being introduced into our bodies through the air, our food, and the water we drink. Constantly, through life, are certain toxic materials also being formed within the human body and eliminated through the kidneys, liver, intestinal tract, etc.

In some subjects, when the most favorable conditions for their retention, absorption, and multiplication exist, do these microbes and toxic substances hasten the dissolution of life; while in others that possess a reactive power capable of combating the elements of disease, life goes on in spite of microbes with its normal growth and decay.

We are forced to admit that seeds sown by the farmer as well as those of the weed carried and distributed by the wind flourish best in soil that is properly prepared for their reception and development. Is it therefore irrational to assert that any of the underlying causes of nervous debility, any constant sources of excessive and unnatural nervous expenditure, any hereditary condition that creates an uninterrupted leakage of nerve-force, may be an important factor in fitting the human soil for the seeds of disease that are ever present and ready to take root?

Should investigation end whenever microbes or toxic materials are discovered in the human economy? Should the causes of a diseased condition be regarded as determined so long as the underlying factors that enable this cause to exist and flourish are ignored? Which is the most important in medicine—to ascertain what adventitious agent can do damage under favorable conditions, or to so improve the nervous power of a patient as to enable the body to resist the seeds of disease?

So long as we are incapable of fighting our foe (when once established with a firm foothold within the human economy), what have we gained from the standpoint of the sufferer by simply knowing the name, exact appearance, or seat of the enemy?

I would not be construed as decrying the scientific results obtained by careful, painstaking bacteriological or pathological research. They undoubtedly tend to furnish the medical practitioner with some knowledge, after the chaff has been eliminated and the wheat carefully collected, that may in time aid in the prevention of disease, and possibly facilitate its cure. But, while these investigations are going on, while with great rapidity theories are being hatched and exploded, while the views of to-day may not be those of to-morrow, is it not the duty of every earnest practitioner of medicine to listen with attention to clinical facts that are capable of absolute verification, that are often fraught with immediate results to suffering humanity, and that open a wide field for the treatment and relief of obscure nervous diseases?

With these few preliminary remarks, I approach the discussion of certain factors in the causation of chorea that I believe to be vitally important. I shall endeavor to demonstrate the accuracy of these views by the details of treatment of several illustrative cases of extreme and chronic chorea.

In the first place, I would assert (as I have often done prior to this date) that clinical experience has demonstrated most positively a *direct causal relationship between eye-strain and chorea.*

The forms of defect encountered in the orbit, and their degree, are (in a very large proportion of chronic and transient cases of chorea) such as to entail upon the sufferer an enormous expenditure of nerve-force that is not only unnatural and detrimental to health, but capable of arrest by skilful hands.

This assertion is not a new one. It has been made over and over again during the past decade by many oculists of repute. It is a statement that can easily be verified by anyone who practises the later methods of investigating refraction or anomalies of adjustment of the muscles of the orbit (heterophoria);[1] yet it is one that is to-day too commonly ignored by many neurologists. Some seem to be too deeply engrossed in hunting for obscure causes of disease to see those that are already demonstrated; while others apparently prefer to accept any visionary theory rather than a plain clinical fact, if that fact tends to relegate drugs to the background.

To anyone who delves in the medical literature of the past, and who reads the theories that have flourished and been forgotten, it becomes at once apparent that the tendency of this age is to seek for the causes of disease, and, as far as possible, to remove them.

The argument that is advanced here is no longer a theory. It is supported by well-established physical laws and sustained by physiology. Furthermore, the results obtained when the abnormal eye-factors have been scientifically determined and removed can be shown to be almost instantaneous, and somewhat startling, in many of the cases thus treated.

Two years ago, one of the leading medical journals of this country published in its editorial pages,[2] in strong advocacy of this method of treatment, several columns under the following heading: "A Great Medical Discovery Ignored." From this editorial I quote the following paragraphs:

"There are few medical truths that have been discovered fraught with more possible and incalculable good to humanity than one that is ignored by the great body of the medical profession.

"There are explanations and sufficient reasons for this anomalous fact. Among them may be noted these:

"1. The discovery has come about slowly and silently. It has been made by no one man, and has come with no flourish of international congressional trumpeters. So softly and slowly has it crept into scientific medicine that its own advocates are but half aware of it, and do not yet realize its almost unparalleled value.

"2. It is a therapeutic measure that depends for its exercise upon an exactness of knowledge of delicate, mysterious physiological and psychological functions that few possess, and upon a subtle discrimination and judgment with which, by character or education, few are endowed.

"3. It has the misfortune to depend for its promulgation and practical application upon the specialist, and almost upon the specialist of a specialty—and this in a profession and in an epoch in which it is fashionable to sneer at specialism, and at the specialist who dares plead for the truth he knows—and that, at first at least, only he can know."

Perhaps the most common experience that I personally encounter in my office is to have patients tell me that either their doctor or some oculist whom they have consulted has said to them that "their eye trouble is the *result* of their physical weakness and *not a cause; that the relief of the eye trouble can have nothing to do with their recovery;* and that all statements to the contrary are not supported by facts."

It is for the purpose of demonstrating the counter-proposition, of showing that "eye-strain" may indirectly be the *cause* of obscure disease and not its result, and of turning, if possible, the channel of medical thought so as to benefit suffering humanity, that I deem it wise to raise my voice again in defence of a method of treatment that will often accomplish what drugs will not, and that is based upon science rather than therapeutical speculation and empiricism.

The few cases of chorea which I report here in detail I have selected from a number on my private records, in order to demonstrate most positively my view of the points at issue. They have been seen by many physi-

[1] The terms now commonly employed to designate anomalies of adjustment of the muscles that move the eyes were first suggested by my friend, Dr. George T. Stevens. They include the following: *Heterophoria*, abnormal deviating tendencies in any direction; *esophoria*, a tendency to deviate toward the nose; *exophoria*, a tendency to deviate toward the temple; *hyperphoria*, a tendency of one eye to seek a higher plane than its fellow; *orthophoria*, a normal condition of the eyes in respect to equilibrium.

[2] Medical News, December 12, 1891.

cians from time to time. To many of these patients the verbal or written opinion of prominent medical men had been given prior to my seeing them, "that *organic disease* unquestionably existed, and that the eyes had nothing to do with the causation of the symptoms."

In some of these cases no possible explanation of the facts here recorded can be suggested, except to admit that the correction of an existing "eye-strain" caused a cessation of the leakage of nervous force that had been going on for years; and, by so doing, the sufferers had been enabled to regain their normal condition.

The sad results, viewed from the standpoint of suffering humanity, that are entailed by indifference and prejudice in men of scientific reputation cannot be estimated.

By giving expression to others of their opinion concerning what they have not properly and patiently investigated themselves or will not see, thousands of sufferers are doomed to a life of misery.

Such patients naturally believe that abnormal eye-factors in their own case have been sought for by the latest methods and found to be absent by one who stands high in his profession. They quote to their friends the positive assertions of him (whom they believe infallible), that "eye-muscles are not worth investigating;" that "all deviating tendencies of the eyes are invariably due to errors of refraction;" that "Javal's instrument has been used, and that settles the question forever;" and other similar expressions, indicative either of inexperience, bigotry, or prejudice, that too often come to my own ears.

We are now prepared to pass to the consideration of some cases of chorea that I have selected from my case-books in order to demonstrate, if possible, beyond cavil that a direct relationship between "eye-strain" and extreme forms of nervous disturbances can exist; that the correction of "eye strain" may be followed by very marked benefit in some instances; that it is the duty of a physician to have the eyes of all patients afflicted with abnormal nervous disturbances examined early by some oculist who is familiar with and employs the latest methods; and that errors of adjustment of the eye-muscles are quite as important to detect and rectify as are marked errors of refraction.

Respecting the *relationship of chorea to anomalies of the visual apparatus*, I am led by my experience to draw the following conclusions:

1. Choreic subjects belong to one of two classes: (*a*) Those who tend to get well under almost any treatment, or even without treatment, and (*b*) those who fail to get relief from any medicinal aid. The latter tend to run a chronic course, usually one of unfavorable progression.

2. The *chronic form of chorea is one of the most serious and hopeless of nervous maladies* when treated by drugs alone. It is not infrequently associated with epilepsy or with mental impairment later in life. Chronic sick-headache may often be developed; and sometimes asthenopic symptoms are quite prominent.

3. Both forms of chorea are based, as a rule, upon a well-marked *neuropathic* or *tubercular predisposition*.

4. The pathology of chorea is not known. No one has ever proved that it was a "constitutional disease," in the sense that an organic lesion was essential to its development.

5. The *percentage of hypermetropia (usually latent) in choreic subjects is extremely large (apparently about seventy per cent)*. I make it a rule, with few exceptions, to correct the total error of refraction in choreic subjects fully by glasses. Often atropine has to be instilled into the eyes at frequent intervals, for a time, in order to arrest ciliary spasm, and enable the patient to accept a full refractive correction without marked discomfort.

6. The glasses ordered for choreic patients should be *most carefully fitted to the face* and *accurately centred to the pupils*.

7. An *investigation* for *latent heterophoria*[1] should always be made in choreic subjects with the greatest of care and patience.

8. The *relief* of *marked heterophoria* should be finally attained only by *graduated tenotomies* upon the muscles exhibiting abnormal tension, or by an *advancement of the tendons of the muscles exhibiting defective power*.

9. *Prismatic glasses are not curative*. They should not, as a rule, be prescribed for constant use.

10. Choreic subjects are usually rapidly cured by eye-treatment alone. So large has been the percentage of recoveries to the total number seen by me during the past ten years, that I have come to regard the prognosis of chronic chorea as extremely favorable.

11. The eye-problems encountered in choreic subjects are not, as a rule, as complicated and difficult to solve as those of epileptics; nor, in my experience, is the duration of eye-treatment apt to extend over as long a period before very decided benefit is observed.

12. I believe that the spasmodic movements which accompany and indicate organic lesions of the brain, as, for example, those of a lepto-meningitis, exist in but a small proportion of choreic subjects, and are usually associated with other evidences of disease.

That organic lesions of the brain and spinal cord may produce choreic movements of an extreme type, cannot be denied; but it is wise, in my experience, to be slow in giving an unfavorable prognosis in any case until all possible reflex causes of chorea have been thoroughly investigated and corrected.

13. The removal of young choreic subjects from school, or of adult choreic patients from business, is a step commonly taken by most physicians while treating chorea by drugs.

It must be apparent to all thinking minds that the rest thus given to the eyes and nerve-centres is a factor in the recovery of acute cases of chorea that is as important clinically as the drugs employed.

CASE I. *Aggravated Chorea, with Impairment of Speech and Walking.*—Miss L——, aged fifteen. Referred to me July 5, 1893, by Dr. Symmes, of Cranberry, N. J.

Family History.—The mother has always had violent sick head aches. One maternal aunt has severe sick-headaches. No phthisis in the ancestry.

History of the Case.—The patient has had marked chorea, off and on, for the past eight years. The first attack followed inflammatory rheumatism; but she has had no evidence of rheumatism since that attack.

About two months before I first saw her, she began to have pain in her eyes and sensitiveness to light. This was followed by the worst attack of chorea that she has ever had.

The twitching of legs, arms, and face was very marked, and her speech was so thick as to be almost unintelligible.

She walked with great difficulty, being unable to control her limbs.

During her first visit to the office she tore a handerkerchief into threads. She twitched so violently that her head had to be held by main force during the eye-tests; while her arms and legs were going in all directions She had slept very poorly for several weeks.

Eye Defects.—At the first examination the patient showed: Adduction, 33°; abduction, 7°; no hyperphoria; esophoria, 15°; in accommodation, esophoria, 10°; homonymous diplopia with a red glass, under homatropine, hypermetropia (+0.50^s) and astigmatism (+0.50^c axis 90°) in each eye.

After wearing a 5° esophoria prism for a short time, she showed esophoria of 22° and abduction of 2°.

Treatment and Results.—A full correction was given for her refractive error both for reading and distance. Graduated tenotomies were performed on the internal recti; one on the right internus and two on the left internus. Her tests two weeks after the last operation were: adduction, 47°; abduction, 8°; no hyperphoria; esophoria, 1°; vision, $\frac{20}{15}$ in each eye with refractive correction.

[1] A term that covers all forms of mal-adjustment of the muscles of the orbit.

Two days after the first operation, the patient's mother reported that she had slept through two entire nights very quietly. After the second operation, she appeared much more quiet and continued to sleep well.

Two weeks after the last operation and five weeks after the first visit, her mother reported that the patient was "absolutely well of all choreic symptoms."

A letter from her pastor dated October 6, 1893, says: "You ask what I think of Miss L——'s improvement. It is little short of miraculous. Both she and her parents owe you a debt that no money can discharge. When I see her now and consider her condition three months ago, my heart goes out in thankfulness to God that he has given unto men wisdom and power to so relieve the sufferings of mankind."

Up to the writing of this brochure, a report states that no return of the chorea has been observed, and that the patient continues to exhibit perfect health.

The complete and rapid recovery of this girl was naturally a source of great surprise to everyone who knew her. Her defective articulation and extreme chorea justified alarm, and a strong suspicion that some organic disease had been developed, of which the chorea was but one manifestation.

The following case is one of the most remarkable ones that I have ever seen. There was every reason to think that an organic lesion of the brain existed. I could hardly believe at first that marked benefit from eye treatment was to be expected.

Case II. *Chronic Chorea Followed by a Loss of Power in both Legs and the Right Arm.*—Miss S——, aged ten, a large child for her age, sent to me for treatment on June 15, 1891.

Family History.—Mother is perfectly well. Father has had some eye-trouble. One cousin on maternal side had epilepsy. One maternal aunt has nervous prostration. Paternal grandmother had nervous prostration. Considerable phthisis in the father's family.

History of the Case.—The patient has had several severe sicknesses from acute diseases incident to childhood.

Eight months ago it was noticed that she could not keep her hands still, and was constantly knocking things over. This kept growing worse until, six weeks before she came to me, she lost all use of the right hand. Her ankles, which had been growing weak for some time, turned over so badly that she occasionally fell down. At times her speech was badly affected, and her words often ran together so as to be almost unintelligible. When she reads, the letters blur badly and her eyes become very much inflamed. Her eyes had troubled her for some time before any choreic symptoms were noticed. One eminent neurologist of this city had seen the patient and pronounced the case one of organic brain disease. He had given a very unfavorable prognosis.

Eye Defects —Latent hypermetropia, + 1.00 s. Esophoria, 8°. Adduction, 38°. Abduction, 2°. Right sursumduction, 2°. Left sursumduction, 2°. A high degree of latent esophoria was subsequently disclosed by this patient.

Treatment and Results.—The treatment consisted in giving prisms, bases out, over each eye for constant wear, and later in performing graduated tenotomies upon both internal recti.

The improvement in the choreic symptoms began almost as soon as the prisms were put on. At the end of the first week her mother reported that she could dress herself much better than formerly; that her right hand rested quietly in her own when walking, whereas it used to be impossible to hold it on account of the twitching. She also began to use her right hand for the first time while in my consultation-room, to denote the position of test-objects while her eye-muscles were being tested.

The patient, four months after treatment was begun, wrote and sewed with her right hand, walked perfectly well, without turning of the ankles, and had no choreic symptoms whatever. The power in her right arm was fully regained later. The parents state that "she is as well as she ever was," and express the greatest gratitude because of her restoration to health. For nearly three years no return of her choreic symptoms has been observed.

On January 19, 1894, a friend of the parents of this patient visited the office. He reported that "the patient was now a strong and robust young lady, and that she had never at any time had the slightest symptom of her old trouble."

The third case reported had been regarded as a medical puzzle by most of the physicians that had been called upon to examine her. She had been totally incapacitated for work for four years, and no benefits from drugs had been obtained.

Case III. *Aggravated Type of Chronic Chorea, Accompanied by Deformity, Headache, Asthenopia, and Inability to Work.*—Miss C——, aged twenty-six, single. Referred to me for diagnosis February 27, 1888.

Family History.—Not known.

History of the Case.—The patient was a poor factory girl that was sent to me by a medical friend, Dr. O'Connor, of Holyoke, Mass., to see if anything could be done for her. No one who had seen her could make a diagnosis, although she had been seen by most of the prominent physicians of the State. Since her tenth year she had suffered with neuralgic headaches, asthenopia, and persistent trembling in her hands and arms. For four years there had been a stiffness and rigidity of the neck, accompanied by severe pain in the neck and "choking spells" when she attempts to speak or when excited. There is also marked contracture of the hands and arms.

Her appearance when she came to me was one of remarkable deformity. Her chin seemed to be held firmly in the region of the chest at the level of the fourth button of her dress. Both upper limbs were contractured in the state of semiflexion at elbows, wrists, and fingers, and trembled excessively when she tried to use them. They could not be extended, nor could the patient make use of the hands. She had been obliged to give up work on that account. Whenever she talked her face became painfully drawn and distorted. The mouth would especially be drawn downward. Under the least excitement she would be seized with what she called "choking spells." The throat muscles would contract and interfere seriously with respiration. She had constant headache, chiefly in the forehead and occiput, and a persistent pain in the neck. No painful points existed, nor did pressure, movement, or other tests reveal the existence of organic disease of the spinal cord. Sensibility to touch, pain, and temperature was normal. Motility was unimpaired. The muscular sense was perfect. No incoordination existed. I considered the case one of aggravated chorea, complicated by headache and asthenopia.

Eye Defects.—Hypermetropia, + 0.75. Esophoria, 20° (mostly latent). Left hyperphoria, 3°. Adduction, 22°. Abduction, 5°. Right sursumduction, 2°. Left sursumduction, 5°.

Treatment and Results.—The muscular anomalies were satisfactorily relieved by graduated tenotomies of both internal recti and the left superior rectus. Applications of static sparks were made daily for about two months. The patient had by this time regained the use of both hands, carried her head erect, had no headaches, and little spinal pain. For a while she returned to work. The effect of hard labor brought back her "choking spells;" hence she was advised to take absolute rest if they continued. She now has some asthenopia remaining and an occasional headache. Her facial contortions persist to a slight extent when she is unduly excited; but otherwise no spasmodic movements are noticed. I suspect that some latent hyperphoria exists still, and that further operative work on the eye-muscles will be demanded before the patient recovers completely.

The last report from this patient stated that there was a steady improvement in her condition, and that she had again returned to work. She had no headache and few

"choking spells." Her head and hands were no longer affected with distortion.

The following remarkable case is quoted from my work on "Nervous Diseases."[1] This patient was seen by me in the office of my friend, Dr. George T. Stevens.

CASE IV. *Chronic Chorea of Twelve Years' Duration with Horrible Facial Contractions.*—Mr. C——, minister of the gospel. Mother died of phthisis.

Family History.—No nervous diseases had existed among his direct ancestors, or in remote branches of his family.

History of Case.—About twelve years before this interview, his family had noticed frequent facial contortions which he was unable to control. A trip to Europe, and parish labors in a district where he spent most of his time in a carriage and wrote but little in his study, prevented its increase for about four years. He then became the pastor of a church and began active labor in his study. The facial contortions grew rapidly more aggravated in character. Every feature would become horribly distorted; the eyes would close, the forehead become terribly wrinkled, and the nose and mouth would assume attitudes which no one could possibly imitate by volition, and which it is difficult to describe. The hour of retiring was particularly dreaded, because the facial spasms would become terribly persistent and severe as soon as the eyes were closed and a recumbent posture was assumed. The facial contortions were always least severe in the morning, and grew more severe as the day progressed. No medicinal treatment had ever benefited the patient.

Eye Defects.—An examination showed hyperopia of a high degree, esophoria of 6°, and hyperphoria of right eye of 3°. He had been wearing *prisms with the base inward*, at the suggestion of an oculist. Naturally, he had been made decidedly worse by their use.

Treatment and Results.—A partial tenotomy was first performed to correct the hyperphoria. The facial spasms *ceased within an hour;* and no *sign of chorea was observed for two entire days.*

On the third day a very slight twitching about the mouth developed. A partial tenotomy of the internal rectus of the left eye was then performed. This completely corrected the esophoria.

Subsequent to the second operation, the patient had few, if any, choreic movements. He stated to me that, "unless excited, his face remained absolutely quiet," and that for the first time "he had that day been able to attend a meeting of ministers and look them in the face without facial spasms while discussing church matters." During his recital of his various symptoms, etc., to me, his face only showed one very slight convulsive movement. Thus, in less than one week, were the convulsive spasms of his face almost completely arrested by correcting a hyperopia and two muscular defects associated with the eye.

Such a case is rarely encountered. The patient was an adult. The duration had exceeded twelve years. The spasmodic movements were terribly severe. All medication had failed even to ameliorate them. They became greatly aggravated as soon as the patient was compelled to use his eyes in study or writing. He could not even "look out of a car window" without being thrown into a most distressing state; yet, in spite of all these unfavorable facts, he was apparently perfectly well when I last conversed with him.

CASE V. *Extreme Chorea of Face, Arms, and Legs.*—Miss H——, aged fifteen, referred to me August 17, 1889, by Dr. G. B. Banks, of Huntington, L. I.

Family History.—The mother has very severe headaches. One brother has sick-headaches. One sister had phthisis.

History of the Case.—The patient had been perfectly well until she had pneumonia, eighteen months prior to her visit to my office. About six months prior to the first examination by me she began to have twitchings in her hands and arms. These grew gradually worse, until at the present time they affect her legs, arms, and face to a marked degree. She frequently drops whatever happens to be in her hands, her mouth twitches very badly, and she is extremely nervous and excitable. She had some asthenopic symptoms four years ago, but has not been troubled since with her eyes. She is also troubled with marked dyspnœa on the slightest exertion.

Eye Defects.—Under atropine the patient showed: hypermetropia, + 0.75[s]; adduction, 20°; abduction, 6°; sursumduction, right, 2° +; left, 2° +; no hyperphoria; esophoria, 8°. Two days later, while wearing 2° esophoria prism, she disclosed 10° of esophoria with an abduction of 2°.

Treatment and Results.—The patient was at once given 4° of prism base out for her esophoria, and she wore them constantly for about six weeks with some slight improvement in her symptoms.

September 4, 1889.—A graduated tenotomy was performed on the right internal rectus. During the two weeks that followed this step, the choreic movements had almost entirely ceased.

October 8th.—A graduated tenotomy was performed on the left internal rectus. Two weeks later her father reported that she was going to school without bad effects, and was rapidly gaining flesh and strength. One month later he said that her dyspnœa had entirely disappeared.

November 11th.—Patient reports that prior to treatment she used to throw her pencils on the floor without knowing why, but has not done so since. She has no headache after study, as formerly, and has gained fifteen pounds in weight. The teachers in school have spoken to her parents of her marked improvement.

December 21st.—The right internal rectus was again divided, as some latent esophoria had been disclosed.

October 9, 1890.—Patient reports that she has had no chorea, and only an occasional headache.

Her muscular tests are: adduction, 20°; abduction, 7° +; sursumduction, right, 2° +; left, 2°=; right hyperphoria, ¼°; esophoria, 1°.

Reports from time to time during the past three years have been received from a neighbor, although the patient has not visited my office during this interval. From what I can learn, this patient continues to be absolutely free from any evidences of chorea.

The next case was one of the most surprising, both to myself and the patient, that I have ever encountered. The long persistence of the symptoms, the extreme physical weakness, the alarming attacks of laryngeal spasm that would occur without warning at intervals, and the tremor of the entire muscular system that persisted whenever any excitement or fatigue occurred, tended to make the prognosis grave and to justify a strong suspicion of organic disease.

(To be continued.)

[1] F. A. Davis: Lectures on Nervous Diseases. Philadelphia, 1888.

Actinomycosis.—The transmissibility of this disease to animals by direct inoculation has been studied by Professor M. Wolff and Dr. J. Israel, who have succeeded in making pure cultures from a case of actinomycosis hominis by sowing the granules on agar kept at 37° and devoid of air. The microbe is considered to be an anacrobe, yet a small quantity of oxygen does not prevent its growth. It grows very well in alkaline bouillon. The microscopical appearance of this microbe is said to be very variable—short and long rods, simple straight and branching or wavy filaments, cocci, and felt like masses are seen. The cocci are found free, but more frequently within the rods or filaments. The authors refrain from expressing a definite opinion as to their exact nature, but do not regard them as spores. They stain well by Gram's method. In none of the cultivations were club shaped elements met, but by injecting these cultivations into animals, tumors containing club shaped bodies were produced. Twenty-two animals were inoculated with the agar cultivations, and in all except one (a sheep) actinomycotic tumors were developed.

FORMS OF INTESTINAL OBSTRUCTION IN EARLY LIFE, WITH THEIR DIAGNOSIS.[1]

By JOHN DORNING, M.D.,

NEW YORK.

The time allotted to the part assigned me, of the subject to be discussed this evening, precludes anything more than a brief summary.

Clinically, intestinal obstruction is divided into an acute and a chronic form. Acute intestinal obstruction is characterized by a sudden onset, great urgency of the symptoms, and, unless speedy relief be obtained, usually a rapidly fatal termination. Treves mentions an ultra-acute form in which death follows a few hours after the initial symptoms. The chronic form is slower in its development, the symptoms are less severe, and the danger of death not so imminent. There are cases difficult to classify, but which might be termed subacute, which present symptoms of both acute and chronic obstruction. The varieties, or, perhaps, more correctly speaking, the causes of intestinal obstruction are:

1. **Congenital Malformations**; as, *a*, complete occlusion of the anus by a diaphragm of skin or membrane; *b*, absence of the anus, the rectum ending in a blind pouch at a variable distance from the perineum; *c*, the anus is present, but ends in a cul-de-sac, of varying length, the rectum also terminating in a blind pouch at some point higher up; *d*, absence of the rectum or some portion of the intestine; *e*, atresia of some part of the intestinal canal, the result of pathological changes during intra-uterine life.

2. **Intussusception or Invagination**, by which is meant the slipping of one portion of the intestine into an adjoining portion.

This is the most common form of obstruction observed in children. According to published statistics over fifty per cent. of the cases occur under ten years of age, and twenty-five per cent. and over during the first year. It is met with more often in males than in females.

Its varieties are ileal, ileo cæcal, ileo colic, colic, and colico rectal, according to the respective part involved.

3 **Volvulus, or the Twisting of the Bowel upon its Mesenteric Axis.**—This variety of obstruction occurs more frequently in adults than in children. In early life its most frequent site is at the sigmoid flexure.

4. **Constipation and Fecal Impaction.**

5. **Impaction of Foreign Bodies.**—The variety of foreign bodies swallowed by children, either accidentally or intentionally, is legion. One of my little two-year-old patients had a predilection for cloth as an article of diet. On one occasion, after she had suffered four days from obstinate constipation and vomiting, I removed from her rectum three pieces of woollen fabric that, when put together, measured forty-six inches in length by an inch and a half in width.

Foreign bodies give rise to obstruction, either as a mechanical impediment, because of their shape and size, or by the inflammatory swelling they set up by their presence. Round worms, by becoming rolled into a tangled mass, may cause intestinal obstruction. Insoluble mineral substances, as magnesia or bismuth, administered for a protracted period, may accumulate to such an extent as to form an obstruction.

6. **Constriction and Strangulation of the Bowel** by loops of intestine, fœtal bands (which are usually the result of peritonitis during intra uterine life), diverticula (as Meckels' diverticulum), by the forcing of a knuckle of intestine into a natural or unnatural opening, including hernia, both internal and external. Compression by an abdominal tumor, as an enlarged and displaced kidney.

7. **Stricture of the Intestine**, the sequel of a local enteritis, the most likely situation being in the cæcum at the ileo cæcal valve.

Ordinarily, the diagnosis of intestinal obstruction is not an exceedingly difficult matter, but in differentiating the particular form of obstruction the skill of the diagnostician is often taxed to its uttermost, and even then not always with success.

A child in apparently good health is seized with acute colicky pains, which soon become continuous. A convulsion may mark the beginning of the attack. Distressing and constant vomiting soon follows; at first the contents of the stomach are ejected, then the bile, and finally fecal matter. At first there may be several small evacuations from the bowels, accompanied by some degree of tenesmus, but absolute constipation shortly ensues. During the early part of the attack the abdomen may not be tender to the touch nor distended; later on there is a varying degree of tympanites, with pain on pressure. From the commencement of the attack the constitutional symptoms are generally quite pronounced. The face is pale and has an anxious expression. The temperature may be somewhat elevated, normal, or even abnormal. As the case progresses the pulse becomes very rapid and feeble. An insatiable thirst perhaps tortures the patient, the urine becomes scanty and high-colored and may even be suppressed. The features become pinched, the eyes sunken, and the skin covered with a cold and clammy perspiration. There is no longer complaint of pain. Unless relieved, at the end of from three to eight days the child dies in collapse.

The main symptoms upon which a diagnosis of intestinal obstruction is to be based are severe abdominal pain, persistent vomiting, and obstinate constipation. In determining the nature and location of the obstruction the age of the patient and the history of the case should receive due consideration, and a careful and thorough physical examination made under an anæsthetic if necessary.

In the new-born child constipation and vomiting would suggest the existence of congenital occlusion. If the vomited matter consist of a whitish mucus, the seat of the obstruction is likely to be high up in the small intestine. The ejection of meconium would point to an occlusion somewhere below the jejunum. By examination of the anus and rectum the existence of malformation in that locality can be readily discovered. If the obstruction be high up, palpation and percussion of the abdomen, in conjunction with the injection of water per rectum, may reveal the location, but not the nature of the trouble.

Intussusception being the most common form of intestinal obstruction encountered in children, it very properly should be the first thing to be either diagnosticated or excluded in every case presenting symptoms of acute obstruction. Severe paroxysmal pain is the earliest symptom. It, however, soon becomes continuous. The abdomen at first is not distended nor tender on pressure. Gentle rubbing of the abdomen usually affords some relief. Vomiting may set in, but it is not by any means a constant factor, and, even when present, may not become stercoraceous. Blood may be vomited if the intussusception involve the small intestine. Tenesmus sets in early, and is accompanied by a number of stools consisting of the fæces from that part of the bowel below the invagination, mucus, and blood. The nearer the invagination is to the rectum, the more marked the tenesmus. After this, constipation becomes insuperable. The temperature at first is normal, becomes elevated with the increase of the suffering, and sinks to below normal as the symptoms of depressed vitality supervene. Palpation of the abdomen will generally reveal a doughy, inelastic, sausage-shaped tumor, varying from two to six inches in length, in the region of the colon. This tumor will shift its location as more and more of the bowel becomes invaginated. Sometimes the lower end of the invaginated bowel can be felt with the finger high up in the rectum, and cases are reported where it has appeared outside the anus. If strangulation of the invaginated bowel does not take place, the symptoms are much less urgent, and the case may run a chronic course, and, perhaps, ultimately take on acute symptoms. In

[1] Read before the Section on Pediatrics of the New York Academy of Medicine, November 9, 1893.

rare cases the invaginated gut has sloughed off and been passed through the anus.

Volvulus and constriction and strangulation of a portion of intestine, as by a loop of intestine or an internal or external hernia, present similar groups of symptoms. There is the sudden attack of severe abdominal pain, constipation, vomiting, tympanites, and symptoms of profound constitutional depression. The constipation is absolute, neither fæces nor flatus passing through; sometimes there may be one action from the bowels from that portion situated below the seat of strangulation. It will not, however, contain either blood or mucus. In volvulus unequal distention of the abdomen, great tympanites on one side and flattening on the other, as mentioned by Erichsen, when present, may be of some assistance in making a diagnosis. Volvulus is most frequently located in the sigmoid flexure; hence it has been said that a rectal tube or soft sponge passed into the lower bowel will enable the diagnostician to detect an obstruction in that situation. As it is often difficult and sometimes impossible to pass a rectal tube throughout the sigmoid flexure under ordinary circumstances, not much reliance can be placed on this procedure as an aid in diagnosis. Injection of water through a rectal tube may give valuable information.

To make an absolute diagnosis of any particular form of constriction and strangulation of the bowel, unless by abdominal section, is often an impossibility. The possible existence of a strangulated inguinal or femoral hernia should always be thought of, and a careful examination made for such conditions. In this connection I would cite the case of a four-year old boy who had been suffering for thirty hours with abdominal pain, vomiting (which had latterly become stercoraceous), and constipation, and who had been given a number of copious enemata for the purpose of relieving some kind of an internal obstruction.

On examination I discovered a small strangulated inguinal hernia. Under chloroform it was reduced without difficulty, after which all the symptoms of obstruction disappeared.

In fecal accumulation the symptoms, as a rule, develop gradually. There is more or less abdominal discomfort for some days before the severe pain and vomiting come on. Then the history of the previous constipation, and the presence of a doughy tumor, which pits on pressure, in the region of the sigmoid flexure and the detection of fæces in the rectum will be sufficient evidence upon which to found a diagnosis.

Symptoms of intestinal obstruction, in connection with a history of the child having swallowed some object which, because of its shape, might have become lodged in the intestinal canal, and which it is positively known has not been passed per rectum, would make it appear probable that there was impaction of a foreign body. Should it happen to lodge in the rectum, tenesmus will be a marked feature in the case, and will of itself suggest a rectal examination. Under chloroform the foreign body might, in some cases, be felt through the abdominal walls. Nearer than this it is impossible to diagnosticate such a case.

Obstruction by intestinal worms is rather a hazardous diagnosis, even though the child may previously have been passing worms. In cases of this nature the diagnosis is usually made at the autopsy.

In obstruction due to stricture of the intestine the symptoms develop slowly, as in fecal impaction. A history of habitual constipation with stools of small calibre following a prolonged diarrhœa would be presumptive evidence of a stricture situated in the lower part of the intestine. The bowel below the seat of the stricture will be empty, while immediately above this point may be felt an elongated, boggy tumor representing the fecal mass.

Cases are occasionally encountered which present the characteristic symptoms of some form of intestinal obstruction, but in which no obstruction exists. Osler mentions a case of acute enteritis in which the symptoms were those of acute obstruction, but at the autopsy, the intestine was free from the duodenum to the rectum.

Sometimes appendicitis is mistaken for intestinal obstruction. The points of difference are said to be the elevation of the temperature, the absence of stercoraceous vomiting and tenderness at the McBurney point; but these symptoms can be misleading.

Not long ago there came under my observation the case of a young girl who, while in apparently fair health, was suddenly taken with pain in the upper abdominal region, persistent vomiting, which on the third day became dark-colored and had a decidedly fecal odor, and obstinate constipation. A diagnosis of intestinal obstruction had been made. I saw her on the evening of the third day. The vomiting of a dark, foul smelling substance continued; an unquenchable thirst harassed the patient; the pulse was rapid and feeble, the skin moist and moderately warm, the face anxious, and no complaint of abdominal pain; still, the abdomen was distended and tympanitic. She had voided no urine for twenty-four hours. Half an ounce of dark-colored urine drawn from the bladder showed on examination eighty per cent., by bulk, of albumin and epithelial blood, and granular casts. At the autopsy next day the intestines were found to be unobstructed; but the kidneys were the seat of chronic inflammation.

SOME OBSERVATIONS ON WATER-GAS.

By EDWIN A. DOWN, M.D.,

HARTFORD, CONN.

With the introduction of electricity as an illuminant, and the extraordinary precautions taken by hotel proprietors in placarding their rooms with the injunction, "Please turn off the gas; do not blow it out," much good has been accomplished in the way of preventing serious accidents due to the inhalation of illuminating gases. While this is a matter for congratulation, it is to be regretted that so little has been achieved in the line of scientific inquiry relating to phenomena produced by toxiferous materials which are among the furnishings of many of our households.

This seeming dereliction on the part of the profession may be accounted for partly for the reason that a physician's time is so occupied in visiting his many patients as to render it next to impossible for him to turn his attention to experiments requiring much time and labor, and which he considers should come within the province of the chemist, but chiefly from the fact that many members of the medical profession do not take into account the important distinction existing between the two illuminants, coal-gas and water gas.

In some instances it has been supposed that coal-gas, and not water-gas, was the agency causing death, and the natural inference has been that when medical assistance arrived asphyxiation had become so profound as to render resuscitation impossible.

With this conviction the matter has been allowed to rest; and as the physician in all probability does not have his attention drawn to the subject more than once a year in his own practice, its consideration is soon overshadowed by demands inseparable from the treatment of general diseases. To a closer observer, however, the subject becomes more interesting the wider the range of observation.

I have elsewhere [1] drawn attention to the fatal results following the inhalation of water-gas in considerable quantities, and I purpose in this place to discuss some of the effects produced by the exhibition of amounts not sufficient to jeopardize the life of the patient, but which are capable of producing most unpleasant symptoms, and in some cases so affecting the individual's health as to unfit him for his ordinary duties. A noteworthy instance of this occurred in the practice of Dr. J. J. Morrissey, of

[1] Proceedings of the Connecticut Medical Society, 1889.

Hartford, to whom I am indebted for the following history of the case:

Female; twenty years of age; occupation domestic; has complained of dizziness or "lightheadedness," which has been succeeded by intense frontal headaches coming on at frequent intervals. Medical treatment gave only temporary relief. Patient became weak and anæmic, when iron tonics in the most assimilable forms were administered, but no improvement was noticed. The patient was compelled to give up work, and went to reside with some of her friends. After removal to her new quarters the iron treatment was resumed, and was followed by most satisfactory results.

Upon further inquiry I ascertained that in her room in the house where she had been employed the gas-jet projected over the table where she had been accustomed to sit. Examination of the jet disclosed the existence of a small leak, which, while it did not admit of the passage of enough gas to be ignited, was sufficiently large to allow enough of the poisonous material to escape and vitiate the atmosphere of the room. During respiration this material was absorbed by the blood, and, combining with its elements, wrought such changes in its composition as to destroy, or at least inhibit, the functions of these elements: in this case operating to such an extent as to produce painful headache, besides rendering the absorption of the important substance, iron, an impossibility.

The *modus operandi* necessary to bring about such conditions will be considered in its appropriate place.

The statement that the symptoms in the case just related were due to exposure to water-gas is substantiated by evidence of an important character as follows: After leaving her position and before the leak in the gas-pipe was discovered, Miss M——'s successor, who occupied the same apartments as her predecessor, was compelled to resign her position owing to the presence of the same train of symptoms as enumerated in the history of the case just cited. Improvement and restoration followed her removal to other quarters. What is more convincing is the fact that since the discovery and stoppage of the leak in the pipe the occupants of this room have had no unpleasant experiences from this source.

Besides the symptoms enumerated, the head is also the seat of other unpleasant sensations, which, though often accompanied with headache, are as often present without it. Having experienced these sensations myself, I am in a position to describe them accurately.

First, there is a sensation of fulness in the head similar to that common to congestive headache without its accompanying pain. Then there is an exaggerated pulsation in the temporal arteries which is extremely annoying, and often attains such intensity as to resemble a slight blow from one of the fingers. The cutaneous nerves are frequently affected, and a subjective sensation of heat in the face, with or without paræsthesia in the arms, is a frequent accompaniment of this condition. Irritation of the bronchial mucous membrane is present in some cases, and was an important feature in several coming under my observation. Giddiness is a very common symptom, and is often observed when a person attempts to rise after being seated near a leaking gas-jet for a brief period. It is an interesting fact that persons suffering from cardiac disease are more susceptible to the influence of the poison than persons not so afflicted.

One of the remarkable properties possessed by carbonic oxide, the chief constituent of water-gas, is its power of resisting putrefaction in the bodies of those who have died from the effects of its inhalation. The longer the individual has been exposed to its action, the greater will be the interval between the death of the body and its commencing decomposition. This is accounted for from the fact that the carbonic oxide has formed such stable compounds with the various tissues as to retard their oxidation.

During the past year (1893) several fatalities due to the effects of water-gas poisoning have occurred in the city of Hartford. Actuated by a desire to continue my inquiries into a matter of so much importance to the public, I succeeded in obtaining, through the courtesy of the attending physician, a specimen of blood from one of the cases in which blood-letting was decided upon after consultation. Putting most of the specimen in a closely stoppered bottle, I took it immediately to State Chemist Dr. Herbert E. Smith, of New Haven, who after a careful analysis of the sample found it to contain between two and three per cent., by volume, of carbonic oxide.

Inasmuch as it has been a disputed question concerning the amount of carbonic oxide taken into the circulation, the result of Professor Smith's investigation becomes extremely valuable. Examined under the microscope the blood in water-gas poisoning presents no features that are characteristic. The corpuscles appear to be shrunken and irregular in outline, while some seem to be nucleated. It is probable that this shrinking, in connection with the chemical changes wrought in the hæmoglobin, is an important factor in producing the cherry-red color noticed in the blood of persons asphyxiated by carbonic oxide. It requires an exposure of several hours before these changes can be observed; for passing a column of gas through defibrinated blood for ten or fifteen minutes produces no marked change in the form of the corpuscles.

In addition to the above morphological characters, the blood, owing to the changes affecting its hæmoglobin, is rendered incapable of absorbing one of its important constituents, iron. This is a very important point, and should not be passed over with indifference. For, if a study of the case mentioned in the beginning of this paper teaches anything, it is that the inhalation of carbonic oxide, whether in a free state or in combination as water-gas, is capable of inhibiting the absorption of so important an element as iron, and for this reason becomes of much importance therapeutically. In health iron is present in amount equal to nearly three grammes in a person of average weight. It is derived from ordinary foods as they are digested in the system, and is essential to the respiratory functions of the hæmoglobin. Hence the importance of eliminating all influences which tend to prevent its absorption.

This whole subject opens out a field of inquiry which is very inviting from the important character of the results which are promised.

If we now turn our attention to a consideration of the manner in which the effects detailed are brought about, we will find that the operation is not a simple one; but, on the contrary, if we include the nerve elements involved, the process will be found to be not only indirect, but even elaborately circuitous.

Beginning with the admixture of the gas with the atmosphere its introduction into the lungs speedily follows. Thence it passes through the walls of the vesicles and capillaries into the blood. Arriving at this point, it appears to have a selective action on the hæmoglobin of the corpuscles, with which it rapidly combines. Swept along with the blood-current it soon reaches the nerve-centres controlling the vital functions, and, as I believe, exerts a direct toxic effect on the nervous elements, as well as acting in a negative manner, by depriving these elements of their vitalizing agency, oxygen.

In support of the former proposition the experiments of Traube and others afford a suitable confirmation. These experiments were so conducted as to allow the injection of blood saturated with carbonic oxide into the circulation of animals without abstracting any portion of the oxygenated blood; and, although the amount injected was small, dyspnœa was produced in every case. These tests seem to prove that, although oxygen may exist in the blood in normal amounts, the nerve-centres are susceptible to the toxic action of carbonic oxide in comparatively small quantities.

Blood containing carbonic oxide after being defibrinated and properly diluted exhibits a characteristic absorption spectrum. This consists of two absorption bands similar to those of oxyhæmoglobin, but located

nearer the violet end of the spectrum; and what is very noticeable, these bands do not disappear after the addition of reducing agents, as is the case with oxyhæmoglobin. The compound crystallizes like oxyhæmoglobin. An excess of a soda salt brightens blood containing carbonic oxide, while it darkens normal blood.

The immediate cause of death in poisoning by carbonic oxide I believe to be due to an exhaustion of the nerve-centres, induced by the prolonged action of the gas which is present in the blood, and which is not eliminated in time to admit of resuscitation. In cases of poisoning by water-gas the patient, formerly in robust health it may be, lingers for two or three days—which happened in one of the cases in this city last year—and then dies suddenly from exhaustion, the nerve centres being worn out If it were possible to maintain the heart's action until the formation of new corpuscles sufficient to convey even a small amount of oxygen to the tissues, the results would be more encouraging. Unfortunately, the heart succumbs before the desired condition can be accomplished. Cardiac stimulants, artificial respiration, and the application of electricity to the phrenic nerve are always thought of and used most faithfully, the only effect being a moral one upon the bystanders.

The foregoing refers to cases which have been exposed to the gas for six or eight hours, and are thoroughly asphyxiated, using the term in its technical signification. When only partial asphyxiation occurs, enough oxygenated blood is left to carry on the vital functions, though with some discomfort.

Regarding the changes in the blood which occur when a person recovers after slight exposure, my own theory, which awaits confirmation, is that by a process of katabolism the affected corpuscles are gradually removed, and others, fresh from the "blood islands," are substituted. It is to be regretted that water-gas, while possessing such high illuminating properties, should carry concealed within itself such an element of destruction as the much-dreaded carbon-monoxide.

Recognizing this fact the legislature of Massachusetts passed an act authorizing the gas commissioner to license certain gas companies to make and sell water gas for illuminating purposes. Section 2 of said act (chap. 428, Acts of 1888) says: "Any company who shall under the provision of the first section of this act be licensed to make and sell water-gas for illuminating purposes containing an excess of ten per cent. of carbonic oxide shall furnish to every actual consumer a copy of the gas commissioner's license, which shall contain a statement of the percentage of carbonic oxide such gas contains, as near as the same can be ascertained."

Only four cities in Connecticut have established plants for the manufacture of water-gas: Hartford, Middletown, Waterbury, and Willimantic. While these do not represent a majority of the population of the State, their citizens are entitled to protection from this harmful element by the passage of an act similar to the one by which the citizens of Massachusetts are protected.

Having discharged my duty as a physician in directing the attention of the State and local boards of health to a matter of hygienic importance affecting many of the citizens of our State, it only remains for me to add that a knowledge of the *personnel* of the various boards of health is sufficient guarantee that the subject will be given the consideration its importance merits.

Convalescent Children.—A new occupation for women is suggested, says a writer in *The Times*, in the proposed establishment of an association for the care of convalescent children. Members are to be sent out like nurses for short periods. A child has scarlet fever, perhaps; he is separated from his brothers and sisters, and most likely has a trained nurse, who, though invaluable in actual illness, is not equal to the tedious recovery period. It is here that the cheerful, educated, child-loving woman is to step in and take the burden off the mother.

Progress of Medical Science.

Infant Feeding.—In the *American Medico-Surgical Bulletin*, some practical points in infant feeding are made by Louis Fischer, M.D., of this city. The most important of these is the reiteration of the well known fact that every mother should be her own child's wet-nurse whenever possible. In cases where the mother is much exhausted, is suffering from tuberculosis, or some marked nervous state, the maternal organism should not be called upon to supply the infant's food. Syphilitic babies, those who inherit syphilis, should only be nursed by their own mother, since the risk of infecting a wet-nurse is so great. The life of the syphilitic child often depends upon its receiving milk from its own mother. Whenever children remain below normal weight, though apparently in perfect health, they must be weaned. If a woman discovers that she is pregnant, the nursling should be weaned immediately; though this need not be done simply because menstruation has returned. The weaning process should be gradual, from the eighth to the tenth month. Unless for some special reason, infants should not be fed at night. Prolonged and useless nursing induces rachitis. After the tenth month, little children need other food than their mother's milk.

When the mother cannot nurse her own child, a wet-nurse should be immediately secured. She must be carefully examined as to her physical condition. Tuberculosis, chronic disease, hereditary nervous troubles, epilepsy, and syphilis exclude nursing. The milk must also be examined microscopically. The proof of the value of a wet-nurse is to be found in the nursling. If the baby thrives, it will increase in weight. Hence the necessity of weighing it frequently. Never give any food preparation containing starch during the first three months. As cow's milk differs so much from human milk, it must be diluted by adding substances which increase its digestibility and prevent its curdling. Oatmeal gruel may be added when constipation exists, and barley when there is a tendency to diarrhœa. In making these gruels the entire grains (shells) should be used, as these contain a certain amount of albuminoid. Sugar is added by using sugar of milk, and the salt supply is the ordinary table salt. The milk should come from several cows, to avoid the exclusive use of a secretion from any one animal that may possibly be diseased. The milk used should always be sterilized.

Dropsy of Bacterial Origin.—Dr. H. J. Hamburger found in ascitic fluid taken from a dropsical patient a micro-organism, hitherto unknown, which he calls bacterium lymphagogon. To the pathogenic action of this organism on the capillary endothelium he ascribes the excessive increase of lymph which produces the ascites. This power is destroyed in the organisms by exposing them for two hours to a temperature of 56° F. In form the microbes resemble micrococci; they are only moderately motile; the average size is from 0.5 to 0.8 μ. They are easily colored by the usual methods, and require a large amount of oxygen. Cultures in beef, veal, and horseflesh broth were unsuccessful. The growth of the organisms is exceedingly rapid in liquid human serum and in sterilized ascitic fluid. Hamburger points out the fallacy of relying on the liquefaction of gelatine as a distinctive feature of special kinds of bacteria. In his cultures he found this to vary in accordance with the use of fresh-made gelatine or of such as had been in stock for some time. He opposes the view of Cohnheim (*Vorlesungen über allgemeine Pathologie*, 2 Aufl., Th. I., p. 494), who maintains that every form of dropsy is caused either by excessive venous hyperæmia, or by the increased permeability of the walls of the capillaries. Hamburger points to a third form—stimulation of the capillary endothelium by a substance produced by bacteria.—*The British Medical Journal.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street

New York, May 5, 1894.

ANOTHER STATE MEDICAL INSTITUTION.

THE last Legislature at Albany passed the bill establishing an epileptic colony at Sonoma, N. Y. The new institution is to be called the Craig Colony, and doubtless it will soon be in practical operation.

There are a large number of epileptics in the State who can undoubtedly be cared for best on the colony system. It is a wise and humane method, and one which has stood the test of practical experience in European countries.

We have before expressed the opinion, however, that the assumption by the State of the care of its paupers and indigent epileptics was a measure of doubtful expediency. It is another step toward institutional medicine or medical socialism. We were, we confess, among those who, a year ago, rejoiced over the new plan of putting all the insane under the care of the State; but already "politics" has crept in, reforms are called for, and the happy auguries for the better care of the insane have not come true. We shall expect before long to see the Craig Colony one of the spoils of party conflicts. If the State takes care of its indigent epileptics, the next proposal will be to establish State hospitals for the consumptive. Already propositions for such schemes are in the air; enthusiastic humanitarians and sanitarians can formulate most convincing reasons for the public care and isolation of this class.

This tendency to institutionalism in medicine is unfortunate, and if not checked will prove disastrous. It means a medical bureaucracy, with a corresponding paralysis of individual effort and ambition. Against such a state of things it is the duty of physicians to use their influence in every possible way. In the dim future when everyone has become wise, industrious, unselfish, yet hopeful and ambitious, we can trust medical affairs perhaps to States and syndicates, but the world is not yet good enough. We have worked many years to secure a reasonably intelligent care of the insane by the State, and there are still many things lacking. We trust that the epileptic colony will get a good "boss," such a boss it is bound to have, and that it will be several years before it becomes the object of visits by investigating committees. If by chance it strikes at once upon a high scientific plane, we trust it will not be Elmiraized like Mr. Brockway's Reformatory, in order to promote the circulation of sensational newspapers.

WOMAN'S SUFFRAGE AND WOMAN'S BRAIN.

THE present very active and enlightening agitation over the question of woman's suffrage, calls up again the many now established facts about the physiological differences in the nervous system of the sexes. Not very long ago, Sir James Crichton Brown delivered a series of lectures in which he aimed to show, from actual data, that the brains of women were not only relatively smaller but essentially different in structural arrangement and functional characteristics from those of man. He in particular showed that the vertebral arteries in women are larger in proportion to the carotids than they are in men, and that the cerebellum and posterior parts of the brain were therefore more nourished proportionately. The brain of woman is four per cent. smaller than that of man after deducting the factors of height and weight (Debierre), and woman's brain, as soon as it reaches its apogee immediately begins to decline in weight, so that senile atrophy is manifested sooner than in man.

There is no doubt, we believe, in the minds of physiologists that the mental characteristics of woman have a structural basis in the conformation and amount of her nervous tissues, and that no amount of training will make the male and female brain alike.

Of course, all this does not in the least prove that woman's mind is not adapted to the demands of suffrage, or of political, jury, and militia duty. It only shows that the result of conferring suffrage cannot be positively predicted either one way or the other, since it would be injecting into our political system an entirely new factor.

We admire the eloquence and are affected by the enthusiasm of the agitators for and against suffrage. But we have little faith in those who assure us that it would surely be a blessing—or a curse—if women went to the polls and sat in the jury-box. It is an experiment which may or may not turn out wisely.

THE SARSAPARILLA HUMBUG.

THE esteemed editor of the *Therapeutic Gazette* comes to the rescue of sarsaparilla, and says that it ought to be retained in the Pharmacopœia because it covers the taste of iodide of potassium. This would be rather a weak excuse, even if it were true. But it does not happen to be true, as anyone can be convinced by a trial.

The *Gazette* further puts forth the weird hypothesis that sarsaparilla syrup promotes the action of iodide. We venture to say that there is not a scintilla of clinical proof that this is the case. The most brilliant results from iodide have often been obtained by enormous doses, after small doses combined with sarsaparilla have failed.

The fact is that the legendary belief in sarsaparilla as a "blood purifier" promotes no end of quackery and useless drugging. Hence physicians, at least, ought to rid themselves of false notions about it.

Baron Hirsch's Gifts to Medical Charities.—Baron Hirsch, who last year distributed among selected charities a sum of about £42,000, has this year provided a sum of £15,000 to be divided among London hospitals and charitable institutions. The London Hospital is the recipient of £1,000, and the Brompton Hospital for Consumptives receives £600, while St. George's Hospital and Charing Cross Hospital each receives £500.

A NEW HOSPITAL FOR CONSUMPTIVES.

A MEETING of ladies and gentlemen was held last week in this city to perfect the organization of a hospital and dispensary for the treatment of consumptives. The movement has the support of Drs. A. L. Loomis, Charles McBurney, Henry F. Walker, William M. Polk, A. A. Smith, Charles E. Quimby, and others.

A long article in *The Evening Post* of the same date gives an account of the purpose of the meeting. There is, it is said, need of more accommodation for patients suffering from consumption. There are in this city 81 hospitals, with a total number of 10,807 beds, of which 8,500 are free. But of these only 710 are devoted to consumptives, and less than 600 are available for free patients. The list of hospitals for incurables is given as follows: St. Joseph's, 300; Home for Incurables, 180; Montefiore Home, 150; Isabella Heimath, 60; House of the Holy Comforter, 20.

These institutions are mostly of Catholic or Hebrew provision, and the non-Catholic and non-Jewish part of our population is relatively very inadequately provided for.'

The view is urged, therefore, that another hospital for incurables, or more especially for consumptives, be established, and one that will be non-sectarian in character.

INFECTION AND THE COMMUNION CUP.

THE suggestion that there is danger of communicating disease by the use of a common cup in the administration of the communion has been often made in the past few years. The idea of there being physical danger in the sacrament is naturally one not quickly received, and until quite recently has not been seriously discussed. The establishment of tuberculosis among contagious diseases, however, has given a fresh impetus to public feeling regarding the need of hygienic measures; and decisive action in the matter of the administration of the communion has at last been taken by one of the churches at Rochester, N. Y. At a ministers' meeting in that city, on March 5th, Dr. W. S. Ely made a statement of the dangers attending the present method, and the unanimous sentiment of the thirty-five ministers present was, that in view of the statements made, there must be a change.

A committee was appointed and it made a report recommending the use of small individual tumblers, about sixty of which could be placed on a tray of convenient size. This plan will be adopted at the next communion, in June.

Since clergymen find that the sacrament can be administered with equal ease and propriety by individual cups, there is good reason that this method should be adopted. We are not sanitary alarmists, and it must be conceded that the dangers of the ordinary way are slight. But since they do exist, it is wisest to remove them.

Medical Association of the State of Alabama.—The annual meeting of this Society was held in Mobile, on April 16 and 19, 1894. The President of the Association is Dr. Richard Matthew Fletcher, of Madison, and the Secretary, Dr. James Reid Jordan, of Montgomery.

News of the Week.

The Death of Dr. A. C. Stanard.—*Whereas*, Dr. Albert Cushman Stanard, an esteemed member of the Harvard Medical Society of New York, has in the infinite wisdom of God been called thus early to lay aside the duties of life, cut down in the vigor of early manhood, as the paths of usefulness and promises of prosperity were opening wide to him; therefore be it

Resolved, That in his untimely death we recognize the loss to the Society of one of its most promising and worthy members, and desire to pay to his memory a tribute of sincere respect;

Resolved, That we extend to his stricken sisters our heartfelt sympathy at the grief which has come upon them;

Resolved, That these resolutions be published in the MEDICAL RECORD. (Signed)

JOHN B. WALKER, M.D.
WILLIAM B. COLEY, M.D.
JOHN H. HUDDLESTON, M.D.

The Ohio State Medical Society will meet in Zanesville, May 16th, 17th, and 18th.

The Academy of Medicine of Cincinnati has adopted resolutions in which it says that, *Whereas* it considers the Library of the Surgeon-General's office in Washington of the greatest importance to medical education and to the medical profession throughout the entire country; and they believe that it is for the public good that it should receive the liberal support of the Government;

Resolved, That the Academy of Medicine desire to enter their earnest protest against the reduction of the appropriation for its annual support from $10,000 to $7,000;

Resolved, That the Academy of Medicine urge most strongly the restoration of the former annual appropriation of $10,000, under which it has become one of the largest and best appointed medical libraries in the world, and without which its continued growth would be seriously crippled.

The National Association of Railway Surgeons will meet in Galveston, Tex., May 8th, 9th, and 10th.

The New Riverside Hospital at Yonkers has received an endowment of $40,000 from Mrs. John B. Trevor.

Dr. William E. Cuff has been appointed deputy coroner to Coroner Shea, to serve out the term of Dr. Conway, deceased. Dr. Cuff was educated at St. Francis Xavier's College, and the University Medical College.

Catholicism and Coroners.—A correspondent writes to ask us why our city's deputy coroners are always Catholics. We do not know if it be so, but trust that the next constitutional convention will provide means for doing away with the whole wretched system.

Dr. Reuben A. Vance, of Cleveland, died on March 19th, aged forty-nine. Dr. Vance was born in Gallipolis, O. He graduated in medicine at Bellevue Medical College, and practised in this city until 1876, when owing to ill health he went to Ohio, and commenced practice in his native town, Gallipolis, O. Three years later he removed to Cincinnati, and for two years was

lecturer on pathological anatomy in the Cincinnati College of Medicine and Surgery in that city. In 1881 he came to Cleveland to accept the chair of surgery and clinical surgery in the medical department of the University of Wooster. Later he resigned, but has since practised in Cleveland. He was a recognized surgical authority, and was a large contributor to medical literature.

The Cincinnati College of Medicine and Surgery has become affiliated with the Cincinnati University as one of the institutions sustaining that relation.

The Prevention of Tuberculosis.—The following circular of information to physicians regarding the measures to be adopted for the prevention of tuberculosis in the city of New York has been issued by the Health Department.

"The communicability of pulmonary tuberculosis has been so thoroughly established, and is now so generally recognized by the medical profession throughout the world, that the Board of Health of New York City has determined that the time has arrived when active steps should be taken, looking toward its prevention in this city. The Board has therefore resolved to adopt the following preliminary measures :

First.—The Department will hereafter register the name, address, sex, and age of every person suffering from tuberculosis in this city, so far as such information can be obtained, and respectfully requests that hereafter all physicians forward such information on the postal cards ordinarily employed for reporting cases of contagious disease. This information will be solely for the use of the Department, and in no case will visits be made to such persons by the inspectors of the Department, nor will the Department assume any sanitary surveillance of such patients, unless the person resides in a tenement-house, boarding-house, or hotel, or unless the attending physician requests that an inspection of the premises be made ; and in no case where the person resides in a tenement-house, boarding-house, or hotel will any action be taken if the physician requests that no visits be made by inspectors, and is willing himself to deliver circulars of information, or furnish such equivalent information as is required to prevent the communication of the disease to others.

Second.—Where the Department obtains knowledge of the existence of cases of pulmonary consumption residing in tenement-houses, boarding-houses, or hotels (unless the case has been reported by a physician and he requests that no visits be made) inspectors will visit the premises and family, will leave circulars of information, and instruct the person suffering from consumption and the family as to the measures which should be taken to guard against the spread of the disease, and, if it is considered necessary, will make such recommendations for the cleansing or renovation of the apartment as may be required to render it free from infectious matter.

"Third—In all cases where it comes to the knowledge of the Department that premises which have been occupied by a consumptive have been vacated by death or removal, an inspector will visit the premises and direct the removal of infected articles, such as carpets, rugs, bedding, etc., for disinfection, and will make such written recommendations to the Board as to the cleansing and renovation of the apartment as may be required. An order embodying these recommendations will then be issued to the owner of the premises, and compliance with this order will be enforced. No other persons than those there residing at the time will be allowed to occupy such apartments until the order of the Board has been complied with. Infected articles, such as carpets, rugs, etc., will be removed by the Department, disinfected, and returned, without charge, to the owner.

Fourth—For the prevention and treatment of pulmonary tuberculosis it becomes of vital importance that a positive diagnosis shall be made at the earliest possible moment, and that the value of bacteriological examinations of the sputa for this purpose may be at the service of physicians in all cases not under treatment in hospitals, the Department is prepared to make such bacteriological examinations for diagnosis, if samples of the sputa, freshly discharged, are furnished in clean, wide-necked, stoppered bottles, accompanied by the name, age, sex, and address of the patient, duration of the disease, and the name and address of the attending physician. Bottles for collecting such sputa, with blank forms to be filled in, can be obtained at any of the drug-stores now used as stations for the distribution and collection of serum tubes for diphtheria cultures. After the sputum has been obtained, if the bottle, with the accompanying slip filled out, is left at any one of these stations, it will be collected by the Department, examined microscopically, and a report of the examination forwarded to the attending physician free of charge.

"Fifth—The authorities of all public institutions, such as hospitals, dispensaries, asylums, prisons, homes, etc., will be required to furnish to the Department the name, sex, age, occupation, and last address of every consumptive coming under observation within seven days of such time.

"It is the earnest wish of the Board of Health that all practising physicians in this city co-operate with the Board in an earnest and determined effort to restrict the ravages of the most prevalent and formidable disease with which we have to deal.

"By order of the Board of Health,

"Charles G. Wilson, *President.*

"Emmons Clark, *Secretary.*"

The Medical Association of India.—A meeting of medical men in Calcutta was held on February 21st, to effect an organization of the Medical Association of India. The membership is not confined to practitioners resident in Calcutta, although the headquarters of the Society is in that city. The first president of the Association is Dr. Jagobundhu Bose ; vice-president, Dr. Soorjie Coomar Sarbadhicary ; treasurer, Dr. S. Bachoo ; and joint secretaries, Drs. A. L. Sandel and Lawrence Fernandez.

The Cat as a Cause of Insomnia.—An ingenious Brooklyn statistician estimates that United Brooklyn has over 100,000 cats, of which more than one-half are unsheltered. He considers it as a conservative estimate that ten per cent. of the 1,000,000 inhabitants of our sister city are kept awake at night by the howling of the 100,000. This makes one case of insomnia per cat, and leads one to the conclusion that Brooklyn is a very sleepless city. If cats and insomnia prevail with equal virulence in

other cities, it would follow that there are 6,000,000 cats and 6,000,000 cases of insomnia in America. Yet no notice is taken of this pathogenic factor by systematic writers on sleep.

Missouri Medical College.—The fifty-third annual commencement exercises of the Missouri Medical College, the oldest west of the Mississippi River, were held last month and diplomas awarded to forty-seven graduates.

The Doctor in Fiction.—The *Boston Medical and Surgical Journal*, in discussing this subject, finds but few creations which represent the medical man with vitality and truthfulness. First of all is placed Balzac's "Médecin de Campagne." George Eliot's Dr. Lydgate in "Middlemarch" is a realistic portrayal; and Dr. Sevier, in one of Cable's stories, ranks among the very best of novelists' creations. This is only three out of hundreds of attempts to portray the physician. We quite agree with our contemporary in its critical estimates.

A Tournament of Strong Men has been proposed by Dr. Sargent, of Harvard. St. Louis has been selected as the place in which it will be held.

Pruritus Vulvæ from Jealousy.—Once, says Dr. William Goodell, I was asked by a medical friend to see an exceedingly bad and acute case of pruritus vulvæ; the very worst that ever came under my observation. The lady was tossing about in her bed in a state bordering on frenzy from the intense itching, which could be allayed only by cold starch poultices applied every few minutes. Very naturally attributing it to uterine disease, my friend had discovered a small but angry-looking tear in the cervix, exuding a viscous discharge, and I was called in to the case to decide the question of an operation. I, too, was at first led astray; but the suddenness of the seizure, its vehemence, and the lack of consistency in the behavior of the symptoms, put me on my guard, and we soon found out the cause to be an attack of jealousy. This was a stubborn case to manage, but she ultimately recovered under isolation, massage, and heroic doses of asafetida.

Twice I treated a highly intellectual lady for attacks of pruritus vulvæ, and of vaginismus. The itching was intolerable, and the sensitiveness of the genitalia so acute as to forbid every attempt at sexual intercourse. Each attack was brought on by mental overstrain, from exacting literary work, and much domestic unhappiness ensued. Several cases, I have personally known, of ladies who had for months been treated for supposed uterine or ovarian disease, when their whole and only trouble was remorse at having had illicit intercourse, or at having resorted to criminal abortion.

Connecticut Vital Statistics and Medical Practice Act.—The annual report of the Connecticut Board of Health just issued for the year 1892, shows that only 42.2 per cent. of the children born in the State were of American parentage. In forty per cent. both parents were of foreign birth, and during the ten years from 1883 to 1892 the foreign birth percentage rose from 38.5 per cent. to forty per cent., while the native births sunk from 45.5 to 42.2 per cent. The illegitimate births recorded were 196 out of a total of 19,750. In the diseases causing death, consumption, with 1,386 deaths out of a total of 15,170, leads every disease but pneumonia, though its decrease is indicated, as the average for the ten years was 1,448. A considerable increase over the average of ten years is indicated in nearly all diseases of the heart. Influenza carried off 564, as compared with a yearly average of 114 for the ten years. Pneumonia carried off 1,493, as compared with an average for the ten years of 1,079. The last Legislature passed a medical practice act after a very hard contest. Its chief provision was for registration of physicians on or before October 1, 1893, non-graduate physicians registering after that date having to submit to an examination, and all physicians opening themselves to a severe penalty if practising after that day without registration. The report states that under this law a great number of resident quacks have registered, some of whom in their applications show the most gross illiteracy. An examination of the list of registered physicians shows that many of the leading practitioners in the State have not complied with the law. Altogether the new law seems to have proved of little value except as a basis for future legislation in this State. Since 1848 the death-rate of the State per 1,000 has risen from 12.4 per cent. to nineteen per cent., and the birth-rate from twenty per cent. to 24.7 per cent.

Cholera in Europe.—The disease is very prevalent in Galicia and Russia, and has made its appearance in France. Twenty-eight cases and eleven deaths have occurred in the former place. At Koons, in Russia, fifty-five cases and thirty-three deaths. Eighty-seven cases of cholera, or cholerine, were reported to the health authorities of Lisbon. The reports stated also that there had been 122 recoveries from the disease, and that 440 patients are still under treatment. One death from cholera was reported up to April 27th. A medical commission has been created by royal decree to act with the civil governor in the adoption of measures to check the spread of cholera. A quarantine has been declared at Antwerp against all vessels arriving from Portuguese ports.

Indiana State Medical Society.—The forty-fifth annual meeting of the Indiana State Medical Society will occur in Indianapolis, Thursday and Friday, May 17 and 18, 1894. The sessions will be held in Plymouth Church, southeast corner of Meridian and New York Streets. Arrangements have been made with the Central Traffic Association whereby the usual one-and-one-third railroad rate may be secured by those desiring to attend the meeting. Dr. Frederick C. Woodburn is the Chairman of the Committee on Arrangements.

Germ-proof Filters.—Taking the results of five different experiments to test the value of the unglazed porcelain filters known as the Pasteur-Chamberland system, I find that these investigators all accord in stating that the power of these filters for doing perfect work is of short duration. It is clear that such filters should not be used for a longer period than a week, under any conditions, without a thorough cleansing. The Chamberland filter is undoubtedly the best for use in the laboratory, but it has defects which may eventually be remedied. The experiments above referred to are from both French and German sources.

Nothing in it.—A dentist who recently committed suicide willed his brain to Cornell University.

Reviews and Notices.

Popular Essays on the Care of the Mouth and Teeth. By Victor C. Bell, A.B., D.D.S.

This little book has just appeared, comprising about one hundred pages. It is written to diffuse a more general knowledge of dentistry to the layman, and seeks to fill a long-felt want.

It is abundantly illustrated and gives numerous recipes for lotions and dental powders.

It is only necessary to refer to the chapter on micro-organisms, which has been copied from Professor Miller, of Berlin, to see that the author's desire to give an up-to-date work has been accomplished.

We welcome the first edition with all its merits and demerits, and believe that, although the article on antiseptic and antacid is not in accordance with modern scientific teaching, still we commend it to the profession.

Medical Society of New Jersey. Transactions for 1893.

A volume too large for the amount of useful information contained. The suggestion from Hunterdon is a good one, that the "Transactions" be improved "so that they would be more in harmony with modern methods and usages." The reports of district societies might be much condensed or omitted. The President's address on "Therapeutical Superstition" is worth reading.

The Dispensatory of the United States of America. By Dr. George B. Wood and Dr. Franklin Bache. Seventeenth edition. By H. C. Wood, M.D., LL.D., Professor of Materia Medica and Therapeutics, University of Pennsylvania, and Joseph P. Remmington, Ph.M., F.C.S., Professor of Theory and Practice of Pharmacy, Philadelphia College of Pharmacy; Samuel P. Sadtler, Ph.D., F.C.S., Professor of Chemistry, Philadelphia College of Pharmacy. Royal 8vo, pp. 1930. Philadelphia: J. B. Lippincott Co. 1894.

Following closely upon the publication of the United States Pharmacopœia, notice of which has already been given in a previous issue of the Medical Record, the United States Dispensatory appropriately follows as an addendum and commentary to the same. Its seventeenth edition, now at hand, proves that this remarkable and exhaustive work improves with age and is progressive in its wide spread usefulness. The present edition is necessarily enlarged to make room for the large number of new remedies which have appeared since the previous issue. Never, in a similar period, has so much activity been displayed in the discovery of new compounds and in their practical application to therapeutics. The list is very fully given, so that no one who consults the volume for reliable data under this head need be disappointed. In this respect it still maintains its reputation as a trustworthy reference book for both pharmacist and physician. The metric system is adopted, in accordance with the suggestions of the Pharmacopœia, but the editors, considering the need for education in regard to it, have wisely placed the old and new systems of weights and measures side by side for comparison. Although, scientifically speaking, the metric system is the proper one, the majority of pharmacists and physicians are not yet ready to put it to every day practical application. Following also the suggestion of the Pharmacopœia, the new chemical nomenclature has been adopted, requiring that the basylous or metallic component of the compounds shall be placed first. The atomic weights of Meyer and Seubert, or the molecular weights based upon them, are placed at the head of each chemical article in bold type, while on the right-hand side of the page are placed in ordinary Roman type the molecular weights most commonly used in calculations. This arrangement is a very satisfactory and practical one, as is also that of placing the index of diseases in the fore instead of the back part of the volume. Although much enlarged in consequence of the new matter added, and principally under new remedies, the pages are so increased in size as not to make the work unwieldy for the shelf or too bulky for every-day reference. As a whole, the work will fulfil all the acknowledged necessities of its publication, and will fully maintain its well-earned reputation for accuracy and usefulness.

Text book of Nervous Diseases. Being a Compendium for the Use of Students and Practitioners of Medicine. By Charles L. Dana, A.M., M.D.; Professor of Nervous and Mental Diseases in the New York Post-Graduate Medical School, and in Dartmouth Medical College; Visiting Physician to Bellevue Hospital. Second edition. With two hundred and ten illustrations. New York: William Wood & Co. 1893.

That Dr. Dana's text-book has been thoroughly appreciated by the profession is amply attested by the appearance of this new edition within so short a time of the first one. An examination of the present volume shows that recent advances in the department of neurology have been duly considered by the author in various corrections and additions to the body of the book. A supplementary chapter on neurological therapeutics will prove of special interest and value to the general practitioner, who may need advice bearing on the treatment of particular cases. Hydrotherapy and the popular rest treatment are set forth in some detail, and altogether this subject of treatment is more fully set forth than is the case in many other works on nervous diseases.

The author is now inclined to discard the older views on neuro-pathology, and to ascribe many degenerative neuroses to the toxæmic effects of micro-organisms. This is certainly an attractive view, and while not yet generally accepted by other authorities, will possibly lead to a reconstruction of our ideas on the essential nature of many puzzling disorders. On the whole, Dr. Dana's work is concise, reliable, and clear. Its teachings are modern and yet sufficiently conservative to make them eminently safe.

Medical Society of North Carolina. Transactions for 1893.

Contains a number of fair reports, including an illustrated "Plea for the Microscope," by Hays.

New Jersey Board of Health. Seventeenth Annual Report, including Report of Bureau of Vital Statistics.

A volume of over six hundred pages and correspondingly heavy. Much information in sanitary matters can be found by one interested in its search.

American Association of Obstetricians and Gynecologists. Transactions for 1893.

The members have thought their various contributions worthy of excellent paper, ink, and binding, and for the most part they were right. The illustrations add to the reasons for keeping the report among one's books. An excellent portrait with memorial sketch of George Jackson Fisher, M.D., completes a very creditable production.

The Physiology of Death from Traumatic Fever. A Study in Abdominal Surgery. By John D. Malcolm, M.B., C.M., Fellow of the Royal College of Surgeons of Edinburgh, etc. London: J. & A. Churchill.

In an interesting way are discussed the conditions of the vessels during inflammatory fever; effects on cardiac rhythm; causes of pulse conditions in fever; the effects of the vascular changes brought about by traumatic fever; effects of a wound on the vascular and thermal systems; and the mode of action of the poisons of specific and septic fevers. It is a little volume of 130 large print pages, and will especially interest those engaged in abdominal operations.

Atlas of Clinical Medicine. By Byrom Bramwell, M.D., F.R.C.P. Edin., etc. Vol. I., part IV.; vol. II., parts I. and II. Pp. 142 to 182; 1 to 44; 45 to 90. Edinburgh: T. & A. Constable. 1893.

The later fasciculi of this interesting and most valuable work contain large plates and woodcuts of the same high order of merit that characterized the earlier instalments. The fourth part of volume first has four plates illustrating small-pox; three, melancholia; and one illustrating hilarious mania. The subjects considered are small-pox, globulinuria, Friedreich's ataxia, a case of chronic insanity and a case of hilarious mania. In part first of volume second the subjects are scrofula, unilateral hypertrophy of the skull, measles, two cases of Friedreich's ataxia in which the knee-jerks are not lost; alterations in the fields of vision, their clinical significance and importance. The following are the plates: two illustrating scrofula; two hypertrophy of the skull; one, measles; perimeter charts showing alterations in the fields both for white and for colors in cases of hemianopsia; naked eye appearance of the brain in two cases of lesion of the half-vision centre; a series of transverse vertical sections through the brain in two cases of lesion of the half vision centre; perimeter charts showing the fields both for white and for colors in cases of central amblyopia (? tobacco amblyopia) and lead poisoning; and a plate showing the lesions of secondary syphilis. The consideration of changes in the fields of vision is continued in part second of volume second, the rest of the fasciculus being devoted to Asiatic cholera and to syphilis. The latter subject is illustrated by nine plates, of beautiful workmanship, and constituting real portraits of an abnormal condition most wide-reaching and disastrous in its effects. Anticholeraic inoculation, extensively tested upon animals and securing for them a period of immunity of four months and a half, is discussed with the most sanguine expectations. The operation is harmless to human beings, for over fifty persons have been inoculated, of French, Swiss, Russian, English, and American nationality. "The symptoms that it evoked were a rise of temperature, a local sensitiveness at the place of inoculation, and the formation of a transitory œdema at the same place. . . . The symptoms following the second inoculation were generally rather more marked, but of shorter duration. The whole recalls the sensation of a bad cold in the head, lasting one or two days." Its effect as a prevention of cholera awaits demonstration during an epidemic.

This atlas may justly be termed, as the author suggests, an illustrated treatise on clinical and systematic medicine. It should obtain recognition everywhere, especially among English-speaking races. The plates are beautiful. Though a striking feature, these, however, are not the most important part of an arduous and serious undertaking, involving great financial outlay. There is every reason to suppose that all succeeding fasciculi will equal the ones already issued. In this event, the atlas of clinical medicine will prove an excellent investment for the physician of wide mental horizon, who wishes to keep well in touch with modern medical thought.

Gonorrhœa. Being the Translation of Blennorrhœa of the Sexual Organs and its Complications. By Dr. Ernest Finger, Docent at the University of Vienna. Third edition. 8vo, pp. 324. New York: William Wood & Co. 1894.

This work, so well known to our German readers, has been translated into English from the third enlarged and revised German edition, and brings our knowledge of this important disease up to the latest information regarding its pathology and treatment. The subject is quite exhaustively treated, and the descriptions of the symptoms and complications are described in all their necessary minutiæ. The divisions are anatomical as well as pathological, while the clinical aspects of the latter are graphically presented and practically considered. The author, adopting the advanced views of the etiology of the affection, very properly claims that the infection is due to the gonococcus and is essentially specific in character, hence the foundations for successful treatment are based upon the destruction of the peculiar diplococcus, either by internal medication or topical application, or both. The rules for following out these respective methods are very clearly and logically given, and leave nothing to be desired for the earnest student in search of strict scientific methods for curing this common and troublesome affection. In view of the loose methods of treatment now employed, this work has a timely interest in directing study in the proper direction of fulfilling different indications, as they present themselves in the varied stages and the multifarious complications occurring in both sexes. The value of the book is otherwise enhanced by numerous excellent woodcuts and seven excellent full-page plates in colors It is a practical work from beginning to end, and will be duly appreciated accordingly.

Hospitals, Dispensaries, and Nursing. Papers and Discussions in the International Congress of Charities, Correction, and Philanthropy, Sec. III., held at Chicago, June 12–17, 1893. Compiled by John S. Billings, M.D., and Henry M. Hurd, M.D. Pp. 711. Baltimore: Johns Hopkins Press. 1894.

This work is really an encyclopædia in one volume, and contains a vast amount of information of all kinds. It is divided into six parts. In the first are given the papers read at the general sessions of the Congress. Five papers are printed in full.

In the second part are thirty-one papers read before the various section meetings. They cover the widest possible range of topics relating to the establishment and maintenance of hospitals.

The third part is devoted to nursing, and comprises twenty-nine papers.

The title of Part IV. is "Dispensaries." Only one paper is printed, that of Mr. C. C. Savage, President of Demilt Dispensary, of New York City, the substance of which has already been given in the Record.

Part V. comprises seven papers devoted to "First Aid to the Injured."

Part VI. discusses "Hospital Saturday and Sunday."

We have too long been accustomed to the scientific accuracy, in every undertaking, of the distinguished editors of this volume to express any surprise at the admirable manner in which their work has been accomplished. The Congress itself brought physicians and laymen into close association, and for that reason alone would have been a praiseworthy undertaking.

Naturally, in a work of this kind the papers are of a varying degree of excellence, but all are good. No physician who desires to have at hand a ready reference-book concerning hospitals, etc., should fail to secure this volume. It should be in every public library from Maine to Texas and from Oregon to the Gulf.

Combining Equivalents.—A western paper relates that a patient became seriously sick as the result of putting his own interpretation on the direction to "take every three hours as much as a ten cent piece would hold." In its stead he took as much as he could heap on a nickel every hour and a half. This reminds us of the man on shipboard who went for the preparation numbered 13, but finding it missing split the difference by combining numbers 6 and 7, with the result of proving the old-timed activity of the unlucky number.

Small-pox in Chicago.—The Chicago Commissioner of Health reports that during the year 1893 there were 140 cases of small pox in the city of Chicago. Cases occurred during every month of the year except March and May. Thirty-five cases occurred during November, and 66 during December. There was a total of 25 deaths, none of which occurred in any case that had been previously vaccinated. But few of the cases could be traced to their origin.

Society Reports.

ELEVENTH INTERNATIONAL MEDICAL CONGRESS.

Held in Rome, Italy, March 29, 30, and 31, and April 1, 2, 3, 4, and 5, 1894.

SECTION ON PRACTICAL MEDICINE.

Nitrate of Aconitine.—Dr. Tison, of Paris, read a paper on the therapeutic properties of this salt. He employs it dissolved in a mixture of glycerine, alcohol, and distilled water, in the proportion of gr. $\frac{1}{64}$ to the drachm. He has used this drug in about sixty cases of facial erysipelas, and regards it as the best known remedy for this affection, reducing the pain, preventing complications, and cutting short the attack. It is also of great value in certain forms of neuralgia, especially facial neuralgia. Neuralgias dependent upon chloro-anæmia are, however, better treated with exalgine. In many cases of laryngitis and aphonia due to an ordinary cold, the nitrate of aconitia is also beneficial. The drug may be given in maximum dose of $\frac{1}{64}$ grain a day, divided in ten doses. In pyretic conditions he has never observed any intolerance of the drug, but in afebrile states there is occasionally a little formication caused by the doses above mentioned, and in such case it is necessary to suspend the administration of the remedy. The menstruum of alcohol, glycerine, and water, so proportioned that the mixture has the specific gravity of distilled water, is useful for the exhibition of all the alkaloids.

Plasmodium Malariæ.—Dr. Marchiafava, of Rome, described the malarial parasite of summer-autumn fever, giving its life history, its various localizations, cerebral, intestinal, and general, and presented a sketch of the anatomico-pathological changes present in pernicious fevers, especially in the intestinal forms. He insisted especially upon the fact that the form of malarial parasite, described by him as the summer autumn variety, was alone active in causing pernicious fevers.

Malarial Anæmia.—Drs. Bignami and Dionisi, of Rome, read a paper on this subject in which they divided the post-malarial fevers into several groups, normoblastic and megaloblastic. From these are to be distinguished the anæmia due to atrophy of the medulla, and that accompanying malarial cachexia. Various hemolytic poisons give rise to blood changes, and the authors called attention to the points of difference and resemblance between these and the conditions of the blood found in post-malarial anæmia. The latter is the result of various lesions caused by the action of the malarial poisons in different viscera.

Nervous Lesions in Rabies.—Dr. Golgi, of Pavia, said he had often observed in animals dead of experimental rabies various alterations in the nuclei of the nerve-cells (swelling and chromatic changes), and also vacuolization and granular degeneration of the protoplasm. By means of his method of black staining he has found changes in form of the cell bodies, swelling and complex deformation of the nervous prolongations. He had also seen kariokineses of the epithelium of the vessels and of the neuroglia.

Rachitis and Infantile Convulsions.—Dr. Jules Comby, of Paris, read a paper on the relation between convulsions in infancy and rickets, of which the following are the conclusions: 1. Convulsions, both general (eclampsia) and local (spasm of the glottis) are of frequent occurrence in rachitic children who are predisposed by a neurotic inheritance. 2. Rachitis cannot in itself or in its osseous lesions, even when they affect the skull (craniotabes), account for the occurrence of these convulsive attacks. Indeed, these are seen in children free from craniotabes or any rachitic taint, and on the other hand very many children, the majority in fact, who are subject to extensive craniotabes and other pronounced symptoms of rickets, never have convulsions at all. 3. The explanation of these convulsions is to be sought elsewhere. The author regarded them as due to the digestive troubles so universally associated with rickets. In a word, he said, convulsions in rachitic children are due to an auto intoxication, the origin of which is in the digestive canal.

The Fungus of the Trichomycosis Nodosa.—Dr. Bergonzini, of Modena, said that as long ago as 1881 he had described an affection of the skin of the upper lip in which he had found spores vegetating on the cutaneous surface. A culture of these spores resulted in a filamentous mycelium, a description of which was communicated to the Medico-chirurgical Society of Modena and published in several medical journals. This year he had seen a precisely similar case, which he had studied by means of more accurate cultures and microscopical observations. He thought it was probable that the fungus discovered by him was the same as that described by Behrend in 1866, and by Juhel-Renoy in 1888, as belonging to the disease called by them "trichomycosis nodulosis." However, the fungus cannot be called by the name which Behrend proposed, namely "Trichosporon ovoide." It is a fungus of the order sphomiceti, of the family Mucidinææ, of the sub-faimly Amerosporæ, of the genus Monilia, which the author proposed to call "Monilia trichophila."

Localization of the Reflexes.—Dr. Ernest Jendrássik, of Buda-Pesth, presented a communication on this subject. On the basis of clinical symptoms and the results of experimental investigation, he divided the reflexes into certain groups, pretty sharply defined one from the other by their various modes of production, their progress, and the modifications occurring in them under certain circumstances. These groups were: 1. (*a*) Physiological, the phenomena known as "deep reflexes;" (*b*), pathological, reflex bending, less often extension, of the lower extremities, pseudo patellar reflex. 2. The skin, eye-lid-, pharynx-, anal-reflexes and the like. 3. Sneezing, vomiting, coughing, the reflex activity of the bladder, rectum, genitals, etc. 4. Vaso-motor reflexes, to which also belong the pupil-reflex. These several groups correspond to varied localizations: the first group belongs to the spinal reflexes, the second to the cortical reflexes, and the reflexes of the third group have their centres in the cord, but yet are controlled from the brain.

Syphilitic Tabes.—Dr. Adamkiewitz, of Vienna, said that when it was first shown that locomotor ataxia was often of syphilitic origin, the hope was expressed that the disease might be curable by specific treatment; but this hope had not been realized, and there is now a very general scepticism as to the value of such treatment. The speaker had, however, had several cases a very careful study of which had led him to the belief that there is a special form of tabes having certain characteristic symptoms and a specially defined clinical course, which is positively curable by antisyphilitic treatment, provided it be instituted at an early period.

The symptoms of this curable form of locomotor ataxia are: Ataxic paresis with loss of the tendon reflexes, paresis in the distribution of certain cerebral nerves, tabetic paræsthesia without objective disturbances of sensibility, and pain especially on pressure in the lumbar region. The clinical course of the disease is characterized by a rapid advance of the paresis of the lower extremities into complete paralysis, by ascent of this paralysis up to the lower part of the cervical spine, and, when the antisyphilitic treatment is early begun and energetically carried out, by a final complete restoration to health. The duration of the disease, when so treated, is three or four months. The most important clinical symptoms of the disease—ataxia and motor paresis—point to an involvement of the pyramidal tract as well as of the posterior columns, and the fact of a cure by means of iodides and mercury to functional disturbance resulting from a not irreparable process. There can be question here of syphilitic products only which appear under the form of obliterating endarteritis and syphilitic pachymeningitis.

The influence of syphilitic disease of the vessels on the

functions of the anterior and posterior columns is most satisfactorily explained by the results of the author's studies, elsewhere published, on the vascular supply of the spinal cord.

When, through lack of proper specific treatment, there is no resolution of the syphilitic products in the spinal cord, the diseased vessels become obliterated, and the parts of the cord supplied by them become sclerosed. In this case, similarly to what the author has shown to occur in tuberculous pachymeningitis, wedge-shaped lesions are formed in the substance of the cord in which the nerves are destroyed. The author has called this lesion, which results in incurable spinal paralysis, infarct of the cord.

The general belief that syphilitic vascular lesions of the brain only, and not of the spinal cord, are curable is disproved, the speaker said, by the observation upon which he had based his paper.

The Etiology of Tabes.—Dr. Alessandro Borgherini, of Padua, presented a communication on this subject in which he said that tabes is essentially a systematic affection; its pathogenesis is to be sought for in a special morbid predisposition of certain elementary spinal tracts. The various etiological factors in connection with this disease act only secondarily. Syphilis, indeed, has a certain causal relation to locomotor ataxia, but the idea that it is the sole cause of the affection is an exaggerated one. Some statistics recently collected in Italy by the author, with the aid of many of his colleagues, showed that hardly thirty per cent. of those suffering from tabes were syphilitic; among the other causes shown were rheumatism, mental and bodily overwork, venereal excesses, etc., and in some no active cause could be discovered. Notes of a neuropathic taint in the family history of those suffering from tabes were by no means rare.

Ophthalmoplegia and Superior Bulbar Paralysis.—Dr. Alessandro Marina, of Trieste, read a paper with this title, of which the following were the conclusions: In cases of tumor of the corpora quadrigemina a lesion of special systems of fibres does not produce simple tremor, but rather tremor combined with ataxia. The integrity of the endo-ocular muscles is not a sufficient sign upon which to base a diagnosis of external unilateral ophthalmoplegia of nuclear origin. Superior bulbar paralysis may be diagnosticated with certainty when ophthalmoplegia is joined to bulbar paralysis and poliomyelitis; in tabes the process may be peripheral, but is generally mixed. The close relationship between tabes and syphilis is proved also by those cases in which microscopical examination reveals no characteristic signs of a syphilitic process, while during life the nervous phenomena were clearly associated with a relapse of syphilis. Acute superior poliencephalitis, which may occur independently of alcoholism, is found more often with acute infantile encephalitis than with chronic external ophthalmoplegia, and is due more probably to lesions of the nuclei of the central gray matter than to those of the fibres connecting this central gray matter with the cortex. Recurring paralysis of the motor oculi muscles may also be the result of a recurring neuritis.

The Modifications of Form of Cancerous Cells and Nuclei which may be Mistaken for Parasites.—Dr. Cornil, of Paris, presented an interesting paper on this subject. Cancerous tissue, he said, always shows a number of cells in process of indirect division. The division of the nucleus into two, three, or four parts results sometimes in the formation of several cells, sometimes in the production of two or three nuclei which remain inclosed in the same cell. The indirect multipolar division, with five, six, or seven stellar figures, observed as often in cancerous tissue as in the large cells of bone marrow, may also give birth to several nuclei in the same cell.

The large nuclei of these giant cells are, in the quiescent state, just as in the case of the giant cells of the bone marrow, very varied in form, mallet shaped, sinuous, fringed, branching, crown-shaped, irregularly serpentine, cogged, and in places clusters of roundish secondary nuclei are seen. In the latter case these secondary nuclei contain but little chromatic substance. They separate themselves from the principal mass and become scattered about in the cellular protoplasm, looking like little cystic bodies. But all these swollen nuclei which have become œdematous, whatever their shape, contain the same substances as the ovoid nuclei of the cancer cells in a state of inaction or of indirect division.

The substances contained in the nucleus of a cancer cell, as in that of an epithelial cell, are: 1, a liquid; 2, a solid substance in the shape of granules or filaments, nucleine; 3, another solid substance, also in the form of granules or filaments, paranucleine. These two substances are isolated and differentiated in the nucleus by means of the affinity which they have, the first for the basic colors, the second for acid colors. In preparations made by a special process by M. Frenkel the nucleine is stained an intense blue, the paranucleine a bright red. In the small ovoid nuclei of the quiescent cancer cells the blue filaments and fine granulations make up the nuclear framework and envelope; these blue filaments and granulations are crowded pretty closely together, yet it is possible to see here and there a granule of paranucleine stained red. In the neighboring cellules of the same size as the preceding or larger the nucleus, although remaining ovoid or more nearly spherical in shape, is larger and contains more fluid, and these two kinds of filaments and granules are more readily seen. The blue granules or filaments of nucleine are found at the periphery, while the red paranucleine occupies the cerebral portion, forming one or more round or slightly elongated drops. When the nucleus is spherical we find in its centre one large globule of red paranucleine often surrounded by a thin film of blue nucleine. In the arborescent, fringed, or lobulated nuclei the arrangement of these two substances is the same.

During the first stages of growth of the nuclei the nucleine breaks up into roundish or ovoid granulations, and at the same time the paranucleine increases and divides into granules and droplets. This destruction of the two substances proceeds in a most evident manner throughout all the stages of mitosis. The nucleine, in its filaments and granules in the equatorial, and after segmentation in the polar plaques, is distinguished by its beautiful blue color from the filaments of paranucleine and granules of the same substance, which are of a bright red color and constitute the polar rays. All the details of nuclear mitosis, separated from the cellular protoplasm by a clear zone, are seen here most distinctly. After the division of the nucleus and of the cell has taken place, the twin nuclei still remain for a time united by filaments of paranucleine.

Alongside of these giant mitoses we often see in the same cancerous growth alveolus cells of the same size containing, in a state of repose, one or more large nuclei, branching, fringed, modulated, or clustered. Whatever may be the arrangement and the number of these nuclei, they always have, as said above, filaments and granules of nucleine at their periphery and one or several central globules of paranucleine. As these large nuclei, of various shapes and often œdematous, are found alongside the multipolar giant mitoses, it is natural to suppose that they are due to indirect division of the nuclei, which has not gone the extent of division of the cellular protoplasm. These to deformed nuclei have been described as parasitic bodies by Foà, Soudakewitch, Ruffer, and others. The descriptions and the drawings given by these observers correspond exactly with those published by the author in 1881. From the results of the double staining of the nucleine and paranucleine of the nuclei in a state of repose, and of kariokinetic growth, and of the other misshaped nuclei, Dr. Cornil maintained that these supposed parasites were merely nuclei poor in nucleine and containing in their centre one or more droplets or corpuscles of paranucleine. That which characterizes especially the cancerous cellules is the enormous number of mitoses, the exag-

gerated movement of the nucleine and paranucleine of their nuclei. The kariokinetic figures are far from presenting here the same regularity as in normal tissues, and they are often irregular, asymmetrical, or wholly abnormal.

Among these anomalies one of the most curious, described by the speaker in 1891, is the isolated development of a nucleus dependent upon a giant mitosis, the nucleus arriving at maturity while the rest of the kariokinetic filament is evolved more slowly. From this results the development of a nucleus, and even of a cell, inclosed in the protoplasm of a giant cell, the principal nucleus of which may become œdematous or may assume an arborescent or other shape.

The wandering white cells found in great numbers in the rapidly growing portions of cancerous tissue, and which supply them with nutriment, have also been described as parasitic.

Those who hold to the parasitic nature of cancer base their belief solely on the morphology of the cells—an insufficient ground. The bodies described by them as parasites are, the author maintained, nothing but modified nuclei and cells resulting from the changes above described.

A Case of Syringomyelia Complicating Leprosy.—Dr. Sousa Martins, of Lisbon, related a case of this kind, and formulated, as a result of his observations and studies, the following conclusions: 1. We cannot admit syringomyelia as a nosological entity. 2. Syringomyelia is merely a condition and not a disease, similar in a certain sense to the cavernous affections of the lungs which we might justly call "syringopneumia." 3. The condition called syringomyelia may be present in various diseases. 4. Leprosy is one of these diseases.

The Determination of the Quantity of Heat Given off from Different Portions of the Body.—Dr. Curzio Bergonzini, of Modena, said that he used a mercurial thermometer with spherical bulb, of which the weight of the glass of the bulb and of the mercury was noted, and also the volume and circumference of the bulb itself. This instrument being exposed to a source of heat for a determinate time, we can easily determine by it the amount of heat it has absorbed per square centimetre of its surface in the given unit of time, allowance being made for the specific heat of the glass and of the mercury. Such a thermometer applied to a region of the body which can completely envelop the surface of the bulb (the axilla, popliteal space, hand, etc.) will indicate how much heat it has absorbed in a given time from contact with a surface of skin equal to that of the bulb. The figures thus obtained will evidently be equal to those representing the heat evolved in the same time from the cutaneous surface of the explored region, and we can thus determine how much heat is given off per minute or per hour from a given portion of the surface of the body. By this means the author has been able not only to calculate the maximum and minimum of heat units given off from various parts of the body under diverse conditions, but also to determine the variations in the emission of heat in fever, in different seasons of the year, at different ages, and in diseases of various kinds.

Treatment of Psoriasis.—Dr. Cerchez, of Berlad, Roumania, read a short paper advocating the use of iodide of potassium in large doses as the most efficacious remedy for psoriasis, provided the patients had no idiosyncrasy contra-indicating its employment, and provided also that the uropoëtic organs were in a healthy state.

Hypodermic Medication.—Dr. J. Roussel, of Geneva, presented a communication reviewing his various experiments and publications concerning the subcutaneous administration of remedies. The hypodermic pharmacopœia is sufficient to-day, he said, to meet all therapeutic indications. This method, by which remedies are passed at once into the circulation without running the hazards of digestion, is all powerful in dyscrasiæ of the blood, whether simple or infectious, often aborting them, curing them more speedily and certainly than other methods, and preventing their degenerative sequelæ. A preventive antiseptic injection is useful in the beginning of morbid processes, and even if it does not succeed in abating them it is never harmful. He contended that the time was at hand when direct circulatory therapeutics, the transfusion or injection of accurately dosed, assimilable, and aseptic remedies, would alone be deemed worthy of the attention of practical physicians whose aim is to prevent and cure disease without doing injury.

Mycodermic Medication.—Dr. Backer, of Paris, presented a paper on a therapeutic method which he called the "mycodermic," consisting in the hypodermic injection of yeast fungus. This fungus, he said, continued to live in the tissues and destroyed pathogenic bacteria by a process of phagocytosis. He had tried the method in a large number of cases of tuberculosis, and claimed to have cured ninety per cent. of cases in the earlier stages, and sixty-five per cent. in phthisis of the second degree. He had made nearly five thousand injections, and had never seen suppuration or any other injurious effects from them.

Serum Treatment of Tuberculosis.—Dr. Bernheim, of Paris, read a communication on this subject. He said he did not pretend to cure all cases by the injection of blood serum from an immune animal, yet the results obtained in incipient phthisis were most encouraging. He had so treated about three hundred cases in private and hospital practice, with the result of obtaining at least a temporary cure, the time which had elapsed being too short to permit him to assert that the cure was permanent and final. He felt himself justified, however, in claiming that immunized serum has a true vaccinal action in tuberculosis.

Heredity and Contagion of Tuberculosis.—Dr. Bernheim presented another communication with this title. He said that there was no such thing as a genuine inheritance of tuberculosis, the disease being always acquired by contagion, and that therefore all children of tuberculous parents should be immediately isolated and removed from the ever present source of contagion in their own parents. Physicians should recognize this necessity, as had already the veterinarians. They might thus save the lives of many children who are the more easily infected from having been conceived under unfavorable conditions.

Lysol in Typhoid Fever.—Dr. Tison, of Paris, read a paper on lysol, which he regards as a perfect general, and especially intestinal, antiseptic. Its employment gives excellent results in eruptive fevers, but more particularly in typhoid fever. It is also a very useful remedy in diarrhœa. It may be employed externally or internally according to the effect which it is desired to obtain, and however used its effects are admirable.

Treatment of Pernicious Anæmia.—Dr. F. W. Warfinge, of Stockholm, read a paper on this subject, giving the results of the treatment of this affection and of leukæmia and pseudo-leukæmia by arsenic in the Sabbetsberg Hospital, during the years 1887–1893. The success obtained by this method was, in the speaker's opinion, phenomenal.

Transfusion.—Dr. H. v. Ziemssen, of Munich, read a paper on this subject. The intra-venous transfusion of undefibrinated blood is, he held, a perfectly harmless procedure in skilful hands, but for the general run of practitioners who have not had sufficient experience, the subcutaneous injection of blood is to be preferred, as it offers fewer technical difficulties. The immediate effect of intra-venous transfusion is a heightened color and an increase in strength, with which, however, the increase in red blood-globules and in the proportion of hæmoglobine is not always proportionate. In the treatment of chronic anæmia, frequent transfusions of small doses (three to four ounces) appear to be more effectual than a single injection of a larger quantity.

Twelve Years of Sanitation in the Province of Ontario, Dominion of Canada.—Dr. E. E. Kitchen, of St. George, Canada, member of the Provincial Board of

Health, presented a communication with this title. In opening the paper the reader gave a few of the laws enacted on account of the several visitations of cholera to this country during the century, and opened the paper proper with the fact that the Provincial Board of Health of Ontario was established by law in 1882, and this was the commencement of systematized sanitation. The Board consists of seven members, including a secretary, who is the provincial health officer. Their meetings are quarterly, although special ones may be called; the duties of the Board were defined as by statute. The many laws enacted for sanitary purposes and their amendments were explained, as well as the formation of local Boards of Health and the mode of operating them. During 1882 and 1883 circulars were sent out to municipal councils, asking if such local boards were formed, when it was found that only fifty boards had been formed in forty counties. This to a great extent caused the Public Health Act to be enacted, and this made the formation of local boards compulsory, as well as placed on the board a number of rate-payers. This caused such a great improvement that during the half of the year 1885 there were formed 184 local boards in 447 townships, and 180 boards in 203 cities, towns, and villages. This increased organization made itself felt in the subsequent early visitation of small-pox. Shortly after this it was found that there were in 600 municipalities 563 local boards, 283 medical health officers, and 160 sanitary inspectors. In 1886 the number of boards had increased to 610. From time to time various regulations, etc., have been made, until the system is wellnigh perfected. Scarlet fever, diphtheria, etc., are now under such strict regulations at home and at school that it is generally stamped out upon its first appearance. Reference was made to regulations of dairies, creameries, and the milk-supply, and many other matters vital to a country. The Board has been doing very satisfactory work with tuberculin as a diagnostician of tuberculosis in cattle. Very many other interesting facts were discussed, and this very succinct and readable paper closed by a cursory reference to the fine state in which the quarantine service of Canada is at present.

SECTION ON SURGERY.

Perineal Lithotrity.—Mr. Reginald Harrison, of London, described a method of performing perineal lithotrity employed by him in a number of cases of vesical calculus. It consisted in an incision through the membranous urethra, rapidly breaking the stone with crushing forceps, and washing out the fragments. This operation was applicable in some cases of stone which were complicated with vesical disease and growths in the bladder, and connected with the prostate. In all other cases ordinary lithotrity was advised by the speaker. He had employed the method described in fourteen cases out of four hundred operations for stone in the male bladder.

Floating Kidney.—Dr. Tricome, of Padua, operates for the fixation of wandering kidney by fixation to the quadratus lumborum through a double series of sutures. The deep layer acts in way of fixation, attaching the organ to the margin of the wound made in the muscles, the superficial layer closing the external wound. He had operated by this method in twenty-six cases. Of these twenty-two were entirely relieved of all the symptoms previously complained of, one was greatly benefited though not cured, and one died five months after the operation. The remaining two were lost sight of.

Extirpation of the Kidney.—Dr. Durante, of Rome, performed an operation for cancer of the kidney, at his clinic in the Via Garibaldi, in the presence of many members of the Surgical Section. The operation for the extirpation of the diseased organ occupied about half an hour from the beginning of anæsthetization to the time the patient was taken back to the ward.

Pleurotomy.—Dr. Bozzini, of Italy, reported two cases of this operation for the relief of suppurative pleurisy. In the first case the pleurotomy was followed by a partial resection of the lower lobe of the left lung. The second case was complicated by suppurative perihepatitis and subsequent biliary fistula. In both cases a perfect cure of the empyema was obtained.

A Local Anæsthetic.—Dr. Tison, of Paris, reported on a new local anæsthetic which he called "coryl." It was a mixture of chloride of methyl and chloride of ethyl. When applied to the skin or mucous membranes the temperature of the tissues is reduced to about the freezing-point, low enough to cause complete anæsthesia, but not so low as to give rise to the formation of eschars. This substance is much more efficient than the other refrigerant agents, and much safer than the medicinal anæsthetics such as cocaine. Coryl was the discovery of M. Joubert, of Paris.

Pyogenic Diseases of the Brain.—Dr. Macewen, of Glasgow, read a paper with this title, of which the following were the conclusions: 1. All abscesses of the brain are formed secondarily to a primary focus of infectious disease located elsewhere. 2. The chief infectious foci are formed in connection with middle-ear disease. 3. Abscesses of the brain coming from this source are generally in direct contact with the seat of the middle-ear disease. 4. Such abscesses are usually reached most easily through the mastoid antrum. 5. The latter is best reached by an incision through the supra-mental triangle, by which means the whole tegmen antri and tegmen tympani may be exposed. 6. The whole infectious tract must be removed, after which the skull should be trephined over the temporo-sphenoidal lobe of the brain.

Researches in Cranio-encephalic Topography.—Dr. E. Masse, of Bordeaux, said that he had been able to locate, by auto-impression, the sulci of Sylvius and Rolando, and had by mensuration determined a series of fractional numbers by means of which he was able to make the operation of trepanning mathematically exact.

Cerebral Surgery.—Dr. P. Postempski, of Rome, reported twenty cases of craniectomy, and formulated a number of conclusions derived from a study of them. He held that great exactness in craniotopography is unnecessary, all that is needed being to make a sufficiently large opening. Surgical intervention is useless in hydrocephalus and microcephalus, and the same is true in cases of ordinary epilepsy.

Resection of the Trigeminus at its Point of Emergence from the Bridge.—Dr. A. D'Antona, of Naples, reported a number of experimental resections of the trigeminal nerve, and made some observations deduced from the results of these operations. Tissues deprived of innervation, he said, became vulnerable because their nutritive energy and organic constitution are weakened. Atrophy consequently sets in. In the eye the conjunctiva becomes softened in patches and breaks down, deep corneal ulcerations resulting.

Resection of the Vertebral Arches.—Dr. A. Caselli, of Genoa, read a paper on temporary resection of the posterior vertebral arches as an explorative and curative method in various cases of injury to the meninges and cord. He proposed the operation of specotomy by means of temporary laminectomy. His experiments proved that perfect union took place after the operation without the production of deforming callus or the intercurrence of any complicating accidents. The speaker also reported a case of resection of the third, fourth, and fifth dorsal vertebræ, for the relief of paraplegia caused by slow compression of the cord from exostosis and pachymeningitis. He devised a special rachiotome, which was exhibited at the meeting, for this operation. The exostosis was removed and the patient made a perfect recovery.

Trephining for Epilepsy.—Dr. J. Lucas-Championnière, of Paris, read a paper based upon the clinical study of sixty-four cases of trepanation of the skull. The good results of this operation may be observed, he said, when it is performed for the relief of renal epilepsy, and of certain forms of traumatic meningo-encephalitis ac-

companied by severe pain in the head, vertigo, and other dangerous symptoms. In cases of Jacksonian epilepsy, however, the indications for trephining are not sufficient to justify its performance, and the practical results of the operation are not at all satisfactory.

Provisional Costotomy in Acute Pleuritic Exudations.—Dr. Z. Lamfirescu, of Jassy (Roumania), said that the title of his paper indicated sufficiently the object of the temporary resection of the ribs, which he had first practised in 1877. The operation might also be undertaken in cases of purulent exudation in which pleural adhesions had not yet taken place.

The operation is performed in the following manner: The patient lies in a semi-reclining position, resting on the side opposite to that on which the operation is to be performed. The anæsthetic is pushed only to the stage of analgesia, and for this purpose ether is employed by preference. The ribs are counted from below upward, and in the space between the sixth and seventh ribs a line is marked by the dermographic pencil, which is crossed by a perpendicular line at a point indicated by the operator; from this last the distance in front and behind to which it is desired to resect the rib is measured off and marked by other vertical lines. An incision is made along the intercostal line between the two extremities previously marked, down to the internal intercostal muscles, and then the skin only is incised along these two boundary lines to a point just above the upper edge of the rib which is to be excised. Now the costotome is inserted at the point marked by one of the vertical lines, one blade on each side of the rib, pushed down until the points have penetrated the pleura, and then the rib and soft parts, including the pleura, are cut through by the instrument. The operation is repeated on the opposite vertical line. In this way a flap embracing the pleura, bone, and superimposed soft parts is made and thrown back. The artery must be ligated or twisted.

The suppurating cavity is now washed out by means of antiseptic irrigations made through a fenestrated rubber drainage-tube curved on itself, so as to permit of a double current. The whole side of the thorax is then enveloped in a thick layer of carbolized wadding retained by a roller bandage.

After the operation the temperature is taken regularly, and if it is observed to rise, the dressing is removed and the cavity washed out through the drainage-tube until the liquid flows clear. The dressing is then to be reapplied. The number of irrigations to be made depends upon the temperature, and when the latter has been normal for ten or fifteen days the wound may be closed, the extremities of the resected rib being freshened, and sutured by silk, strengthened, if necessary, by silver wire. The soft parts are sutured with silk or catgut. A drainage-tube of very small calibre is left in the wound for a few days, and when it is found that the pleura secretes no more, the opening is definitely closed. After the osseous suture has been made that side of the thorax is strapped with long strips of adhesive plaster. The orifice of the drainage-tube is covered with carbolized or iodoform cotton, and the whole retained in position by a body bandage. The dressing is removed after a certain period of time—the length of which depends upon the circumstances in each individual case, but never under forty days.

Treatment of Serous and Purulent Pleuritic Exudations.—Drs. Demosthen and Calinescu, of Bucharest, presented a report based upon the records of fifty cases of pleurisy treated surgically in the Roumanian Army Hospital at Bucharest. In twelve cases the exudation was serous, in one sero-sanguinolent, and in thirty-seven purulent. The serous and sero-sanguinolent cases were treated by aspiration, practised from one to three times on the same individual, and by appropriate general treatment. The management of the purulent cases varied according to the nature and amount of the fluid, the capacity of the pleural cavity, the state of the lungs and the pleura, the patient's general condition, the results of a previous intervention, etc. There were five aspirations made either in the way of diagnosis or because the general health of the patient did not warrant at the time a more radical operation, twelve simple pleurotomies with drainage, nineteen pleurotomies with resection of one rib, ten with resection of two ribs, and four Estlander operations. The authors resorted to simple pleurotomy when the intercostal space was wide enough to permit the easy insertion of a drainage-tube, and to pleurotomy with the resection of one or two ribs when, as is often the case, the space was too narrow to accommodate the drainage-tube. Antiseptic lavage of the pleural cavity was practised regularly as long as suppuration continued, and this because it was found to conduce to a lowering of the temperature, suppression of the suppurative process, and reduction of the dangers of infection. The authors never had to regret any of the accidents resulting from this procedure, which have been observed by other physicians.

In performing the Estlander-Liétévant operation they invariably resected the pleura from the thoracic wall throughout the whole extent of the field of suppuration, because this membrane, sclerosed and rigid as it is, opposes almost as great an obstacle to the retraction of the chest-walls as do the ribs themselves. They found no cases in which Quénu's procedure (immobilization of a portion of the costal skeleton) was indicated. Fever offers no contra indication to surgical intervention, nor does pulmonary tuberculosis, unless marked cachexia be present.

As to the results of treatment, the authors never saw a cure of purulent exudation from medical means. Of serous exudations, almost all chronic, they had ten definite cases, ten cases of improvement with the persistence of small sinuses which did not prevent the patients from attending to their ordinary duties, and nine deaths from intercurrent disease, chiefly tuberculosis in other organs.

The duration of the disease varied from fifty days to two years. As a rule, especially in the purulent cases, the recovery is slow, yet in some cases surgical intervention was followed by a veritable resurrection, and from poor, emaciated, cachectic subjects the patients became rapidly fat and healthy-looking.

In conclusion, the authors urged the practice of surgical measures in all cases of suppurative pleurisy, and the sooner the better, for the results were always the more striking the nearer the onset of the disease the treatment was instituted.

Discussion on M. Ollier's Essay on Osteoplastic Operations.—Dr. Thomas H. Manley, of New York, in discussing a paper by Dr. Ollier on this subject, said that it afforded him great pleasure to listen to the contribution of M. Ollier, who is now regarded as one of the most eminent living authorities on this line of surgery. The greater part of the papers of the morning had especially dwelt on operations for pathological lesions of bones; but he would ask attention for a moment to the surgical therapy of osseous traumatisms of that class so fully set forth by Dr. Link, of Indiana.

One of the most common and serious types of bone traumatism, which involves the extremities and often threatens a limb's vitality, is compound comminuted fracture. He would ask the members to bear in mind the fact that the time of treatment appropriate for even the most grave types of compound fractures, in vogue twenty-five years ago, would not be accepted in our times. The achievements of Lister had enabled us to effectually stamp out infection, the experiments and observations of Ollier and others have opened the way to such osteoplastic operation, on disorganized bone from physical violence, as will enable us to now preserve very much of what was formerly destroyed.

A most sweeping revolution had been wrought on the subject of the severance of a limb, and the time had now come when a primary amputation, in civil life, should never be entertained, under any circumstances, unless the physical force employed had totally destroyed all

the parts beyond the site of injury. Of late years resection has been largely utilized as a substitute for amputation, in a large number of cases of pathological lesions of bone. Resection, instituted at the right time by the surgeon, would obviate the necessity for amputation in a large number of traumatisms. But to osteoplasty we must turn for such aid as will render our efforts successful in this direction.

Uterine Drainage by Catgut.—Dr. Schmeltz, of Nice, read a paper on this subject in which he maintained that a certain number of diseases of the uterus and its adnexa could be cured by catgut drainage, without having recourse to bloody operations. In 1883 Schwartz proposed drainage by spun glass fibres and caoutchouc, but the former was hardly practicable, and the latter necessitated a previous dilatation of the os. The catgut drainage proposed by the author was, on the contrary, easy of application, not requiring dilatation of the uterus, and perfectly aseptic. The presence of the drain does not in the least interfere with the proper performance of the menstrual functions, and it seldom causes pain or inconvenience of any sort. The operator had employed this method successfully in metritis, salpingitis, uterine deviation, amenorrhœa, dysmenorrhœa, and arteria of the neck of the uterus. The only contra indication is acute inflammation of the womb or its adnexa, and acute perimetritis. In such cases the presence of the drain might increase the existing inflammation.

Exploratory Laparotomy.—Dr. François Villard, of Bordeaux, reported six cases of exploratory laparotomy, and presented certain conclusions concerning the operation, which he said was indicated in the following cases: 1, For purposes of diagnosis; 2, for the cure of tubercular peritonitis and to break up pelvic adhesions; 3, to favor the resorption of certain serous effusions.

Tubal Pregnaney.—Dr. Villard also presented the report of a case of extra-uterine (tubal) pregnancy, in which he had performed laparotomy at the twelfth month, removing the tube and the product of gestation. The woman made a perfect recovery.

A Report on Symphyseotomy.—Dr. Leopold, of Dresden, said that symphyseotomy carried out on the lines laid down by Morisani has given such brilliant results that it must now be regarded as a most valuable addition to the therapeutic measures at our command. Nevertheless, it never can and never ought to become generalized or to be substituted, in the hands of the general practitioner, for perforation or turning, for its dangers are great and not to be underestimated.

In the case of primiparæ, the operation should be avoided if possible.

A woman on whom symphyseotomy has been performed should be kept under observation for a long period, and her condition at the end of one or two years should be made the subject of a careful report.

The occurrence of hemorrhage and injury to the vagina during the operation calls for special attention, for the management of such complications is often as difficult as the entire after-treatment in simple cases.

Symphyseotomy is indicated in preference to perforation of a living child in cases of narrow pelvis in which the conjugata vera measures from six or six and one-half to seven and one-half centimetres. Such cases should be operated upon in a hospital. If, however, in a case of narrow pelvis of this kind the practising physician is forced to manage the labor himself and to assume alone the entire responsibility of the issue, he should not undertake to perform symphyseotomy or the Cæsarean operation, but rather, when all other measures have proved of no avail, proceed at once to perforation of the living child, consoling himself with the knowledge that he has done the best he could—preserved the life of the mother.

In cases of narrow pelvis with a conjugata vera measuring down to 7 ctm., if the woman comes under observation at a sufficiently early period, premature delivery should be induced. If the case is not seen until late in the pregnancy or at the beginning of labor, complete dilatation of the os, with the bag of waters still unbroken, must be effected, and then normal delivery in Walcher's position be awaited. If spontaneous delivery does not then occur a success may often be obtained, in cases of flat pelvis with a conjugate of 7 ctm., or of generally contracted pelvis with a conjugata of 7½ ctm., by version, the os being fully dilated, the bag of waters unbroken, and the woman in Walcher's position. It is only very seldom, when all the special conditions are most suitable, and when version and the application of the high forceps give no hope of success, that we should resort to symphyseotomy in this latter group of pelvic deformities.

CONGRESS NOTES.

Two Thousand Ladies were registered as associate members of the Congress. Forty-six ladies, physicians, were registered as active members.

Sanitary Legislation in Italy.—Dr. Pagliani had printed in French for general distribution a pamphlet containing an account of recent legislation on sanitary matters in Italy, together with a description of all the scientific institutes under the direction of the Bureau of Public Health in the country. In an appendix was the text of all laws relating to sanitation and public hygiene.

The Illumination of the Forum, Palatine Hill, and Colosseum was very beautiful and carried out with much taste and skill. The grim old ruins looked strange but picturesque in the vari-colored lights.

The Garden Party at the Quirinal was hardly a Congress affair, though said to be given in its honor. The majority of those present were Italian officials, non-medical, foreign ambassadors and their families, and members of the ladies' entertainment committee. Only those foreign ladies were bidden who had been previously presented at court, and many prominent members of the Congress who were themselves invited remained away because their wives had been ignored Nevertheless there was a fair sprinkling of doctors and their wives among the guests.

The Archæological Section of the Medico-hygienic Exhibition was of great interest. It consisted mainly of exhibits from the museums of Rome and Naples—books, medals, instruments, engravings, statues, designs, urns, inscriptions, and votive offerings from the temples of Esculapius, Minerva, Diana, etc., by means of which one could follow the history of medicine in Rome from the earliest times down to the beginning of the last century.

Letter from Sir Joseph Lister.—Over the portal of the surgical pavilion at the Polyclinic is a high relief representing an operation at which Sir Joseph Lister is demonstrating the principles of antiseptic surgery. It is to this that he referred in the following letter, sent to the president on the opening day of the Congress:

"12 Park Crescent, Portland Place, London.

"Most Illustrious Professor: After the great honor which your classic city has done me, on the proposal of Professor Durante, by adorning with my effigy your new Surgical Clinic, it would naturally be not only a duty but a great pleasure for me to be present at the Congress over which you will preside, and to return personally my best thanks, while paying you the homage which is due to your merits. But the terrible shock which I have undergone through the loss of my beloved wife has deprived me of all courage for such an enterprise.

"Therefore, dear Mr. Baccelli, please accept my excuses, and at the same time my best congratulations for the honor done to us by your sovereign, who has entrusted you with the Ministry of Public Instruction.

"My heart will be with you in the Congress, for which I offer the most heartfelt wishes of a brilliant success.

"Your friend and admirer,

"Joseph Lister."

The Best Ordered Section was that on Military Medicine and Surgery. The members were accustomed to discipline and obeyed without protest the slightest command of the presiding officer. In consequence of this everything proceeded regularly and quickly, and almost every paper on the programme was read and fully discussed, yet the members had plenty of time to visit the military hospitals and barracks and to attend the general sessions if they so desired.

The Official Journal was an absurd affair, containing almost no information, and that usually misleading. The English of it was ridiculous and insulting to the members speaking that language, much of it being absolutely unintelligible, and it was only by reading the French or Italian column that one could gather the sense of what the editor meant to convey to his readers.

Professor Virchow's Speech.—The following is the report of Virchow's address at the inaugural session, as given in the *Official Journal* of the following day:

"The Professor Virchow, President of the last Congress, explaine the reasons that have decided the Physicians that in 1890 were reunited at Berlin, to choice Rom, as six of the XIth International Congress.

"The Orator said, that in this manner they have intended to make homage to the ancients tradictions. He exprime the desire that the Congress, can contribute to elevatad the morals aspirations, the ties of the friendsip of all countries, so that the fraternal place that must approch all the civilited Nations."

After the conclusion of this address, the *Journal* continues: "Mrs. The Delegates whom names are the following, have taken the word in order, to give the welcome to their Compatriots."

The International Congress of Hygiene and Demography.—The following telegram was received on the day of inauguration:

"Budapesth, March 28, 1894.

"In the name of the Executive Committee of the Eighth International Congress of Hygiene and Demography held in Budapesth, we cordially greet the Eleventh International Congress of Medicine on the occasion of its inauguration and wish it the greatest success in the interest of our science.

"Professor Joseph Fodor, *President.*
"Professor Calman Müller, *Secretary-General.*"

The Medal.—In addition to the membership card and rosette each person received a bronze medal about the size of a half-dollar. On one side was the legend: "XIth Congresso Medico Internazionale Roma, MDCCCXCIV." On the other was a reproduction of a medal struck in the time of the Emperor Antoninus, recalling an embassy sent to Greece in the year 291 B.C., after a consultation of the Sibylline books, in order to bring back the serpent of Esculapius from Epidaurus to stay the plague that was devastating Rome. The relief on the medal represents the river god Tiber half rising out of the water and extending his hand to receive the serpent at its arrival at the temple of the god of health, erected on the Insula Tiberina. The trireme bringing the serpent is seen appearing beneath one of the arches of the Fabrician (now the Quattro Capi) Bridge.

A Monument to Malpighi.—Subscription lists were opened in all the sections for contributions to a monument to the memory of Marcello Malpighi, to be erected in Crevalcore. A considerable sum was obtained for this purpose from the Italian and foreign members.

A Section of Medical Journalism.—Dr. Dobrzycki, of Warsaw, read a paper proposing that at future congresses a section of medical journalism be established, in which the needs and duties of this important profession might be discussed, and in which the representatives of the medical press throughout the world might obtain all necessary information. The need of such a section was never more apparent than at Rome, where the facilities for gathering news of interest to the medical profession were so exceptionally meagre.

An Anglo-American Reception was given on Saturday evening at the Grand Hotel by Mr. Burroughs, of London. All members of the Congress from America, England, and the Colonies were invited and received with the utmost courtesy. The attendance was large, and would have been even greater had it not been that Dr. and Mrs. Charles gave a *musicale* the same evening that took away many of the most distinguished English and American visitors. The entertainment was one of the most delightful of all the Congress week.

Tickets for Sale.—Special tickets of admission to the various entertainments were freely sold by the "Portiers" of the different hotels, and even by street pedlers, but were often difficult to be obtained by the members of the Congress for whom they were intended. Only a comparatively small number of members were invited to the garden party given by the king at the Quirinal, but it was generally asserted as a fact that tickets to this entertainment were sold in a quiet way for five and ten francs a piece. The messengers to whom the tickets had been delivered for distribution simply did not give them to those for whom they were intended, but sold them and pocketed the proceeds. Entrance cards for the illumination of the Forum, the reception at the Capitol, and the lunch at the Baths of Caracalla were to be had at any of the hotels for a dollar a piece, and late comers could get them for fifty cents.

Correspondence.

OUR LONDON LETTER.

ROMAN ECHOES—CHELSEA HOSPITAL—COLLEGE OF PHYSICIANS—PORTRAIT OF LATE PRESIDENT—LONDON HOSPITAL—NEW WING—TEMPERANCE HOSPITAL—ADVERTISING NOSTRUMS—MEDICAL SOCIETY—STRANGULATION OF INTESTINES BY BANDS—CLINICAL SOCIETY—RESECTION OF THE BLADDER—HIP-JOINT ANKYLOSIS—BILIARY COLIC—RUPTURED BILE DUCT—ANEURISM BY ANASTOMOSIS—DEATH OF BROWN-SÉQUARD.

London, April 7, 1894.

This week the Congress at Rome has occupied most of the conversation among the stay-at-home physicians. A fair number of Englishmen have taken the opportunity of a trip to Italy, and the news that has reached us is of success and enthusiasm. But you will have your own direct cable news, and here I only allude to the impression in London.

The Royal College of Physicians, at the request of the Chelsea Hospital for Women has undertaken to nominate a representative to serve on a committee to investigate the charges made by the Medical Officer of Health. The college has also passed a resolution in favor of the proposed Gresham scheme. This was to be expected, as the scheme is likely to benefit this as well as the sister college. But the scheme has not yet commended itself to the medical schools and will encounter strenuous opposition from the university. The Fellows of the college have also decided to have a portrait of Sir Andrew Clarke, their late president, in fact have commissioned Mr. Lehmann to paint one. An offer of Mr. Watts to present a replica of a likeness he had taken during the life of the lamented president has been declined! Nevertheless the Fellows, who want the portrait and will hold it as their monopoly with the other property of the college, are not willing to pay for it, and are sending round a circular to other members asking them to contribute—yes, begging from those to whom they refuse all privileges in their corporation! Begging them to pay for a portrait when they might have had one for nothing. No doubt the excluded will hurry to the help of the pockets of the excluders!

Sir Andrew Clarke will have a worthy memorial in the projected new wing of the London Hospital—for it is now decided to carry out this proposal, and the Duke of

Cambridge has fixed May 3d for a public meeting to promote this object, and Mr. Gladstone has promised to speak on the occasion.

The London Temperance Hospital has been established more than twenty years and has a good record of work done. In 1893 there were 1,036 in-patients, with 73 deaths, a percentage of 7.04. The rate of mortality for the whole period has, however, been only 6.3 per cent., a figure which might well gratify the subscribers at the annual meeting, when there was much enthusiasm. The hospital receives all sorts of cases, both medical and surgical, without distinction, and many of them, as may be supposed, are most grave and unpromising. The supporters, therefore, claim very fairly that twenty years' work, 9,000, cases and a mortality of 6.3 is as good an average as other hospitals show, and a proof that alcohol is not a necessity in the treatment of the most serious diseases. There have been 144 cases of enteric fever in the hospital during its existence, with 25 deaths, of which 4 were admitted moribund, reducing the percentage to 14.5. This is not excessive, if we make full allowance for the condition of hospital cases. The figure is, in fact, often surpassed, although in exceptional circumstances it is not reached. Considering the distribution of 144 cases over more than twenty years, many disturbing circumstances may have been present, and the number is too small to draw conclusions from. Probably in future a much less average will be attained.

I hear that your American Medical Association is discussing the question of quackery in its journals' advertising columns. The officials who want to finger the quacks' cash should have got a few wrinkles from their British parent. When the editor was among you why did you not ask the secret of beginning with special sherries and so on, and advancing to any nostrum, as some American manufacturers are pretty well aware?

On Monday, at the Medical Society of London, a case was related of acute intestinal obstruction due to strangulation by a band, and for which abdominal section was successful on two occasions, viz.: December, 1892, and September, 1893. On the last occasion Mr. Hutchinson, Jr., operated and found the constricting band closely connected with the adhesions of the old scar, so he brought the peritoneum together over the raw surface by a continuous suture, in order to lessen the chance of new adhesions. Another case was related by Dr. Pasteur and Mr. Bland Sutton, in which a constricting band was successfully divided. Mr. Sutton advocated incisions through the linea alba and objected to the triple row of sutures, as did also Mr. Lockwood and others.

The last meeting of the Clinical Society was devoted to surgery, and the programme was rather full, perhaps on account of the interruption of the meeting at Easter. A case of resection of the bladder for recurrent epithelioma was related by Mr. H. Fenwick. The first operation was perineal, and the growth proved to be epithelial. It recurred in a year, and then was removed by the suprapubic method, and the base seared with Paquelin cautery. In seven months it recurred, and therefore the tumor and the left lateral wall and base of the bladder which it occupied were completely resected. The patient has now, nine months after, full control of the bladder.

Some discussion next occurred on two cases of rectangular ankylosis of the hip, related by Mr. Heath. One was treated by Adams's operation, the other by Sayres's.

Biliary colic was the next subject, and Mr. A. Lane reported a case relieved by the removal of calculi. Mr. Battle related a case of traumatic rupture of the common bile duct in a boy of six, who was run over by a cab. The duct at the post-mortem was found torn completely through—a rare if not unique occurrence. These cases illustrate the innocuousness of healthy bile in the peritoneum, though in disease we may suppose that some changes have occurred.

Mr. Turner read notes of a case of aneurism by anastomosis in the temporal region, where it so often occurs. Some vessels had been ligatured, but without much benefit, and the child's parents refused further treatment. Otherwise various procedures were suggested, including ligature of the carotid.

The death of Brown-Séquard you will have heard of as soon as we did, for he was American enough to be claimed by you apart from his great reputation. He was also a resident here in London, and the National Hospital for Epilepsy and Paralysis here was established for him. A wonderful personality was his, and he made a practice in London, in Paris, in New York. Such a career would be in itself most remarkable, and is, in fact, I think, without parallel and likely to remain so. But when we add to this his physiological work we may well be lost in wonder.

LETTER FROM ROME.

(From our Special Correspondent.)

CONCERT AND BICYCLE RACES—MISLEADING ANNOUNCEMENTS IN THE OFFICIAL JOURNAL—BLUNDERS OF THE MANAGEMENT—ILLUMINATION OF THE RUINS—RECEPTION AT THE CAPITOL—CLOSING SESSION—LUNCH AT THE BATHS OF CARACALLA—CLOSING FESTIVITIES—GENERAL VERDICT OF CONGRESS.

Rome, April 6, 1894.

Sunday was a day of rest from scientific labors, and given up to excursions and entertainments of various kinds. Many of the members went to Tivoli and Frascati, others attended private meetings at the houses of Rome's most prominent physicians; numbers spent the day in visiting the ancient monuments, galleries, and churches; and others again rested or went to the concert or the velocipede races. A concert was given by the municipality in honor of the Congress in the Costanzi Theatre. It was announced that this would take place at three o'clock, and many went there at that hour only to find that it was over. The time appointed was one o'clock, and the announcement of a time two hours later was simply in keeping with the stupidity and inaccuracy of every official publication of this Congress. The concert was really an excellent performance, but it was given to a nearly empty house in consequence of this inexcusable blunder. At three o'clock there was a bicycle race at the Tor di Quinto, a race-track some two miles from the city. It was a well organized and creditable affair, the time made by some of the winners being phenomenal. The king was present and manifested great interest in the contests. In spite of the difficulties presented by the steep hills of Rome, bicycling is steadily growing in favor here, and wheelers are to be seen everywhere. The only wonder is that, with the reckless driving of the Roman cabbies, they are not run over. Pedestrians are in constant danger, for only the more important streets have sidewalks, and even these are so narrow that foot-passengers are forced to take to the roadway.

On Monday morning the members from the United States and Canada held a second meeting, and listened to the usual complaints of neglect and discourtesy on the part of the Congress officials. A delegate present said that he had been sent by his government to prepare a report of the meeting. He was unacquainted with Italian, but had been assured by the managers of the Congress that there would be no difficulty on this score, and that he would be provided with every facility for acquiring information. He had come without secretaries or interpreters, on the strength of this representation, and found himself entirely at sea. He had met hardly anybody officially connected with the meeting who could speak intelligible English, and those knew nothing of what had been or would be done. It would have been little better if he had brought an interpreter, for the natives themselves seemed to be as much in the dark as the foreigners.

The official journal of this day contained an announcement that there would be a general session at the Eldorado Amphitheatre, as usual, in the afternoon, at which

Dr. Danilewsky, of St. Petersburg, would read his address on "The Fundamental Substance of Protoplasm and its Modifications by Life." A large number of the members went to the place at the appointed time, only to find a notice posted up to the effect that there would be no meeting this day. Being near the Palace of Fine Arts they thought they would employ the time, otherwise wasted, in a visit to the Medico-hygienic Exhibition, but on presenting their membership cards were refused admittance. It was learned afterward that several packages of blank cards had been abstracted from the office of the Congress, and the officials in their wisdom had decided to cancel all the tickets previously issued and exchange them for new tickets of another color. No notice of this change was given to the members, however, and the only way they had to learn of it was by being turned away by a surly policeman from places which they had been told they had a right to enter. The following day when they applied for new tickets at the office of the Congress, they were refused the new tickets and told the old ones were valid, notwithstanding reports to the contrary, only the Italian members were obliged to get tickets of another color. So they kept the old ones, which were sometimes recognized and sometimes were not, according to the will of the policeman stationed at the door.

The instances of this mismanagement on the part of the officials of the Congress were innumerable, and a mere catalogue of them would fill pages. If it had been the intention of the managers to inconvenience their guests to the utmost possible extent they could not have succeeded better than they did by their stupidity and blundering.

The illumination of the ruins was very fine, almost as good as Payne's fireworks at Coney Island. There was first an illumination of the Forum, Palatine Hill, and Colosseum by Bengal lights, then a lighting up of the neighboring hills and dome of St. Peter's by searchlights, and finally a show of rockets and Roman candles. The air was quite chilly, and many paid for their fun by a pretty severe coryza the following day.

Tuesday morning was given up to section work at the Polyclinic, several Americans getting an opportunity, which had previously been denied them, of presenting their papers. In the afternoon a general session was held at the Eldorado. Dr. Bizzozero, of Turin, read an address on growth and regeneration, and this was followed by the address of Danilewsky, of St. Petersburg, which had been announced for the day before.

In the evening a reception was given by the Municipality of Rome on the Campidoglio or Capitoline Hill. The buildings surrounding the square of the Campidoglio were very tastefully illuminated, and the square itself was a mass of flowers, ferns, and palms. The throng that filled the Capitoline Museum and Palace of the Conservators was immense, and in certain parts the crush was almost perilous. The little room in which the Capitoline Venus is lodged was illuminated with a pale red light, and the wonderful figure stood out in all its loveliness—one of man's most marvellous productions. Among those present perhaps the most notable was Virchow, whose progress through the halls was like that of royalty itself, the crowd that surrounded him being almost as great as that looking at the Venus, although the attraction in the two cases was of a very different kind.

On Wednesday afternoon addresses were delivered at the general session by Jacobi, of New York, Kocher, of Berne, and Stokvis, of Amsterdam. That of Kocher was upon gunshot wounds, and was of a nature more suited to the Section on Military Surgery than to a general session of the Congress. It was illustrated with numerous plates, diagrams, and bones, which made a great show on the stage but were referred to only in small part by the speaker. The lecture was in German, delivered with a strongly marked Swiss accent. Dr. Jacobi followed with his address, entitled "Non Nocere." The Latin title was transformed into the Italian "Non Nuocere" on the official programme, and the result was a large attendance of Italians, who expected to hear an address in their own tongue. They were disappointed, but those who understood English were not, for the address was one of the most practical and sensible of the entire number. It contained no new truths, except possibly that relating to the results of craniotomy in idiocy, but it enforced many old ones that are in danger of being ignored. The speaker had regard for the lateness of the hour and to the fact that there was yet an address to come, and spoke very briefly but to the point. With the exception of Laache, Dr. Jacobi was the only speaker who stopped while his auditors were still desirous of hearing more. After this came a long but well-delivered and interesting discourse in French by Dr. Stokvis, of Amsterdam, on "Chemistry in its Relation to Pharmaco therapeutics and Materia Medica." The speaker, while recognizing to the full the services rendered to this branch of medicine by chemistry, was not sparing in his denunciation of the fashion of running after the new synthetic remedies, the "antis" of all sorts, which appear with such monotonous regularity from German laboratories. He did not say that all these were useless, but urged the necessity of proving them most carefully before adopting them in therapeutics.

In the evening ten of the nineteen sections met in different restaurants and hotels for the usual dinners. The ordinary toasts were drank, the ordinary congratulations exchanged, and the members dispersed at a late hour.

On Thurday morning the closing session was held at the Eldorado, the president being in the chair. He made a short address referring to the work accomplished during the meeting, thanking the foreign and Italian delegates for their part in contributing to the success of the Congress, and expressing the hope that all would return to their homes carrying with them pleasant and lasting memories of their visit to Rome. Then the chairmen of the foreign delegations spoke briefly, thanking the profession and government of Italy and the citizens of Rome for the part they had severally taken in contributing to the comfort and entertainment of their guests. The question of the place of meeting of the Twelfth Congress then came up, and after a short discussion Russia was chosen almost unanimously. The czar had consented to allow the meeting to be held in his dominions, but had not expressed his will as to the city, whether it should be St. Petersburg or Moscow. The selection was accordingly left open pending his decision. Dr. Danilewsky, in behalf of his government and of the Russian physicians, thanked the Congress for selecting Russia, and was sure that all who came to the next meeting would have no reason to regret the choice they had made. The president then declared the Congress closed.

At noon a lunch was given to the members in the ruins of the Thermæ of Caracalla. Several thousands were present, but so vast is the structure that there was no crowding anywhere except around the lunch-tables. A pretty feature of the entertainment was the setting free of a thousand pigeons by the Carrier Pigeon Society of Rome. The birds rose almost together and hovered for a moment over the ruins, as if to get their bearings. But the crows, who have for ages made the old walls their resting-place, resented this intrusion of their domains, and attacked the strangers, dispersing them in all directions. The column was soon reformed, however, a little distance away from the ruins, and then the pigeons started in a long line toward the north.

In the afternoon a battle of flowers took place on the Corso. The crowd of spectators lining the street was immense, but the combatants were chiefly foreigners, the Romans seeming to have lost their taste for this pretty festival. In the evening there was a short but very beautiful allegorical lantern procession, accompanied by the *ritirata dei moccoletti*, a game in which each person carries a lighted taper and tries to extinguish his neighbor's while keeping his own alight.

With this ended the festivities of the Congress, and the exodus to Naples began.

The general verdict concerning the Congress was that it might have been much better. The scientific work was of comparatively slight importance, and the want of direction was everywhere apparent, the misleading notices in the official journal contributing in no small measure to the general confusion.

New Instruments.

A NEW OPHTHALMOSCOPE.

By PETER A. CALLAN, M.D.,

NEW YORK.

The accompanying cut illustrates a modification of the Loring ophthalmoscope devised by Dr. A. W. O. Roth,



Fig. 1.

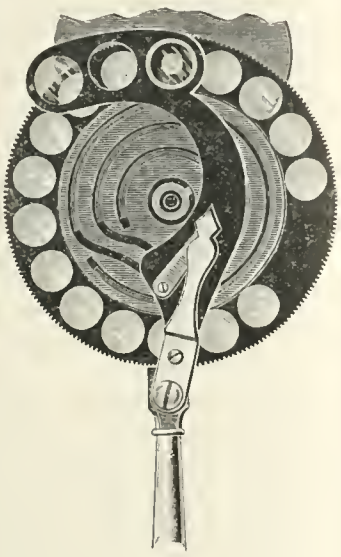


Fig. 2.

of Berlin. By its means the surgeon can make use of the entire series of lenses without removing the instrument and adjusting the quadrant. The mechanism is ingenious, consisting of a concentrically grooved disk in which a guiding-pin rests. The pin perforates the supporting shank of the quadrant, and runs in the grooved surface of the disk, between the pivot and the lenses. On turning the disk, the quadrant is automatically brought into play, through the connecting guiding-pin.

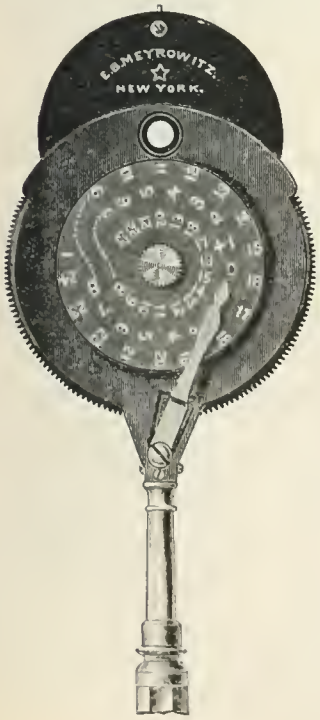


Fig. 3.

The ophthalmoscope of Dr. Roth contains 15 large lenses: 7 convex, ranging from + 1. D to + 7. D, and 8 concave, from — 1. D to — 8. D. The quadrant contains 1 + 16 and 1 — 16 lens, which in combination with the other lenses furnish the complete series up to + 23. D. — 24. D. or a total of 47.

In addition to the lenses contained in the disk and quadrant, a + 0.50 D lens is mounted in a slide attached to the front of the instrument, directly behind the tilting mirror, in such a manner that it can instantly be brought into combination with any of the lenses contained in the series by an easy and natural movement of the index-finger, thus giving a regular interval of 0.50 D throughout the entire series from + 0.50 D to + 23.50 D, and from — 0.50 D to — 24 50 D, making in all 95 distinct combinations.

Fig. 1 shows the back of the ophthalmoscope, with the index finger, which moves automatically with the quadrant and indicates the lens *in situ* on the dial. Fig. 2 shows the interior mechanism of the instrument; and Fig. 3 gives a front view, with the slide holding the + 0.50 D lens in dotted lines. It also shows a small driving-wheel below the disk, which is placed on the instrument if desired.

E. B. Meyrowitz manufactures this modification of the Loring ophthalmoscope.

35 West Thirty-eighth Street.

UTERINE DILATOR WITH NEW SELF-ACTING LOCK.

By AUGUSTIN H. GOELET, M.D.,

NEW YORK.

This modification of the Sims uterine dilator is presented for the purpose of exhibiting a new instrument lock, designed by the writer, which is much more simple and more easily adjusted than those now in use. It is applicable to all two-bladed instruments, such as forceps, scissors, etc., when it is desirable to separate the blades to render them thoroughly aseptic.

The arrangement is such that the blades are unlocked and separated easily, when their relative position is that in which the instrument is never used. For instance, in the instrument shown, when the handles are closely approximated the blades fly apart. Scissors and forceps are unlocked when the handles are widely separated.

The details of construction of this lock are nicely shown in the cut. At *a* the instrument is shown locked. At *a'* the lock is open, showing the male and female portions, which fit into each other. A slot in the female blade permits the pivot with its head, which is flattened on both sides, to come together when the blades are in proper position, and the slightest turn locks them securely.

The original instrument is improved by giving it a less acute curve, by curving the handle and attaching a ratchet for holding the dilatation secured, and relieving the hand when it becomes tired. This ratchet is so adjusted that by a very slight pressure of the little finger it can be quickly released if the instrument slips backward and threatens laceration of the cervix, an accident which is not infrequent. It is attached to the left-hand blade by a novel device shown at *b*, which permits it to be detached readily.



An Improved Intra-uterine Double-current Irrigator. Modification of the Fritsch-Bozeman Double-current Catheter

The writer believes that the instrument presented is a decided improvement. The main features of the modification are that the instrument is two inches longer than the original, so that it can be used to better advantage in deeper cavities, and the inside tube, which conducts the inflow, is extended to the extremity of the outer tube, conducting the outflow.

The advantage of this improvement is that the injected fluid escapes from the point of the instrument instead of at the sides, and in this manner comes more satisfactorily in contact with the whole cavity. This is a greater advantage when the canal is narrow or obstructed at any portion by a tumor projecting from the uterine wall, making the point of the instrument fit snugly so that no fluid will pass it without some force.

In a case of this kind, with the original instrument it would only be possible to wash that portion of the canal included by the fenestra of the cannula, as the point of the instrument would block the canal and prevent the entrance of the solution to that portion of the cavity beyond. With the modified instrument that portion of the cavity beyond the point of the instrument can be satisfactorily flushed. The fenestræ in the cannula have been extended up nearer the point, so that a return flow will be certain. In place of the usual fenestra at the outer end of the cannula, an attachment is added for affixing a rubber tube to carry off the outflow to a basin or bucket below, which I regard as an additional advantage.

The advantages of this instrument are more particularly manifest in the fibroid uterus, where the calibre of the canal is so often contracted at a certain point and the cavity beyond is dilated. It would be better still if the cannula was made a little longer, and I have directed the makers, Messrs. George Tiemann & Co., to make another size having a cannula ten inches long.

Medical Items.

Contagious Diseases — Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 28, 1894.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	6	1
Scarlet fever	146	10
Cerebro-spinal meningitis	0	4
Measles	294	15
Diphtheria	197	46
Small-pox	17	4
Cholera	0	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0

The Surgical Instruments of Antiquity.—Dr. Deneffe, of Antwerp, after twelve years of labor in collecting material has published a most interesting treatise on ancient surgery. He has obtained between six and seven hundred specimens, including copies. Among them, says a writer in *The Medical Magazine*, are uterine and anal specula, knives, lancets, forceps or volsellæ, scissors, spatulæ, all kinds of sounds, scarificators, rugines or raspatories, probes, cauteries, caustic-holders, cannulæ, needles, curettes, hooks for the extraction of the fœtus in difficult labors, saws, ointment tubes, a needle for couching (cataract), tooth forceps, urethral sounds (male and female), besides many others we have not space to mention.

With the exception of the trivalve and quadrivalve uterine specula, which can compare with the finest modern work, the instruments of those days were simple in the extreme. To carry out their ideas the early surgeons had to rely on intelligent locksmiths, who, it must be said, faithfully followed instructions, and in some cases produced instruments of exquisite finish. Usually they served a double purpose, one end of the instrument being used as a curette, the other end as a spatula, and so on. Sometimes knives, curettes, or elevators of different sizes formed the two extremities. The various kinds of forceps were generally only used for one purpose; some, however, are supplied with an aural curette, a probe, etc., the object being to simplify and to make the surgeon's case more portable.

Most of the instruments of antiquity are bronze, which chemical analysis has shown to be composed of copper and tin, sometimes lead, and more rarely, zinc being added; in exceptional cases gold and silver have also been found. Some of them are made entirely of copper, as the ancients knew how to temper this metal by heating it to redness and then rapidly plunging it into cold water. Silver instruments are rare, but silver was used in some instances to damascene those made of bronze. Fragments only of iron instruments have come down to us. According to Lepsius, the Egyptians employed iron 4,000, and the Greeks 1,450 years before Christ. Dr. Deneffe points out, too, that Homer frequently refers to this metal. There are some specimens of knives with iron blades and bronze handles; also an iron hook in a bronze handle for extracting the fœtus from the womb. As iron is perishable it cannot be stated positively to what extent it was used.

According to the author, the instruments found at Herculaneum and Pompeii (first century) lack the finish of those discovered in France, Belgium, and near the Rhine, and which date from the second and third centuries. He does not think, however, that the latter were made in the countries where they were found. It is probable they were imported into these Roman colonies by surgeons, who supplied themselves in Italy before starting.

A remarkable thing about all these instruments is that they are made entirely of metal; wood, ivory, or shell never being used.

The Drink Question in America.—A committee of the "Sociological Group" has been formed in this country for the purpose of investigating the "liquor problem" in its physiological, ethical, and legislative aspects. The committee includes such representative divines as Cardinal Gibbons, Archbishop Ireland, Rabbi Gottheil, Bishop E. G. Andrews, besides physicians and men of science like Dr. J. S. Billings, Professor Bowditch, of Harvard; Professors Furnam and Chittenden, of Yale; Dr. Weir-Mitchell; and public men like President Eliot, President D. C. Gilman, Mr. Cornelius Vanderbilt, and others. Physiological experiments on a large scale are proposed, and the investigation is to be made as complete as possible.

BOOKS RECEIVED.

Disease and Race. By Jadroo. 12mo, illustrated, 121 pages. Swan, Sonnenschein & Co., Paternoster Square, London.

The Medical Annual, 1894. 12mo, illustrated, 797 pages. E. B. Treat, New York City.

Diseases of the Hair and Scalp. By George Thomas Jackson, M.D. 8vo, illustrated, 414 pages. Second edition. Price, $2.75. E. B. Treat, New York City.

Lectures on Genito-urinary Diseases. By J. C. Ogilvie Will, M.D. 8vo, illustrated, 152 pages. Price, 6s. The Scientific Press, Limited, London, Eng.

Lectures on Surgery. By David W. Cheever, M.D. (Harv.). 8vo, 591 pages. Damrell & Upham, Boston, Mass.

Aero-therapeutics, or the Treatment of Lung Diseases by Climate. By Charles Theodore Williams, M.D. 8vo. 179 pages. Price, $2.00. Macmillan & Co., New York.

A Primer of Psychology and Mental Disease. By C. B. Burr, M.D. 12mo, 104 pages. George S. Davis, Detroit, Mich.

Transactions of the Southern Surgical and Gynecological Association. Sixth Session. By the Association. 8vo, 392 pages.

Methods of Pathological Histology. By C. von Kahlden. Translated and edited by H. Morley Flatcher, M.D., with introduction by G. Sims Woodhead, M.D. 8vo, 171 pages. Price, $1.40. Macmillan & Co., New York.

A Manual of Practical Obstetrics. By Edward P. Davis, M.D. 8vo, illustrated, 351 pages. Price, $2.50. P. Blakiston, Son & Co., Philadelphia, Pa.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 45, No. 19.
Whole No. 1227.

NEW YORK, MAY 12, 1894

$5.00 Per Annum.
Single Copies, 10c.

Original Lectures.

DIGESTIVE PROTEOLYSIS.

THE CARTWRIGHT LECTURES FOR 1894.

BY R. H. CHITTENDEN, PH.D.,

PROFESSOR OF PHYSIOLOGICAL CHEMISTRY IN YALE UNIVERSITY.

(Continued from page 550.)

LECTURE III.

PART II.—ABSORPTION OF THE MAIN PRODUCTS OF PROTEOLYSIS.

IN ordinary proteolytic action, both in the stomach and intestine, it is very apparent that the primary products of proteolysis, the proteoses and peptones, are the chief products formed, and that under normal circumstances the greater portion of the proteid food finds its way from the alimentary canal into the blood, after transformation into one or more of these two classes of products. At the same time, it must be borne in mind that even the acid-albumin formed by pepsin hydrochloric acid may be absorbed without undergoing further change. The view once held, that the rate of absorption from the alimentary tract stands in close relation to the diffusibility of the products formed, and that non diffusible substances are incapable of absorption, is no longer tenable. Absorption from the intestine is to be considered rather as a process involving the vital activity of the epithelial cells of the intestinal mucous membrane, where chemical affinities and other like factors play an important part in determining the rate and order of transferrence through the intestinal walls into the blood and lymph. Thus, we have abundant evidence that native proteids which have not undergone proteolysis may be absorbed from the intestine, at least to a certain extent, provided they have been dissolved; *i.e.*, converted into acid-albumin, or alkali-albuminate, by the gastric or pancreatic juice. We have a practical demonstration of this possibility in the early experiments of Voit and Bauer,[1] as well as in many later ones that need not be mentioned here. Further, the recent experiments of Huber [2] have given us quantitative data on the rate of absorption of fluid egg-albumin when introduced into the large intestine in the form of a clyster, showing that even fairly large amounts of a natural proteid may be absorbed without undergoing proteolysis if mixed with a neutral salt, like sodium chloride. To be sure, the rate of absorption is greatly increased when the albumin has been peptonized, but still absorption of the native proteid is possible without the agency of proteolytic enzymes. When, however, large amounts of egg-albumin are introduced into the intestine, albuminuria may result, as you very well know.

Moreover, it is well known that the proteids of muscle tissue, in the form of syntonin, may be absorbed from the large intestine without undergoing further hydration. When introduced into the rectum of a hungry dog, the excretion of urea may be at once increased and the animal brought into a condition of nitrogeneous equilibrium; absorption taking place from a portion of the large intestine, where proteolysis is never known to occur.[3]

[1] Ueber die Aufsaugung im Dick und Dünndarm, Zeitschr. f. Biol., Band 5, p. 562.

[2] Ueber den Nährwerth der Eierklystiere, Arch. f. klin. Med., Band 47, p. 495.

[3] Eichhorst: Ueber die Resorption der Albuminate im Dickdarm, Pflüger's Archiv f. Physiol., Band 4, p. 570.

Again Neumeister[1] has shown that the direct introduction of syntonin, alkali albuminate, crystalline phytovitellin, as well as pure serum-albumin, into the blood of the jugular vein is not attended with the appearance of albumin in the urine. On the contrary, the proteid matter so introduced appears to be assimilated and utilized for the needs of the organism. Evidently, then, these substances are not to be considered as foreign bodies, for if so the kidneys would undoubtedly make some effort to remove them from the circulation. It is to be noted, however, that all native proteids are not assimilated in this manner, as casein,[2] gelatin,[3] and especially egg-albumin. Thus, J. C. Lehman,[4] working under Kühne's direction, observed that the injection of a carefully filtered solution of egg-albumin into the veins of a dog was always accompanied by albuminuria, while similar injections of Lieberkühn's sodium albuminate, or of syntonin from frog's muscle failed to show any such result.

While these observations tend to show that some native proteids may be absorbed from the alimentary tract without previously undergoing proteolysis, it is not to be understood that any considerable quantity is so absorbed under normal circumstances. Doubtless, when small amounts of proteid food are taken, its denaturalization by the primary action of the gastric or pancreatic juice, viz., its conversion into syntonin or alkali-albuminate, may be sufficient to insure its partial absorption, but digestive proteolysis is unquestionably a necessary preliminary to any general absorption, and there can be no manner of doubt that the greater portion of the proteid food is absorbed as proteoses and peptone. Peptones, as we have seen, are possessed of a higher endosmotic equivalent than the proteoses, but we need to keep continually in mind the possibility that the selective power of the epithelial cells of the intestinal mucosa may lead to as rapid transferrence of the proteoses as of the more diffusible peptones. It is not to be understood by this, however, that diffusibility is of no consequence in determining the rate of absorption. Surely, everything else being equal, the more diffusible the substance the more rapid will be its passage from the intestine into the blood-current. The more the process of absorption is studied, however, the more clearly do we see its dependence upon the functional power of the living epithelial cells, a fact which plainly emphasizes the physiological nature of the process.

Further, as already stated, absorption of proteid foodstuffs, or their products, from the alimentary tract, is, under ordinary circumstances at least, limited to the intestine; from the stomach there is comparatively little absorbed, and if necessary we might advance this fact as an important argument against the theory of general absorption of proteids in the form of acid-albumin. Even such indifferent fluids as water, or physiological salt solution, are absorbed with extreme slowness from the stomach;[5] this organ showing very little ability to take up water even when the blood vessels are dilated, as after the ingestion of food.

This brings us to a very important point in connection with the utilization by the system of the ordinary products

[1] Zur Physiologie der Eiweissresorption und zur Lehre von den Peptonen, Zeitschr. f. Biol., Band 27, p. 309.

[2] Neumeister: Sitzungsber. der Physik. med. Gesellsch. zu Würzburg, 1889, p. 73.

[3] F. Klug: Pflüger's Archiv f. Physiol., Band 48, p. 122.

[4] Virchow's Archiv, Band 30, p. 503.

[5] J. S. Edkins: The Absorption of Water in the Alimentary Canal. Journal of Physiol., vol. 13, p. 445.

of proteolysis. The latter, as we have seen, are mainly proteoses and peptones, and yet all the evidence points clearly to the fact that these substances are never present, at least in any quantity, in the blood or lymph, even when digestive proteolysis is at its height. Further, the very nature of the proteoses and peptones, their marked physiological action when they are introduced directly into the circulating blood, their rapid excretion either as proteoses or peptones by the kidneys when so introduced,[1] all indicate that they are foreign substances, totally out of their natural environment when introduced into the blood-current. And yet we very well know that proteoses especially are possessed of high nutritive qualities; they are abundantly able to support animal life. Thus, Politzer[2] found by feeding experiments with heteroalbumose, dysalbumose, and protoalbumose that these bodies taken into the stomach have the same nutritive value as meat. Various feeding experiments with proteoses from different sources, carried out in my laboratory on young dogs, have shown conclusively that for short periods of time, at least, these hydrolytic cleavage products are fully as capable of sustaining the nitrogeneous equilibrium of the body as the proteids from which they are derived. In fact, the results obtained favor the view that the proteoses, weight for weight, possess a higher nutritive value than fresh beef.[3] It may be questionable, however, whether such a result would follow in experiments conducted over longer periods of time, but of this we may be certain that the proteoses formed in the alimentary tract can be absorbed and utilized by the system without their exerting any toxic action whatever.

Consequently, we are forced to the conclusion that these primary products of proteolysis, so important in the nutrition of the animal body, must undergo some change during the process of absorption, by which they are converted into new bodies, less toxic in their nature, and better adapted for the direct nutritional needs of the organism. The same statement applies likewise to peptones.

The fact that peptones are not discoverable in the blood and lymph, even during or after active digestion, was practically ascertained years ago by such well-known workers as Maly, Adamkiewicz, and others. The natural supposition following this observation was that the products of proteolysis underwent some change in the hepatic cells; but this view was soon shown to be untenable by examination of the portal blood, which was found to be as free from peptone as the blood of the hepatic vein. Neumeister,[4] using the more modern methods of work and with the wider knowledge gained during these latter years, has shown conclusively that proteoses and peptones are never present in the blood, even when these substances are contained in the intestine in fairly large amounts. I can corroborate these statements from the results of my own experiments in this direction. Thus, I have taken a dog in full digestion, fed with an abundance of meat, and collecting the blood from the carotid artery have made a careful examination for peptone, by the following method: The blood was allowed to flow directly into a dilute solution of ammonium sulphate, sufficiently strong to prevent coagulation, and then shaken with ether to rupture the red blood-corpuscles. The solution, freed from ether, was next saturated with crystals of ammonium sulphate, by which the proteid matter was completely precipitated. The clear filtrate was then concentrated somewhat, the excess of the ammonium salt removed by filtration, and the filtrate carefully tested for peptone by addition of a large volume of a saturated solution of potassium hydroxide and a few drops of a dilute solution of cupric sulphate. The test was wholly negative, although the intestine of the animal showed the presence of both peptone and proteoses. This result, as I have said, is simply confirmatory of work done by others in this direction, notably Neumeister, and illustrates the statement that peptones are not to be found in the circulating blood, even after a full proteid diet. In this connection it is to be remembered that we have abundant proof of the rapid disappearance of both proteoses and peptones[1] from the intestine, either by absorption or otherwise. They certainly disappear, and, as we have seen, are not to be found in the blood. Further, Neumeister has confirmed the original observation of Schmidt-Mülheim,[2] that both chyle and lymph are practically free from proteoses and peptone, thus again forcing us to the conclusion that the primary products of proteolysis must undergo change prior to their passage into the blood or lymph.

Many observations lend favor to the view that a transformation of some kind takes place in the intestine itself, not indeed in the lumen of the tube but somewhere in the walls, through which the peptones must pass before reaching the blood. Thus, peptones placed in contact with pieces of the isolated, though still living, intestine, after a time completely disappear from view,[3] so completely that no reaction can be obtained even by the most delicate of tests. In support of this statement I may cite the results of several of my own experiments which certainly furnish evidence that true peptones undergo profound alteration by simple contact with the living mucous membrane of the small intestine. The method employed was similar to that made use of some years ago in a study of the influence of peptone on the post mortem formation of sugar in the liver.[4] A large, well nourished rabbit was killed by severing the carotid artery and the blood collected and defibrinated. Of this, 50 c.c. were mixed with an equal volume of 0.5 per cent. salt solution containing 1.25 gramme of pure amphopeptone, prepared from egg albumin, the mixture obviously containing 1.25 per cent. of peptone. The fluid was transferred to a large, roomy flask, provided with a stopper having two holes, in one of which was fitted a long glass tube reaching below the fluid. The flask, with its contents, was then placed in a suitable water bath at a temperature of 40° C.

The small intestine of the rabbit was carefully separated from the mesentery and from the pancreatic gland, and the upper portion cut open and quickly washed free from any contained matter or adherent secretions, by repeated immersion in 0.5 per cent. salt solution warmed at 40° C. This was repeated until the tissue was quite free from all impurities, after which it was cut into small pieces and immersed for a moment in a 0.5 per cent. solution of sodium chloride containing 1.25 per cent. of peptone. The tissue was then carefully collected on coarse muslin, allowed to drain, and then quickly transferred to the flask containing the warm blood and peptone. This mixture was kept at 40° C. for two hours, a slow current of air being bubbled through the fluid during the entire period. At the expiration of this time the fluid was separated from the pieces of tissue by filtration through muslin, and then saturated with ammonium sulphate after the usual method for the separation of albumoses, etc. On now testing a portion of the clear filtrate for peptone by the biuret test, not a trace of a reaction could be obtained. The entire amount of proteid matter present was precipitated by the ammonium salt, thus showing that the peptone originally added had been completely transformed into something precipitable by saturation of the fluid with ammonium sulphate. That

[1] Franz Hofmeister: Ueber das Schicksal des Peptons im Blute, Zeitschr. f. physiol. Chem., Band 5, p. 125.

[2] Ueber den Nährwerth einiger Verdauungsproducte des Eiweisses, Pflüger's Archiv f. Physiol., Band 37, p. 301.

[3] Compare Hildebrandt, Zur Frage nach dem Nährwerth der Albumosen, Zeitschr. f physiol. Chem., Band 18, p. 120.

[4] Ueber die Einführung der Albumosen und Peptone in den Organismus, Zeitschr. f. Biol., Band 24, p. 277.

[1] Rohmann: Ueber Secretion und Resorption im Dünndarm, Pflüger's Archiv f. Physiol., Band 41, p. 440.

[2] Du Bois-Reymond's Archiv f. Physiol., p. 33, 1880.

[3] Salvioli: Eine neue Methode für die Untersuchung der Functionen des Dünndarms, Du Bois-Reymond's Archiv. f. Physiol., 1880. Supplement Band, p. 112. Neumeister: Zur Physiologie der Eiweissresorption und zur Lehre von den Peptonen, Zeitsch. f. Biol., Band. 27, p. 324.

[4] Chittenden and Lambert: Studies in Physiol. Chem., Yale Univer., vol. i., p. 171.

this tranformation of the peptone was accomplished mainly through the action of the intestine, was shown by a parallel experiment, in which all of the above conditions were duplicated, omitting only the pieces of intestine. Here, however, on testing the filtrate from the ammonium sulphate precipitate, a strong biuret reaction was obtained, thus proving the presence of at least some unaltered peptone.

This experiment is almost a counterpart of one reported by Neumeister, and like his, testifies to the probability that the peptones formed in the alimentary tract as a result of proteolysis undergo retrogression through the agency of the epithelial cells of the intestinal walls during their absorption. I have tried similar experiments with deuteroproteose, notably with deuterocaseose, and have obtained corresponding results. The same method may be employed as that already outlined, although of course the deuterocaseose is in great part precipitated by saturation with ammonium sulphate. Still, this form of deuteroproteose, β deuterocaseose, as I have elsewhere noted, is very slowly precipitated by the ammonium salt. Consequently, it is an easy matter to demonstrate that this proteose, on treatment with the intestinal mucosa in the presence of blood at the body temperature, is transformed into something completely and readily precipitable by ammonium sulphate; the filtrate from the latter failing to show any biuret reaction, although the corresponding control experiment without the intestine gives a bright violet color with cupric sulphate and potassium hydroxide.

Hence we are certainly justified in saying that both peptones and proteoses undergo some retrogression when in contact with the walls of the intestine. Moreover, there is some evidence that the proteoses, before undergoing such a transformation, are first converted into peptone by the action of the intestinal walls, a statement which will apparently apply to both the primary and secondary proteoses. This primary action of the intestinal walls is not considered as due to any adherent trypsin, or to possible traces of succus entericus, but rather as a part of the action of the living epithelial cells, or perhaps as connected with the possible presence of lower organisms not removable from the intestinal wall by ordinary washing.

The transformation of peptones by the substance of the intestine is apparently common to the intestinal tract of many animals, and perhaps to all, and indeed can also be accomplished by the liver.[1] This latter fact is of some importance, since it adds weight to the supposition that this peculiar action of the intestine cannot be due to the possible presence of trypsin; a view which is strengthened by the fact that a glycerin extract of the intestine has no action on amphopeptone. Certainly, the latter shows no diminution in the strength of the biuret reaction after long contact at body temperature with such an extract. Further, it has been shown that antipeptone, which is not affected by the pancreatic enzyme, suffers the same change as amphopeptone by contact with the intestine. Far more probable is it that retrogression or transformation of peptone by the substance of the intestine, is due to the vital activity of some or all of the epithelial cells of the intestinal mucosa; a characteristic possibly shared by some or all of the hepatic cells of the liver. The kidney cells certainly do not possess this power, but we can see a special fitness in the liver cells being endowed with the ability to quickly break down, or transform, any peptone or proteose that might by chance escape unaltered from the intestinal tract. Shore,[2] however, inclines to the view that the hepatic cells do not possess this power to any great extent, in opposition to the older views of Plósz and Gyergai,[3] as well as of Seegen [4] and of Neumeister.

With reference to the action of the stomach mucosa on proteoses, it has been shown [1] that when relatively large amounts (5 grammes) are introduced into the stomach of a rabbit, the pylorus being ligatured, both proteoses and peptones may appear in the urine, thus indicating that while they may be absorbed to some extent under the above conditions, the proteoses are not readily transformed into native proteids without exposure to the intestine. Smaller amounts, however (2 grammes) may, under the above conditions, be completely transformed; at least Hildebrandt claims this to be the case, mainly on the ground that after the introduction of albumoses into the stomach, the pylorus being ligatured, no trace of them could be found in the urine. The same observer also claims that blood serum, in the case of dogs, is able to transform albumoses into ordinary serum globulin. Certainly, after intra-venous injection, proteoses disappear from the blood, but, as we shall see later on, a certain amount, at least, may be transferred to the lymph. It is also claimed that when albumoses are injected subcutaneously neither albumoses nor peptones are to be detected in the urine. This, however, seems hardly probable in the light of what has been said, and especially in view of the fact that Neumeister's experiments tend to show that even 0.1 gramme of albumoses introduced subcutaneously may give rise to temporary albuminuria.

Assuming for the moment that the chief products of proteolysis, *i.e.*, the proteoses and peptones, are, during the act of absorption, transformed through the vital processes of the epithelial cells of the intestine into serum-albumin or globulin and absorbed as such into the blood, we may well consider whether such transformation, *i.e.*, a retrogression into a native proteid again, is inconsistent, or out of harmony, with the general character of the changes known to occur in the body. In attempting to answer this question we need not look far to find a perfectly analogous case. Thus, in the digestion of starchy foods by the amylolytic ferments of both the saliva and the pancreatic juice, the carbohydrate material undergoes hydration with formation of dextrins and maltose, the latter, at least, being quickly absorbed into the circulating blood. But large quantities of sugar in the blood are certainly inimical to the wellbeing of the organism, and we find in the liver a tendency for the sugar to undergo a transformation, *i e.*, a retrogression into glycogen, either through simple dehydration or otherwise. Further, with reference to the possible conversion of proteoses into peptone by the substance of the intestine, we have a perfectly analogous case in the behavior of the intestinal mucous membrane toward maltose, the final product of amylolytic action. Thus, according to the recent work of M. C. Tebb,[2] the mucous membrane of the intestine has the power of transforming maltose into dextrose; simple warming at 40° C. of a solution of maltose in 0.5 per cent. sodium carbonate with a few grammes of the dried mucous membrane from the intestine, being sufficient to insure a marked conversion of maltose into the higher reducing sugar, dextrose. This observation, I can confirm from experiments just completed in my own laboratory. This action is presumably due to a ferment, which, according to Tebb, is widely distributed throughout the body, being present not only in the intestine, but also in the liver, kidney, spleen, striated muscle tissue, and, indeed, in the blood-serum; so that it would appear that nearly all the tissues of the body are endowed with the power of transforming maltose into dextrose. These statements being correct, it would seem that, while the amylolytic ferments of the several digestive juices transform, by hydrolytic action, starchy foods into maltose, the latter is exposed during its passage through the intestinal wall, as well as in the blood itself, to another ferment which carries the hydration still further, with formation of dextrose; and yet the latter product is destined, in part at least, to undergo retrogression into a

[1] Neumeister: Zeitschr. f. Biol., Band 27, p. 332.
[2] On the Fate of Peptone in the Lymphatic System, Journal of Physiol., vol. xi., p. 528.
[3] Ueber Peptone und Ernahrung mit denselben, Pflüger's Archiv f. Physiol, Band 10, p. 536.
[4] Zur Umwandlung des Peptons durch die Leber, Pflüger's Archiv f. Physiol., Band 37, p. 325.

[1] Hildebrandt: Zur Frage nach dem Nährwerth der Albumosen, Zeitschr. f. physiol. Chem., Band, 18, p. 180.
[2] On the Transformation of Maltose to Dextrose, Journal of Physiology, vol. xv., p 421.

starch like body, *i.e.*, glycogen, before it is completely utilized by the system. Thus, the analogy between these carbohydrate bodies and the products of proteolysis is complete, and we may well accept the statements already made regarding the ultimate fate of the proteoses and peptones formed during proteolysis, as in no way inconsistent with the general tenor of events going on in the body.

While we are inclined to believe that the chemical changes attending the absorption of proteoses and peptones occur mainly in the epithelial cells of the intestinal mucosa, and that there is a direct transferrence of the alteration-products to the blood, there are still other views that cannot be wholly ignored. Thus, the view originally advanced by Hofmeister,[1] in which special stress is laid upon the functional activity of the leucocytes of the adenoid tissue surrounding the intestine, demands some consideration. The theory supposes that these cells not only have the power of taking up peptones, but also of assimilating and transforming them into the cell protoplasm. This view being correct, it is plain that the so-absorbed proteid must pass into the circulating blood through the thoracic duct, and Hofmeister further considers it probable that the lymph cells of the mesenteric glands can transform any absorbed peptone that may escape the leucocytes of the adenoid tissue.

In apparent harmony with this view is the fact that the leucocytes in the adenoid tissue of the intestine are greatly increased in number during digestion.[2] Furthermore, it is a well-authenticated fact that the proteoses or peptones found in pus are contained in the pus cells themselves, and not in the fluid in which the corpuscles float.[3] In support of the first statement, Pohl,[4] in his recent study of the absorption and assimilation of foodstuffs, has emphasized the marked increase in the number of the white blood corpuscles in the circulating blood after the ingestion of proteid foods, especially such as meat, Witte's peptone, and gelatin-peptone. It is to be noted further that the increase is most marked at about the third hour after the taking of food, viz., at a time when digestive proteolysis would naturally be at its height. Moreover, the maximal increase, according to Pohl's data, is astounding, amounting as it does in many cases to a hundred per cent. Thus, in one instance, in the case of a dog, the number of white blood-corpuscles per cubic millimetre of blood was 8,689; yet two hours after the feeding of 100 grammes of meat the number increased to 17,296 per cubic millimetre, followed six hours after by a return to the original figure.

This indicates the general tenor of Pohl's results, which have been taken, by some physiologists at least, as confirmatory of Hofmeister's views; the interpretation naturally being that digestive proteolysis in the alimentary tract is accompanied by a rapid production of new leucocytes in the lymph-spaces surrounding the intestine, and followed by a rapid transferrence of the corpuscles from their point of origin to the circulating blood, from which they gradually disappear as their material is made use of in the different parts of the body. In harmony with this view, Pohl finds that there is a much larger number of leucocytes in the blood and lymph flowing from the intestine of an animal in full digestion, than in the arterial blood coming to the intestinal tract. Further, when due consideration is given to all the circumstances attending the circulation of the blood through the abdominal organs, in connection with the great increase in the number of leucocytes during digestive proteolysis, it seems not unreasonable to suppose that some proteid matter might be transferred from the intestine to the blood during the digestive period of six or eight hours. Moreover, if Pohl's views are correct we see that a portion, at least, of the proteid food-product may be transformed into organized material in the body of the lymph-cell prior to its passage into the blood, thus harmonizing with the statement already made regarding the utter lack of proteoses and peptones in the blood and lymph. This obviously means an upbuilding of the ordinary products of digestive proteolysis into the living protoplasm of the leucocytes in the intestinal walls, implying, however, that the transformation is accomplished solely by the leucocytes themselves, and not by the epithelial cells of the intestine.

I have given this brief summary of Pohl's work because it is so closely in harmony with the original views of Hofmeister, and because it offers an easy explanation of one possible way in which some of the products of digestion might perhaps pass from the intestine into the blood. I am inclined to believe, however, that the so-called digestive leucocytosis, which unquestionably does exist, is not a direct result of digestive proteolysis in general, but rather an indirect result, coming from the stimulating action of the nuclein, contained especially in animal cells. Thus, it is a significant fact, as Pohl himself reports, that wheat bread, with its fairly large amount of proteid matter, and which is fully capable of nourishing the animal body, fails to exert any influence on the number of leucocytes in the blood. Yet we know that the gluten and other proteids of wheat flour are converted by digestive proteolysis into proteoses and peptones, with the same general properties as like products of animal origin.

In this connection we may note the experiments of Horbaczewski,[1] which show that nuclein administered to a healthy man will give rise to a very marked increase in the number of leucocytes in the blood. Thus, a few grammes of nuclein may produce as striking a condition of leucocytosis as a large amount of proteid food, due no doubt to proliferation of the lymphoid elements of all the lymphatic tissues of the body. Horbaczewski has reported that the mere injection of 0.25 gramme of nuclein, in the case of rabbits, will cause marked enlargement of the spleen, with striking karyokinetic changes. Hence it may be assumed that, whenever nuclein is set free in the body, leucocytosis may result, provided the nuclein passes into the circulation and is not decomposed immediately after its liberation.

These facts, it appears to me, offer a more consistent line of explanation of digestive leucocytosis than that advanced by Pohl. All animal foods, especially meat of various kinds and milk, contain considerable nuclein or nucleo-albumins, which, by the action of gastric juice, are liberated and partially digested, but the nuclein is certainly not dissolved. Nucleins, however, are soluble in weak alkaline fluids, and when exposed to the action of the alkaline pancreatic juice in the intestine, are in great part dissolved. Thus, Popoff[2] has reported that different varieties of nuclein behave somewhat differently in the intestine, according to their origin. In young and tender tissues solution of nuclein through the alkaline fluids of the intestinal canal is fairly complete, while the older products are somewhat more resistant both to the pancreatic juice and to the putrefactive processes common to the intestine. However, experiments show that the greater portion of the nuclein of ordinary proteid foods is dissolved in the intestine, and absorbed as such in a practically unaltered form. Consequently, passing into the adenoid tissue surrounding the intestine, it has a marked stimulating action on the lymphoid elements, accompanied by a noticeable increase in the number of leucocytes, which are perhaps produced at the expense of a portion of the proteoses and peptones formed during proteolysis.

Thus my interpretation of these results would lead me simply to the admission that, possibly, a portion of the products of proteolysis might pass from the intestine into the blood-current indirectly, through the bodies of the leucocytes formed in the adenoid tissue of the intestine. But even admitting this, we lack positive proof of any direct transformation of proteoses and peptones into the or-

[1] Zeitschr. f. physiol. Chem., Band 4.
[2] Arch. f. Exp. Pathol. u. Pharm., Band 20 and Band 22.
[3] Zeitschr. f. physiol. Chem., Band 4, p. 268.
[4] Arch. f. Exp. Pathol. u. Pharm., Band 25, p. 31.

[1] Monatshefte f. Chemie, Band 12, p. 246.
[2] Ueber die Einwirkung von Eiweissverdauenden Fermenten auf die Nucleinstoffe, Zeitschr. f. physiol. Chem., Band 18, p. 533.

ganized material of the white blood-corpuscles, for it may be that the above products are first transformed through other agencies into serum-albumin, or other like proteids. There are, indeed, many facts which are plainly opposed to any marked absorption and transformation of peptones by the leucocytes of the intestinal mucous membrane. Thus, Heidenhain [1] has severely criticised the theory on the ground that there is very little increase in the flow of lymph from the thoracic duct during absorption, and further that the small percentage of proteid matter in the chyle (about 2.0 per cent.) cannot account for the large amount of proteid absorbed. Further, the objection is made that the leucocytes present in the intestinal mucosa, though numerous, are wholly inadequate to assimilate any large proportion of the ingested proteid food.

Still greater stress, however, may be laid upon the fact that experimental evidence points to the conclusion that lymph-cells cannot assimilate either peptones or proteoses. Thus, quite recently Shore [2] has studied the results following the introduction of a mixture of such products into the lymphatic system by secretion, by absorption, and by direct injection into a lymphatic vessel. Preliminary experiments on dogs showed that when peptone is introduced into the bile-duct it gradually appears in the lymph of the thoracic duct, consequently this method can be made use of as a means of ascertaining the fate of peptone so absorbed into the lymphatic system. The results obtained, using the ammonium sulphate method for the isolation of the peptone, showed that when peptone is injected into the bile-duct with sufficient force to overcome the low pressure under which bile is secreted, there is an increase in the rate of flow of lymph from the thoracic duct. Further, while peptone is somewhat slow in appearing in the lymph it eventually makes its appearance there, in from sixty to one hundred and forty minutes after its injection into the bile duct. A certain amount of peptone naturally passes into the blood, but is then rapidly excreted through the urine. When, however, the renal vessels are ligatured peptone still rapidly disappears from the blood, but then passes into the lymph, and under such circumstances can be detected in the lymph as early as thirty-eight minutes after its injection into the bile-duct. These results, therefore, do not accord with the view that peptones suffer marked transformation by contact with lymph-cells, for when only three-fourths of a gramme of peptone is introduced into the bile-duct, unaltered peptone can be detected in the lymph of the thoracic duct seventy to ninety minutes after its injection.

With reference to the fate of peptone when it passes by secretion into the lymphatic system, it will be remembered that Heidenhain [3] has shown that the injection of peptone into the blood may be followed by a large increase in the rate of flow of lymph. Further, the amount of solids in the lymph, especially of proteids, is considerably increased. From these and other facts Heidenhain is led to the view that the formation of lymph is a true secretion from the blood vessels. Shore finds that when small amounts of peptone are slowly injected into the blood, there is generally only a slight acceleration in the flow of lymph, but the clotting power of the lymph is affected in a remarkable manner. Thus, about twenty minutes after the commencement of the injection the lymph loses entirely its power of coagulating. This continues for about twenty minutes, and then, in spite of the fact that the injection is being continued, the lymph rapidly regains its power of clotting, and finally coagulates quicker and firmer than before. This peculiar action of peptone on the clotting power of lymph may frequently be observed even when the amount of peptone present is too small to be detected with certainty by chemical methods. Thus, when peptone in small quantity is injected very slowly into the blood, the greater part of it escapes through the urine, but a small fraction, sometimes too small to actually detect, passes into the lymph and shows its presence by its peculiar influence on the clotting of the fluid.

When, on the other hand, peptone is injected rapidly into the blood, 0.3 to 0.6 gramme per kilo during two to ten minutes, it may disappear completely from the blood in five to ten minutes after the end of the injection. In such a case, the fall of blood pressure induced leads to more or less arrest of the renal secretion, peptone appearing in large amount in the lymph; but there is no indication of any alteration of the peptone by the lymph, or its contained leucocytes. Thus, when there is no chance for the peptone to escape from the body, as on ligation of the renal vessels, the peptone injected into the blood is rapidly thrown into the lymph, and from the lymph in the tissues of the body it is gradually carried to the thoracic duct, and then again passes into the blood; all of which shows that there is little or no transformation of the peptone by the leucocytes of the lymphatic system.

Further, by direct injection of peptone into a lymphatic vessel, Shore has shown that even so small an amount as 0.049 gramme is not assimilated or transformed by the lymph in half an hour. Consequently, we seem to have strong evidence that peptones are not prone to direct alteration of any kind by the leucocytes of the lymphatic system. Further, it would appear that the lymphoid cells of the spleen are equally unable to assimilate small amounts of peptone injected into the splenic artery. Leucocytes, then, can play no direct part in the absorption of the products of proteolysis from the intestine; the lymph is normally free from both proteoses and peptones, and the leucocytes plainly have no power to transform these bodies into other forms. They can only utilize the proteid material elaborated from the products of proteolysis by other agencies.

Plainly, proteoses and peptones in the blood and lymph are foreign substances. When present in the circulation they give rise, as we have seen, to an increased flow of lymph and to a change in the coagulability of the blood. Further, not only is the flow of lymph augmented but there is likewise an increase in the amount of solid matter, while a corresponding decrease is noticed in the solid matter of the blood-plasma. This fact obviously gives support to the view that the increased formation of lymph after the injection of peptone is due to an active process of secretion by the endothelium cells of the capillary walls.[1] Further, as we have seen, peptone disappears from the blood more or less rapidly after its injection, so that it is quite possible that the loss or alteration of the coagulability of the blood may not be due to the peptone itself, but rather to an altered condition of the blood induced by the peptone. Moreover, this altered condition of the blood may be the real cause of the increased transudation or secretion of lymph so conspicuous after the injection of peptone. Starling, however, by carefully conducted experiments on dogs finds, in conformity with Heidenhain's views, that peptone injected into the blood exercises a direct excitatory effect on the endothelial cells, causing thereby an increased flow of lymph; the increased flow being in no way caused by the change in the blood that is simultaneously produced. Further, it would appear, according to Starling's views, that the change in the coagulability of the blood is not due to the effect of the peptone on the endothelial cells of the blood-vessels, or at least on their lymph-producing functions. Thus, the injection of peptone may result in an action on the endothelial cells of the blood-vessels, thereby increasing the flow of lymph, or on the blood itself with a destruction or diminution of the clotting power of the blood: the two results being more or less independent. Further, the rapid transferrence of peptone from the blood to the lymph is effected by the selective activity of the endothelial cells of the vessel

[1] Beiträge zur Histologie und Physiologie des Dünndarms, Pflüger's Archiv f. Physiol, Band 43, Supplement Heft.

[2] On the Fate of Peptone in the Lymphatic System, Journal of Physiol., vol. xi., p. 528.

[3] Versuche und Fragen zur Lehre von der Lymphbildung, Pflüger's Archiv f. Physiol., Band 49, p. 252.

[1] Starling: Contributions to the Physiology of Lymph Secretion, Journal of Physiol., vol. xiv., p. 131.

wall, and according to Starling it is probable that a preponderating part is played by the endothelial cells of the renal capillaries.

In view of all these statements it is very evident that proteoses and peptones once outside the limits of the alimentary tract may be passed about from organ to organ and from secretion to secretion, inducing changes here and there in their course, but suffering very little change themselves. The main efforts of the system are directed to the removal of these unwelcome strangers as speedily as possible, for their marked physiological action renders them somewhat dangerous visitors.

As normal products of digestive proteolysis they are never found beyond the limits of the gastro-intestinal canal, but undergo retrogression in their passage through the epithelial cells of the intestinal wall, being presumably converted thereby into serum-albumin,[1] which can be directly utilized for the nutrition of the body; a conversion which is plainly dependent upon certain inherent qualities of the living epithelial cells and is doubtless of the nature of a dehydration.

Dr. Emmet and Dr. Marion Sims.—At a meeting of the Johns Hopkins Medical Society Dr. Howard Kelly said: "I have been greatly interested in looking over the painstaking work by Dr. Emmet preliminary to the preparation of his book on gynecology. Dr. Emmet occupies a very unique position in the history of gynecology in this country—a position which will grow more and more important as gynecology develops and closer study is given to its history. There has been a tendency, and not without good reason, to give too great prominence to the name of Marion Sims in everything pertaining to the establishment and advancement of original gynecological research in the United States. The striking originality of his methods has largely overshadowed the efficient work of other men, especially that of Dr. T. A. Emmet. Sims's surgery was brilliant, highly originative, and calculated to impress all who visited his clinics and saw him operate. He took up a series of operations, notably that of vesico-vaginal fistula, at a time when the operative treatment was most unsatisfactory. It is a mistake, however, to give Sims the entire credit of the discovery of the operation for vesico-vaginal fistula, as many had carefully studied this subject before and contemporary with him. Among these the able work of Dr. Jobert de Lamballe, of Paris, was especially notable, and if the mortality following his operations had not been greatly increased by diphtheritic infection of the wounded surface, he would undoubtedly have presented a larger percentage of successful results than did Sims. The character of Sims's work was on the whole erratic and spasmodic. Of the enormous number of operations performed by him in the Woman's Hospital, New York, no satisfactory records exist, and for this reason we have only a general, and often an unsatisfactory, knowledge of his methods. Dr. Emmet, following in the footsteps of Sims at the Woman's Hospital, promptly instituted methods of precision in recording operations and histories of cases. His notes were elaborate, scientific, and painstaking, and the book which he afterward compiled from these records is eminently a scientific work prepared by a man pursuing scientific methods. The amount of labor put forth in the preparation of the book is, I think, unexampled in the entire literature of gynecology. It is often said that Dr. Harris, of Philadelphia, is the greatest living medical statistician; he is a relentless investigator, and will search for months, or even years, for a single case. I am accustomed to associate Dr. Emmet with Dr. Harris in this respect, as his painstaking work is seen in the statistical tables, only a few of which appear in his book."

[1] See Kronecker and Popoff: Ueber die Bildung von Serumalbumin im Darmkanale, Du Bois-Reymond's Archiv f. Physiol., 1887, p. 345. Also Nadine Popoff, Zeitschr. f. Biol., Band. 25, p. 427.

Original Articles.

THE EYE-TREATMENT OF CHOREA.

A Critical Review of Certain Factors that may Lead to Spasmodic Diseases, and the Treatment of such Conditions without Drugs.

By AMBROSE L. RANNEY, A.M., M.D.,

NEW YORK.

(Continued from page 555.)

Case VI. *Terrible Attacks of Neuralgia of the Stomach and Persistent Trembling of the Head, Face, and Limbs—Alarming Attacks of Suffocation.*—Mrs. G. ——, aged forty-two. Referred to my care November 10, 1886.

Family History.—Several blood-relatives died of phthisis; father and brother died of phthisis.

History of the Case.—This patient had been for sixteen years a chronic invalid. She was unable to bear the least excitement. Even the companionship of her family for an evening was at times too great a strain upon her nervous system. She was at times a great sufferer from severe paroxysms of neuralgia of the stomach, and frequent attacks of alarming shortness of breath and a sense of impending suffocation would occur. I personally witnessed one of these attacks in my office, and it was entirely free from a trace even of hysteria. It was of much shorter duration than an asthmatic attack, and seemed to be due to a spasm of the larynx. She became markedly cyanotic, and suffered alarming shortness of breath.

In addition to these symptoms this patient suffered for many years from an *uncontrollable trembling of the facial muscles and limbs when at all startled or excited.* She had been for years unable to attend places of amusement or to bear physical exertion.

Eye Defects.—The patient was found to be emmetropic (when under atropine). Esophoria (manifest) of 3° existed; abduction, 5°. A high degree of latent esophoria was disclosed later, with a proportionate decrease in the abduction. Homonymous diplopia at times existed prior to operation.

Treatment and Results.—Much to my surprise (as she had a marked phthisical history) an examination of her eyes showed no refractive error (even when under the influence of atropine). She showed, however, a very high degree of esophoria, and a graduated tenotomy was performed upon both of her interni. The effect was magical. She recovered her health completely within two months, and is to-day able to endure as much as when a young girl. One of the last reports from her, some time ago, states that she had "shopped all day and attended the theatre in the evening." An old friend of the family lately alluded to the case, in my presence, as one "not of cure, but of resurrection."

Six years have now elapsed since the patient was relieved of her "eye-strain." During this period no return of her old symptoms has occurred; nor has she been obliged to resort to drugs for the relief of any physical ailment. At the last tests this patient showed adduction, 33°; abduction, 8°; no esophoria; no hyperphoria.

The preceding case is interesting (from the stand-point of the oculist) in that there was absolutely perfect refraction even under atropine, and that the esophoria was almost totatly latent. The remarkable results obtained by eye-treatment have remained undiminished during a period of over seven years in spite of extreme physical exercise, as compared with her powers of endurance prior to the eye-treatment.

Case VII. *Choreic Movements of the Head, Face, and Limbs, with Recurring Attacks of Gastric Pain, Pallor, and Extreme Weakness.*—Master R——, aged ten years. Referred to me November 10, 1888.

Family History.—Father was for thirty years a sufferer from most extreme attacks of sick-headaches every week, until his latent hypermetropia was corrected. Phthisis

is extremely common among the paternal ancestry, one maternal uncle was insane. Almost all the paternal ancestry have suffered from sick-headache.

History of Case.—This patient was the son of a physician, who had himself been cured of terrible sick-headaches and complete nervous prostration by the correction of a latent error of refraction that had not previously been suspected by himself. The son had been somewhat delicate from youth; being highly nervous and generally anæmic. At frequent intervals severe gastric pain would appear without apparent cause, and create symptoms of extreme pallor and faintness.

When about six years of age, mild symptoms of chorea appeared. The child would twitch and jerk his shoulders, face, and limbs when at all excited. As he grew older these choreic symptoms increased to such an extent as to cause alarm, and to justify an examination of the eyes as a possible factor in causing the chorea. At the time when I first examined the boy, he could not attend any place of amusement without attracting attention by his choreic movements, and at times they were very marked irrespective of excitement. Medication had accomplished nothing. The patient had been frequently removed from school, because it was found that study aggravated the chorea.

Eye Defects.—Under atropine this patient showed a latent hypermetropia of two diopters. Esophoria (manifest) of 4°; abduction, 4°. Later, a high degree of latent esophoria disclosed itself under the influence of prisms with homonymous diplopia. Abduction, 0°.

Treatment and Results.—The child was ordered + 1.00^{s} glasses for constant wear. Three graduated tenotomies were performed upon the interni at intervals of about two months apart, as latent esophoria of a high degree was disclosed from time to time by the patient.

The result was very gratifying. The child recovered completely from his chorea within a year, and has never shown any return.

Within the past five years he has developed into a very tall and strong boy, weighs 150 pounds, and is in perfect health. He uses his spherical glasses now only for study, reading, and any close work for the eyes. He has attended school regularly for the past four years without any ill-effects upon his health.

Case VIII. *Aggravated Type of Chorea Affecting the Face, Arms, and Legs—Marked Impairment of Speech.*—Miss B——, aged eighteen. Referred to me December 1, 1892

Family History.—Mother is very nervous and excitable in temperament.

History of the Case.—This was a well-developed young girl. Up to within a year of her first visit, she had been considered to have a nervous temperament, but had shown no symptoms of chorea. At this time she was allowed by her mother to visit a school friend for a few days. During this visit she participated in various amusements and lived a life different from the routine life which she led at home. On her return from this visit her mother noticed that she was unnaturally excited and extremely nervous. She twitched her arms and face in a very peculiar and unnatural manner, would cry and laugh hysterically, and did not articulate as distinctly as before the visit. These symptoms seemed rather to increase than decrease within the next few days, and caused great alarm to the family. Various forms of medication were tried without benefit during the next few months. The choreic symptoms steadily increased in intensity, and marked physical weakness appeared. She became unable to play upon the piano, could not bear the excitement even of girl companions, and her speech became so thick and indistinct as to become almost unintelligible at times, except to those who knew her well. A walk of one or two blocks would tire her so that she would have to lie down and rest.

At her first visit to my office her choreic movements were very severe in her arms, legs, and face. It was impossible for me at times to understand what she said, as she sputtered and talked as though she had a foreign body in her mouth. No evidence of organic disease could be found, and there was no apparent abnormality in the perception or localization of sensations of touch, pain, or temperature. The power of individual muscles seemed to be intact.

The mother had become strongly impressed with the idea that her daughter was suffering from some organic trouble, and that the prospect of recovery under any treatment was extremely discouraging.

Eye Defects.—Under homatropine she showed hypermetropia, + 0.75^{s}. Her muscular tests were: Adduction, 15°; abduction, 9°; sursumduction, right, 3°; left, 3°; no hyperphoria; esophoria, 1°.

Later on she disclosed quite a high degree of latent esophoria.

Treatment and Results.—This patient showed so little eye defect at the first visit that the case did not seem a favorable one for eye treatment. Prisms were given, however, for esophoria, and increased in strength as fast as she showed any surplus that would justify such an increase. In one week, while wearing 6° of prism, she showed esophoria, 7°, and abduction, 3°. A graduated tenotomy was then performed on the right internal rectus.

Her mother reported the next day that she was better than at any time for a year. Two weeks later, as 7° of latent esophoria had become manifest, a graduated tenotomy was performed on the left internus.

The improvement in the choreic symptoms was noticeable within a week after this operation, and she grew steadily better, so that, at the end of a month, she was apparently well. No choreic movements were noticed, her speech was distinct, she walked several miles daily, could dance and play the piano as formerly.

When last seen, on December 1, 1893, one year from the date of the first visit, there was no return of her old symptoms.

Her eye tests at that time were: adduction, 25°; abduction, 9°; no hyperphoria; no esophoria.

The following case is one that I reported some years ago in my work upon nervous diseases,[1] with two illustrative photographs that showed the changes in expression and the decrease in choreic movements caused by the relief of heterophoria by graduated tenotomies.

I quote this case here because the chorea was very extreme and had persisted for over thirty years, in spite of all therapeutical treatment and the best medical advice.

Case IX. *Chronic Chorea of Thirty-one Years' Duration, Affecting the Head, Face, and all the Extremities.*—Miss D——, aged thirty-three. Referred to me for diagnosis and treatment on May 27, 1887.

Family History.—The father had pulmonary hemorrhages for many years. One paternal aunt died of "hasty consumption." Sick-headaches are very common among both paternal and maternal ancestors. Neuralgia is a frequent complaint among the paternal ancestors.

When two years of age this girl developed chorea. The spasmodic twitchings steadily grew worse, in spite of the fact that her father was a physician, and that she had the services of the most skilful medical men from time to time. The twitchings began on the right side; but they subsequently involved the left side, and also the head and face.

She has suffered some from sick-headaches, as has also her sister. The *hands have gradually become so contractured* that all attempts to use them are more or less distressing. Her fingers could not be extended farther than would suffice to grasp small objects.

When I first saw this patient she was unable to write except by grasping the pencil with all the fingers and the palm of the left hand, and holding the left hand with the right hand as the spasmodic movements of writing were made. She walked with a peculiar, unsteady, and crab-like gait, ate with difficulty, and suffered great pain between the shoulder-blades and over the first lumbar ver-

[1] F. A. Davis: Lectures on Nervous Diseases. Philadelphia, 1888.

tebra (two points, by the way, which are very frequently attacked, in my experience, when eye-strain is present). She had never written with ink. Prior to menstruation (which occurred at seventeen years of age) the patient had experienced attacks (probably epileptic) which she describes as "those of numbness, followed by a loss of consciousness." She has had chronic constipation all her life. The memory and mental faculties are perfect.

When I first saw this patient the spasms were very violent, especially about the face and neck. The limbs were jerked about, the fingers too tightly clinched at times to grasp anything, and the speech was rendered peculiarly spasmodic and almost unintelligible at times. She sputtered, and frequently ejected drops of saliva when endeavoring to converse.

Eye Defects.—At the first examination she exhibited no refractive error; but under atropine a high degree of hyperopia (1.75 D.) was detected, and spherical glasses (+ 1 D.) were at once provided. In order to test her eye muscles, the services of Professor J. Williston Wright, of New York City, who saw her with me by invitation, were invoked to hold her head. This he did with no small effort by clasping the head on either side, and firmly pressing her head against his body as he stood behind her chair. During this examination she whistled shrill notes on two occasions, and underwent the most violent facial and body contortions.

Treatment and Results.—The results of this imperfect examination (necessarily so under such conditions) indicated to me that a high degree of hyperphoria existed; and as I could not again see the patient for some months, I decided to perform a free but incomplete division of the left inferior rectus muscle. I then instructed the patient to try and get a photograph taken, if possible, before she saw me again. She laughingly said that she had never been able to have a picture taken, but she would do so if she could. She then departed for home with instructions to return to me for treatment in the autumn. The first picture received of this case was one that she was able to have taken three weeks after the operation, when her head and shoulders had become comparatively calm, as a result of the relief afforded by it. This photograph was deemed at that time a great success by herself and friends. In it the blurred outlines which indicate that the movements were still somewhat active, are very apparent.

During the next autumn this patient was under my care for some eight weeks. I partially divided the right superior rectus and both externi in order to overcome a high degree of left hyperphoria and exophoria, and I administered static sparks daily to the spine and limbs. A second picture that I possess gives, better than words can describe it, an idea of the wonderful improvement which has taken place. Prior to her departure for home she could thread the finest cambric-needle, and pass her fare to the conductor of a street car without attracting the notice of passengers, or throwing it out of the window, as she certainly would have been apt to do two months previously. She could fully extend her fingers, walk several miles a day, write with far greater certainty and ease, and eat at a boarding-house table without exciting comment. Her limbs still twitch somewhat immediately before going to sleep, and, in the presence of strangers or when unduly excited, she still shows some spasmodic movements of the face and shoulders. When calm she is, however, perfectly composed, and almost entirely free from convulsive movements. She considers herself as practically cured; but I suspect that time and some further operative work upon the eye-muscles will be demanded before complete restoration to health is effected.

During the past seven years this patient has not been able to come to New York to complete the work that I began upon her eye-muscles. She has, however, improved steadily in her physical and nervous condition. She writes me several letters each year, in ink, and reports that she continues to be practically free from all chorea, although still somewhat nervous when tired or excited.

As I regard this case as one of the most distressing and typical cases of chronic chorea ever reported, it may be well to state that the patient is well known to Professor A. M. Phelps, M.D., and Professor J. W. Wright, M.D, of this city, and Professor Woodward, M.D., of Burlington, Vt. She has also been seen by many members of the profession, both from this city and distant States, during her treatment in my office.

During the whole treatment of this patient no drugs have been employed, and the photographs that I published in my work on nervous diseases are from untouched negatives. I attribute to the static applications the rapid relief of the contractured state of the fingers and the improvement in her general strength; but, from many facts observed during my treatment of her, I am convinced that the relief of the eye strain is alone deserving of whatever credit may be claimed for her recovery. Four weeks before she was dismissed from my care she read and sewed continuously for several days, and was immediately precipitated into a relapse, which as rapidly subsided when the cause was ascertained and its recurrence prevented.

Case X. *Extreme Chorea, Accompanied with Complete Nervous Prostration that Entailed a Retirement from all Business Pursuits.*—Mr. L——, aged thirty-five; married; manufacturer. Referred to me November 19, 1892, by Dr. E. W. Hedges, of Plainfield, N. J.

Family History.—Father died of phthisis, and mother of some kidney disease. Patient has six children, all living and well.

History of the Case.—In February, 1892, the patient had a "collapse" while at his office. His face flushed, his head was confused, he was unable to attend to any business, and had to be taken home. He gave up his business, tried various tonics, change of air, etc., but was not materially improved.

At the time of his first visit to me he was absolutely unable to attend to any business; the least excitement disturbed him; he had pain in back of the head and eyes, and had marked choreic symptoms. His gait was jerky and very uncertain from loss of control of the leg muscles. Walking tired him greatly, although he was a strong and robust-looking man. His face was in constant motion and his speech very much impaired. It was with difficulty that he was kept quiet long enough to test his muscles and eyes.

Eye Defects.—Under homatropine he showed hypermetropia and astigmatism; O. D. + 1.25^{s} O. S. + $0.75^{s} = + 0.50^{c}$; axis, 90°. His muscular tests were: adduction, 20°; abduction, 6°; no hyperphoria; esophoria, 2°. Later he disclosed a very high degree of latent esophoria.

Treatment and Results.—All drugs were discontinued. Glasses were ordered for constant wear as follows: O. D. + 0.50^{s}, O. S. + 0.50^{c}, axis, 90°. Prisms were given for relief of his esophoria at first, as he disclosed esophoria to a high degree very rapidly. Graduated tenotomies were performed upon both internal recti within two weeks. During the next four months each internus was again button-holed.

The improvement in this patient was quite marked within a few weeks after the first two tenotomies. He was much more quiet, could walk steadily without fatigue, his speech was normal, his choreic movements had almost entirely disappeared.

In May, 1893, he had a slight return of his old symptoms after excessive use of his eyes, and was given prisms for relief of some remaining esophoria.

When seen in September, 1893, he was feeling well and attending regularly to his business. Since January, 1894, the patient has disclosed some latent hyperphoria. This is still under observation. The patient has improved sufficiently to resume control of his former business, and exhibits very few of his old choreic symptoms.

Case XI. *Chorea of Facial Muscles and Limbs, of Three Years' Duration.* — Master A——, aged eleven. Referred to me October 22, 1890.

Family History.—Mother had severe sick-headaches,

until relieved by the correction of hypermetropia and esophoria under my hands. Father had chorea until seventeen years of age, and has always been very nervous. He was operated upon for exophoria by me, with decided benefit.

Phthisis is common among both maternal and paternal ancestry. Chorea is common on the mother's side. Paternal relatives are very nervous, and one aunt has St. Vitus's dance.

History of the Case.—When this patient was a baby he had catarrh of the stomach, and has had a weak stomach ever since. When three years old he began to have "twitchings," which gradually grew worse, and have continued without intermission ever since. The choreic movements are noticeable in the extremities, but especially marked in the face.

Eye Defects.—Under homatropine he showed: O. D. + 0.50^{s}; O. S. + 0.50^{s} = + 0.50^{c}, axis, 90°. His muscular tests were: adduction, 16°; abduction, 7°; sursumduction, right, 3°; left, 3°; no hyperphoria; esophoria, 1°. After wearing prisms for several weeks he disclosed considerable latent esophoria.

Treatment and Results.—A 1° prism was given for esophoria, and increased in strength as fast as he showed any surplus over the prism. Two months later, a graduated tenotomy was performed on the left internus A full correction for his refraction was also given for constant wear.

For some weeks after this operation there was a marked improvement in the choreic symptoms, but a relapse soon occurred, and esophoria prisms were again put on with marked benefit.

February 26, 1891.—Ten weeks after the first operation, the right internus was divided.

March 5th.—Patient showed no choreic symptoms and looked like a different boy.

His muscular tests are: adduction, 32°; abduction, 8°; no hyperphoria; esophoria, ¼°.

Since last note this patient has been relieved of all choreic disturbances as far as is known.

Case XII. *Chronic Chorea with Marked Impairment of Speech and great Difficulty in Walking.*—Miss R——, aged thirty-five; teacher; referred to me December 27, 1893.

Family History.—Father was myopic, and suffered with headache. Mother had St. Vitus's dance for years, and died from it.

Three brothers and one sister have headaches and wear glasses. One cousin on each side is in an insane asylum.

History of the Case.—When a child, this patient suffered from headache. For seven years patient worked very hard at teaching, and suffered from stomach trouble.

In May, 1892, she broke down completely with nervous prostration and chorea. She could talk but little, and that with difficulty. Her limbs were so much affected that she could hardly control them enough to walk. She was sent to Colorado for a year, returning in July, 1893, not much improved.

At the date of her first visit to me, she walked with difficulty. Her speech was very slow and jerky; and her sister states that her mind is failing very noticeably. There is a fine tremor of the muscles which is felt wherever she is touched, but no marked convulsive movement.

Eye Defects.—Under atropine she showed hypermetropia and astigmatism; O. D. + 0 25 = + 0.25^{c}, axis, 90; O. S. + 0.50^{s} = + 0.50^{c}, axis, 90. Her muscular tests at the first examination were: adduction, 16°; abduction, 4°; no hyperphoria; esophoria, 2½°. Within two days, however, while wearing 6° prism, she showed 8° of esophoria, with unconquerable homonymous diplopia. Later on she disclosed a high degree of latent esophoria.

Treatment and Results.—Glasses were given for constant wear to correct her astigmatism, and within a week a graduated tenotomy was performed upon each internal rectus.

She began to improve soon after these operations; was much quieter; talked better; slept well; and began to walk regularly every day. As more esophoria became manifest, prisms were given and gradually increased in strength Two weeks after the first operation a graduated tenotomy was again done on the right internus.

One week later her tests were: adduction 26°; abduction, 6°+; no hyperphoria; esophoria, 1°.

At this time she reported that she was sleeping eight hours every night, walking from two to eight miles a day, and feeling much less nervous. She talked naturally, unless unusually excited, and controlled her limbs perfectly. She was allowed to return home, with instructions not to begin any eye-work for at least three months.

The change in the facial expression of this patient, as well as in her walking, talking, and general demeanor, that had occurred in less than six weeks, were so marked as to excite the greatest surprise among those who had met her when suffering from her nervous malady.

Although I do not yet regard the latent esophoria in this case as fully corrected, still the physical condition of the patient had so improved that I deemed it best to wait several months before any further investigation of her remaining heterophoria.

156 Madison Avenue, February 15, 1894.

FURTHER CONTRIBUTION TO THE STUDY OF OCCIPITO-POSTERIOR POSITIONS OF THE VERTEX [1]

By S. MARX, M.D.,

NEW YORK.

In the light of the increased experience which the last two years has afforded me, I venture to approach you with a subject which is ever interesting to me. I shall not burden you with quotations from authors or standard works. These shall be entirely omitted, since the following lines shall be a *résumé* of cases for the last two years, occurring in private and consultation work, and the deductions as to treatment which I have based upon them. Certainly, therefore, a paper upon the management of these cases, according to my experience, must of necessity carry with it a considerable amount of dogmatism. To consciously claim such is not my intention, but rather to give you what appears to me to be the proper lines of treatment in these most unwelcome cases; for unwelcome they are. Of the gravity of these cases the more I see of them the more I am led to look upon occipito-posterior positions as the most aggravating and complex cases we, as obstetricians, have to deal with. And why so pessimistic? Why should such a head presentation, apparently normal, for we are taught to regard them as such by many writers who hardly accord them a thought or a place in text books, carry such gravity with it? One reason is sufficient. They do not occur frequently and are so seldom recognized by the general practitioner, and even sometimes not by the specialist, that early, or, if you choose, timely interference has been neglected or lost. The diagnosis by the ordinary methods, I again maintain, is, in not a few cases, difficult, sometimes impossible.

As experienced an observer as Nagel, of Berlin, states that in some cases a diagnosis by internal examination is impossible on account of the large caput. External examination, especially when we are called late, reveals nothing but the presence of the fœtal heart. Small or large fœtal parts cannot be mapped out, owing to the constant state of uterine contraction. Abdominal palpation, so highly lauded by some obstetricians, has proven in my hands in not a few cases an absolute failure. I have on a number of occasions diagnosed with as apparent an ease "as falling off a log" a typical occipito-

[1] Read before Section of Obstetrics, Academy of Medicine, March 29, 1894.

anterior position of the vertex, and yet, when the pains seemed to lag and something appeared to me to be wrong, chloroform narcosis and the introduction of the aseptic hand entirely within the uterus, or the palpation of the ear, a posterior occiput at or above the brim has been the result of such an examination in some cases. Surely I can lay claim to possess the ordinary average *tactus eruditus*, but I am honest to admit that in not a few cases abdominal palpation, at least in my hands, has proven a failure, so far as diagnosing the position of a given presentation is concerned. Abdominal palpation certainly has value in assisting us alone, or, plus the ordinary methods, to diagnose presentation; but of what value is this? Yet, in the light of my own experience, abdominal palpation seldom assists us in diagnosing position, and therefore, for me, has very little value. Where we are in doubt the introduction of the full aseptic hand can do more to clearly convey to our minds the position of the presenting part, and the condition in general of the maternal parts, both soft and bony, the size of the fœtal head, than both vaginal and abdominal examination, either singly or combined. I am free to admit that many cases can be diagnosed by suture and fontanelle. A presumptive diagnosis can be made, and this is the case especially in primiparæ, when there is slow engagement or when the head remains high above the brim; or when the head is in the pelvis, vaginal examination reveals the pelvis well filled behind by the larger end of the occipital globe; further, by the character of the pains, which are unsatisfactory. They are short and nagging, consequently the first stage is very tedious. A cardinal rule, and one ever to be thought of is: Never apply the forceps until the position has been accurately made out by the introducing of the half or full hand. Again, the cases are grave, because we are often called to them late, so late that little short of delivering a dead fœtus is necessary.

On two occasions I distinctly call to mind, I have been called when the uterus was tetanic, the waters had long escaped, the child apparently dead, and have been asked to attempt to deliver when nothing but a perforation could have been thought of. In another case, by actual count by the husband, the forceps had been applied twenty-three times by three different physicians, and when they from sheer exhaustion allowed me subsequently the privilege of being the fourth, an occipito-posterior at the brim was only to be recognized when the hand was introduced into the uterus. Version was then instituted and the patient easily delivered.

In my last article on this subject, written in February, 1892, and published in the *Journal of Obstetrics*, the extreme rarity of these cases was commented upon; this, my later experience, has taught me to be incorrect. My belief to-day is, that they are of more frequent occurrence than we are led to believe. Since the last twelve months I have met with six or more persistent occipito-posterior cases. In the treatment of these cases it must be remembered that perfect flexion of the head, that is, approximating chin and sternum, is a *sine qua non* in influencing and furthering rotation. Where, as is often the case, the failure of flexion is due to a dolicocephalic skull, abnormal flexibility of the spine, and so on, continuous pressure on the sinciput is all that is necessary in many cases. To keep the head flexed, to overcome a uterine obliquity, postural treatment is often all that is further necessary. Placing the woman well over on the right or left side, corresponding to the right- or left-sided position of the occiput, has, in my hands, proven to be one of the most valuable means of influencing rotation. When, in spite of flexion (manual) postural treatment, the patient is unable to deliver herself on account of the failure of rotation, some other form of interference must be instituted.

To analyze this subject more carefully, we must study the position of the head, successively, above the brim, fixed at the superior strait, in the pelvic basin, and on the pelvic floor at the outlet.

I. **The Head above the Brim.**—In spite of the very clear and almost convincing essays of some modern obstetricians, advocating manual rectification of the head, that is, rotating the head by the hand into an anterior position, I have repeatedly and conscientiously tried this method, as the gentlemen who witnessed the attempt can testify, and have never yet once succeeded, even when the attempt was made under deep surgical chloroform anæsthesia. The head would rotate with surprising ease, but when the hand was removed and an attempt made to deliver, the head would be found again in the posterior position. Whether the failure to accomplish this much-wished-for rotation was due to a faulty technique or not, or whether it was due to the fact that I was unable at the same time to rotate the body of the fœtus, I am unable to say. Yet I consider this method faulty for the following reasons: 1. Inability to cause rotation, which experience was afforded me in at least six cases. 2. The necessity, in the event of failure of the method of manual rectification, of reintroducing the hand in the uterus and of doing the only other thing to be done under the circumstances, namely, a version. 3. In the event of failure, the loss of time entailed, and, what is essential to the easy performance of a version, the escape of the amniotic fluid. Nevertheless, since it has been done, and done successfully, this method is certainly worthy of trial.

My personal predilection in these cases is to deliberately elect the operation of complete version, which when done early is simple of performance. When the operation of version is done late, after the waters have escaped, and the uterus is closely hugging the fœtus, it is just as easy of performance, if not easier, than manual rectification of the head.

II. The Head Fixed at the Superior Strait.—My success in these cases, though limited, has been brought about by the application of the Tarnier axis-traction forceps. There are many skilled obstetricians who would not listen or countenance the application of the high forceps in any case. By the high forceps we mean the use of that instrument to the fœtal head, whose greatest segment is already engaged in the superior strait, consequently pretty fairly fixed. Yet we are told by some that the true high application of the forceps should never be done, and is seldom if ever indicated. With such a position of the head, version is deliberately elected. My experience with the Tarnier forceps, minus the perineal curve, has been eminently satisfactory. With the ordinary forceps in action, we must of necessity influence moulding, rotation, and descent of the head, through our purchase upon the handles by traction and pressure upon the head. This is not so when the Tarnier instrument is in use. Here the handles of the instrument are let alone. They are used simply, and act mainly to show as an index of the position of the head and the direction in which we are supposed to make traction. Our extraction force is directly applied to the cross-bar of the traction rods, which is used to drag the head uninfluenced through the pelvic canal, so that rotation can occur in due time, as it does in the greatest majority of cases. Therefore, the great advantage in using axis traction is the free mobility of the forceps when applied to the head. In the ordinary forceps the mechanism, as compared to the pelvis does not come into operation, while in the Tarnier forceps, the head, together with the body of the instrument, obtains great freedom in mobility. But it must be remembered that rotation, in the largest majority of cases, occurs at the pelvic floor. This is due to the resistance offered by the perineal structures, and further by the turning-points afforded by the ischial spines, especially when they are prominent. When the performance with the Tarnier instrument has been successful, we find the blades rotating with the head, so that in a short time they are placed inversely, as Pajot would have us apply them in persistent posterior cases, while we are making traction by means of the cross-bar. If, as sometimes occurs, we are unable to lock the blades, or we are

unable to approximate the handles, so that we are threatened with instruments which will surely slip, a version performed is our only hope, provided manual rectification, which should be tried, fails.

III. Head in Pelvic Basin.—When the occipit is behind and in the pelvic basin, the attempt should be made to rotate the head in a natural manner by the application of the Tarnier instrument. Should this fail, a forcible rotation with forceps, which I instituted in two cases, and with success, might be attempted. In one case I rotated with a Simpson's forceps and got, as a result of using an instrument with a marked pelvic curve, a vaginal tear, which fortunately healed promptly after a continuous catgut suture. In the other case a pair of short, straight forceps was applied, like those used for lifting the head over the perineum, and the head was easily rotated into the anterior position and delivered without any trouble. Therefore a forceps with a pelvic curve, especially a marked pelvic curve, materially hinders a rotary movement and predisposes the possibility of a tear of the vagina.

IV. Head Low Down Upon the Pelvic Floor. — These cases must as a rule be delivered as posterior cases, where delivery is at all possible, or the attempt might be made to forcibly rotate the head into an anterior vertex. Where the delivery by the forceps, of the posterior vertex cases as such, is undertaken, my preference is for a pair of short, straight forceps. Traction should be made in the second position until the root of the nose can be felt under or directly behind the pubic arch. The forceps should now be removed and applied so that it adapts itself accurately to the head and does not project beyond the head for even a short distance. Where the forceps tips project beyond the head the rapid passing of the handles from the second to the third position, in my opinion, is a frequent cause of lacerations of the vagina and rectum which extend high up. A finger in the rectum informs us of the exact position of the blades. After reapplying the forceps the handles are rapidly lifted directly in the third position so as to cause over flexion of the head and thus liberate the occiput. Flexion can be furthered by pressure with the thumb against the anterior head and one or two fingers of the same hand in the rectum, assisting in lifting the occiput over the perineum. Where delivery is impossible, on account of impaction, by any of the other methods, the only course left open to the accoucheur is a perforation, or, as has been lately done by Murray, where the child is alive, a symphyseotomy, an operation which can be readily done, and the consent easily obtained in a well appointed lying-in institution. But how different it is in private practice, where I doubt whether the consent could ever be obtained in order to do an operation whose rate of maternal mortality by the best operators is anywhere from six to ten per cent .

In finishing, the attention is called to an atypical form of occipito-posterior position, which though of rare occurrence has personally come under my observation on two occasions, namely, true occipito-sacral positions of the vertex above the brim, the sagittal suture conforming with the true conjugate of the inlet ; in these cases the occipito frontal diameter of the fœtal head of 12½ ctm. attempting an engagement through the pelvic inlet, whose conjugata vera normally is about 11.0 ctm. Singularly, in both cases the women had fairly typical, generally contracted pelves, contracted to the extent of from 2 to 4 ctm. in all diameters. On account of the pelvic contraction, no other measures were instituted, but deliberate version was performed, the after-coming head being carefully guided through the largest diameter of the pelvic inlet, namely, the transverse. The children were unusually large, and in both cases the version extremely difficult. Symphyseotomy in one case was advocated, the true conjugate being about 9 ctm. The operation was absolutely refused. In cases of this class, where the pelvis is apparently normal, a partial manual rectification should be attempted, so as to bring the sagittal suture to conform with one of the oblique diameters of the inlet, thus making the position a true right or left occipito posterior, or the case could be converted into an anterior position by complete manual rectification. Should both fail, nothing but a podalic version can be performed.

1111 Lexington Avenue.

PRACTICAL AND EFFICIENT STERILIZATION OF MATERIALS FOR PRIVATE OPERATIONS—THE FINISHED PORTABLE STERILIZER.[1]

BY WILLY MEYER, M.D.,

NEW YORK.

PROFESSOR OF SURGERY AT THE POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL, ATTENDING SURGEON TO THE GERMAN AND NEW YORK SKIN AND CANCER HOSPITALS.

Practical and efficient sterilization of materials for private operations may be divided into two classes, according to the doctors who make use of it.

I. Sterilization in the hands of those who prefer to always render materials aseptic "at their own home," and then take it along in their satchel prepared for the operation.

II. Sterilization by those who also prepare the materials which are to come in immediate contact with the wound "at the patient's home," immediately before the operation.

I. Sterilization at home. How can these doctors proceed ?

1. Boiling.

Instruments: They can boil their instruments for five minutes in any vessel: pot, fish-boiler, Rotter's apparatus, etc., according to their convenience. They will use a 1 to 1½ per cent. soda solution. This is the only recommendable and proper method of sterilizing instruments.[2]

Gauze, silk, drainage-tubes, etc. :

If they have more time at their disposal and do not want to buy a sterilizer, they may even "boil" at home the gauze which had been cut before and folded into compresses of proper size. They will do this in plain water, or better, perhaps, also in a 1 to 1½ per cent. soda solution, in an ordinary clean pot for half an hour. Then the gauze is dried. It will be reliably aseptic beyond doubt. But the boiled and dried gauze has lost a good deal of its original softness and pliability. It is less absorbent. Silk or linen-thread rolled on glass-spools may be boiled for half an hour in a five per cent. solution of carbolic acid or one per cent. soda solution, and then preserved in alcohol. Rubber drainage-tubes should be boiled in soda solution and then preserved in an antiseptic lotion.

The procedure of sterilizing material for the dressing in boiling water is extremely time robbing. We therefore will rarely find the method of boiling used in private practice for the sake of rendering aseptic anything else than the instruments, silk (antiseptic preparation), and drainage-tubes.

2. Dry heat.

Can the doctor who prepares his materials at home use dry heat for his purposes? Will it be practicable for him to, as it is often called, "bake" his instruments, gauze, etc. ? I believe not. Experiments of Robert Koch, of Berlin, made in 1880, have demonstrated :

(1.) Ordinary cocci are destroyed in a temperature of a little more than 212° F. (100° C.) after an hour and a half ; a temperature of 284° F. (140° C.) is needed for three hours, and one of 302° to 356° F. (150° to 180° C.) for two hours.

[1] Read before the Section on General Surgery of the New York Academy of Medicine, March 12, 1894.

[2] Knives do not stand boiling for any length of time. Their edge becomes dull at once. A few seconds' boiling will suffice to destroy the ordinary infectious cocci. Knives should be rubbed with a piece of sterilized gauze which has been soaked in alcohol or ether. Besides this, their blades might be dipped for a few moments into the boiling soda solution.

in order to kill anthrax spores. (2.) Objects exposed to hot air in an apparatus are unequally penetrated by the same. A small bundle of clothes, for instance, was found not to be thoroughly disinfected after having been baked in a temperature of 284° F. for three to four hours. (3.) Almost every sort of material is more or less damaged by this mode of disinfecting.

It is further a well-known fact that our instruments are spoiled by the repeated effect of the intense dry heat; they become forever soft and dull (steel-iron is changed into rod iron); they also rust. Dry-heat sterilization has been a failure, and therefore lost its place in practical surgery. There is only one exception, viz, the preparation of catgut. The chemical sterilization of catgut is tedious. It takes two and a half days, twenty-four hours in ether or benzine, twelve hours in alcohol, twenty four hours in sublimate water (not in sublimate alcohol), 1 to 1,000; preserve in alcohol. In hot air of 302° F. (150° C.) it can be reliably rendered aseptic in forty-five minutes (Braatz). The process takes practically an hour and a half, as the apparatus needs three quarters of an hour before getting up a temperature of 302° F. Of course a special apparatus is needed for the purpose. Braatz has constructed a very handy one. He first extracts the fat of the gut with ether. I am able, through the courtesy of Messrs. R Kny & Co., of this city, to demonstrate the apparatus devised by Braatz here to-night.[1] (Demonstration.) The gut is best rolled on glass spools before sterilization, and then preserved either dry in special small metal boxes constructed for the purpose [2] or, perhaps, more practically for private use, in alcohol.

I am indebted to Dr. Edebohls, of this city, for calling my attention to a small sized, not portable, sterilizer, which had been recommended to him as very practical by Dr. Max Schüller, of Berlin.[3] It is here before you to-night. The apparatus can be used for sterilization by steam and dry heat. In it the catgut is put as bought, rolled on glass spools, and the fat is not extracted first. Yet the material is absolutely sterilized after three to four hours, as Dr. Edebohls asserts.

In all other respects dry-heat sterilization—baking—has to be given up in practical surgery on account of its being an unreliable, time-robbing, and (to the material) harmful procedure, and infinitely inferior to the third method of sterilization which the doctor can make use of at home:

3. Steaming.

Any reliable apparatus can be used. For surgeons and gynecologists that of Braatz,[4] or the one made by Lentz, of Berlin, mentioned above, deserve recommendation. The one recently devised by Boeckmann, of St. Paul [5] also seems to be quite practical.

The cheap Arnold sterilizer will receive all the materials which come directly in contact with the wound, and, moreover, aprons. The apparatus does not permit of boiling the instruments, however. Another vessel must be used for this purpose. (Instruments should never be steamed, because they rust; the procedure also consumes an unnecessary long time—twenty to thirty minutes.) If my portable sterilizer be on hand, aseptical preparation of everything needed (catgut excepted) will take half an hour. Of course the materials having been steamed can be left in those sterilizers, which are portable (Arnold's, author's), and carried in and with them to the patient's home, ready for use.

If you ask me, Mr. Chairman and Gentlemen, "Is sterilization at the doctor's home efficient, without using a portable apparatus?" I have, of course, to say: It is, provided gauze, drainage-tubes, silk, cotton, etc., are first specially and tightly wrapped in a piece of gauze or a towel held by pins, and thus put into the sterilizer. Afterward everything must be transferred "within the same cover" into the doctor's satchel, which is opened at the patient's house only, after proper disinfection of the hands. Or the material has to be carried along in the metallic perforated trays which had received it for the act of sterilizing, and are now, for the sake of transportation, surrounded by a leather- or canvass-cover with handle. If this care were not taken, the doctor always had to thoroughly disinfect his hands at home before handling the material lest contamination should take place. Since we know that air-infection is practically *nil*, and that contact infection means everything, we have to lay more stress on the reliably aseptic condition of all material which is going to come in contact with the wound in the course of the operation, besides fully disinfecting our hands. The latter can never be done too carefully. A doctor who is careless in this respect, before and during the operation, is bound to have failure after failure, even with the most perfect sterilization of all the materials.

If you ask me, "Is it practical for a doctor to always sterilize materials for private operations at his home, and then to carry it with him in his satchel?" I decidedly answer, No.[1] It means, to say the least, a waste of time, and is apt to prevent a rapid introduction of aseptic surgery in private practice on account of complicating the procedure. If he employs a private nurse who has charge of all the preparations for the operations, this point may be less important. And yet, if the package containing gauze or anything else should drop on the floor at the patient's home, what then? Or if one or the other instrument drops down, and a clean vessel for reboiling is just not at hand? I believe that doctor would at the next occasion do what is preferred by the second class of operating physicians, namely:

II. To have a sterilizer, which also permits of rendering aseptic the materials which are to come in immediate contact with the wound, "at the patient's home," immediately before the operation, which is, in one word, "portable."

According to my opinion a portable sterilizer should answer the following purposes:

1. It must be portable, that is to say, not too clumsy, not too heavy, yet large enough to receive the longest instruments in use. For the sake of easy transportation an ordinary canvas cover, with round leather handle, or, if wanted, a more elegant leather-case, will prove very convenient.

2. It must permit of sterilizing everything needed for the operation as such (instruments *and* materials [catgut excepted]) within the same apparatus.

3. It must be practical, that is to say, it must contain everything necessary for sterilization within itself.

Therefore:

a. It must have its own lamp.

b. It must be constructed on the assumption that warm water is not always at hand at the patient's home.

c. Measuring of the necessary amount of alcohol for the lamp and of water for the apparatus must be avoided.

d. The sterilizer must do effective and reliable work in as short a time as possible, and without needing attention with reference to the proper time; in other words, it must as far as possible be "self acting."

Has a sterilizer of this kind hitherto been at our disposal? I believe not.[2] The one constructed by myself

[1] It is made by Schmucker, of Heidelberg. See E. Braatz, Grundlagen der Aseptik, p. 29.

[2] Braatz: l. c., p. 31.

[3] Manufacturer: E. A. Lentz, Berlin, 36 and 37 Spandauer St. See Catalogue, No. II.; Abtheilung III., 1893, pp. 108 and 109.

[4] L. c., p. 62.

[5] New York MEDICAL RECORD, 1894, No. 1, p. 30.

[1] With reference to silk or linen thread, a "specialist" who is going to do a more serious operation—intra-abdominal, resection of joints or bones, amputation, etc.—will do best to attend to the preparation of the necessary different sizes at home and take them with him (as the catgut) ready for use. Yet it can, if wanted, always be thoroughly sterilized immediately before the operation within the same apparatus.

[2] As mentioned above, the rather clumsy, round Arnold sterilizer, which is of inferior make, can be put in a cover, with handle, and thus made portable. But instruments cannot be boiled in it. Another vessel is needed for this purpose. It is made of tin, which easily rusts. Its use requires timing the act of sterilizing. The so-called "Van Heusen's Compress Heater and Sterilizer" is, in its present shape, not recommendable for the use of the operating physician as a portable apparatus. The tray of its largest size is too small to receive all the material that is needed for a major operation; instruments can-

which I shall afterward take pleasure in demonstrating once more before the Section,[1] according to the suggestion and request of our esteemed Chairman and Secretary, seems to fulfil the above requirements. It is, I believe, practical and worthy of a thorough trial. It will be of special value in operating out of town.

Before showing the apparatus in its present finished shape I have to answer two questions: 1. How many minutes are actually required to thoroughly sterilize gauze, etc., in a portable, that is, in a not very large apparatus? 2. Is it an essential feature of sterilization to warm the materials before and after the procedure (so called "Vor und Nach waermen" (Schimmelbusch))?

First question: How many minutes are actually required to thoroughly sterilize gauze, etc., in a portable, that is, in a not very large apparatus?

Answer: The strictest proof would be given in the following manner: Let anthrax spores dry on a woollen or cotton thread; wrap it in a few yards of gauze, this again in a towel as tightly as possible; put it at the bottom of the tray for the materials to be sterilized; make out after how many minutes the spores are destroyed. I had neither time nor opportunity to try this with my steri!izer, and believe the experiment to be superfluous, since Schimmelbusch has made the same with a small-sized apparatus of his own device. In it the steam also is generated, as in my sterilizer, from boiling soda solution, which boils at about 219° F. (104° C.). He found, in experiments with reference to killing anthrax spores and disinfecting dressing materials which had been saturated with pus, certain death to all micro-organisms within fifteen minutes in every instance. Without giving reasons for it, he nevertheless puts thirty minutes as the proper time for sterilizing gauze in his apparatus. Braatz remarks, in explaining the proper handling of his portable sterilizer:[2] "All objects to be sterilized by steam are left in the same for about twenty minutes, counting from the moment the water boils thoroughly." And on p. 139 he says: "The objects remain in the apparatus for half an hour, in the small pot (p. 135) at least one quarter of an hour after steam is in full generation. Then everything is absolutely sterile and more trustworthy than it might be accomplished with a strong antiseptic in days, with a five per cent. carbolic solution in weeks." Fifteen to twenty minutes, therefore, is the time which is absolutely needed to completely sterilize the materials for an operation in a comparatively small-sized (portable) sterilizer. In my sterilizer twenty-four minutes are given to thorough steaming if two quarts of cold water be poured into the kettle. If hot water be on hand and can be made use of at once when starting the apparatus, anxious minds will be able to increase the time for sterilizing to twenty-eight till twenty-nine minutes.

Second question: Is it an essential feature of sterilization to warm the materials before and after the procedure?

Answer: Not at all. Erwin von Esmarch has shown by careful experiments (1888), that the disinfecting power of the steam is increased in proportion to its moisture. Warming the material, before it is reached by the steam, is therefore not only unnecessary, but actually reduces the disinfecting power of the steam. This in its principal wrong construction (primary warming) is also found in the well-known Lautenschlaeger's steam-sterilizer. Too much stress, furthermore, has been wrongly laid upon the necessity of a dry condition of the steamed (aseptic) gauze, "the drying after steaming." Aseptic (steamed) gauze, which, say, is moistened by some condensed steam, is absolutely harmless and perfectly reliable. The direct application of moistened steamed gauze to a wound will certainly never involve a risk for the patient. Nevertheless we can try to prevent moistening the superficial layers of the gauze in a portable sterilizer, and can easily do so by spreading a towel on top of the material, in order to prevent dripping of some condensed water from the lower aspect of the lid.[1] What we have to emphasize however, is this: The dictum that preliminary and after-warming of the gauze is "a material factor" in properly sterilizing the same, is wrong and untenable. It tends to obstruct simplifying aseptic surgery.[2]

Additional points of my finished portable sterilizer which deserve mentioning in comparison to the one described in the MEDICAL RECORD of March 3d are:

1. The Bunsen burners are wider. The quantity of alcohol consumed in one half hour is a little increased for this reason, = 420 c c. (14 ounces), instead of 400 c.c. Its lid has a movable wire handle on its upper, and a cover of pressed asbestos on its lower aspect. This permits to extinguish the lamp at will with absolute ease and safety.

2. The stand is made of galvanized iron. It will thus be less easily blackened by the flame.

3. Each apparatus contains a plate of pressed asbestos, which could absorb all the 420 c.c. of alcohol. The plate is put underneath the lamp. With it sterilization may be done on a polished mahogany table without causing any damage to the same.

4. The lid of the outside kettle fits more tightly. The continuous slight loss of steam is thus greatly reduced.

In conclusion, I want to draw the attention of the profession to an important question. It is all right and good, also profitable, that the operating physician should have a sterilizer of his own, portable or not, as he may prefer. But how about the general practitioner? Provided he wants to do aseptic work, must he also buy such an apparatus, or must he continue to attend his cases according to the antiseptic method? Further: Shall the specialist in operating on minor private cases always carry his sterilizer with him, or take the trouble and sterilize his wrapped-up material at his home? Decidedly not! What we need, and shall certainly have within the nearest future, is the assistance of aseptically well trained and reliable druggists, who keep aseptic surgical material in stock. This point has been specially emphasized by Braatz.[3] There are already a few drug firms here in this city who sell aseptically prepared reliable material. They have aseptic catgut, silk, and silkworm-gut; they have antiseptically prepared drainage-tubes. But, as far as I have seen by personal inspection, they only keep "boiled" aseptic gauze, their cotton is made in factories borated, etc.; gauze sponges cannot be had.

What we doctors have to do is, to induce enterprising druggists, to sterilize the material for doctors as well as patients, according to the newest principles, on the wholesale plan. And the druggists will be almost forced to have reliable "aseptic" material for sale as the doctors will, no doubt, henceforth prescribe less and less "antiseptic" material.[4] The druggist can easily have constructed perforated cylindrical trays, made of tin or glass, which hold about three to five yards of gauze cut and folded, or one-fourth pound of cotton, and can be closed after sterilization by simply turning a second surrounding imperforated capsule. Or the perforated cylinder is put in a second solid tin or glass capsule. The cylinders are sterilized packed with the gauze.

not be boiled in it; if wanted, only a few would be received, and have to be fished later out of the hot water in the dark; instruments would have to boil during the entire act of sterilization, as the small tank containing the water cannot be lifted out and replaced at will; the apparatus also requires timing.

[1] See Meeting of the Surgical Section, of January 8, 1894, MEDICAL RECORD, February 24, 1804, p. 252.

[2] Grundlagen der Aseptik, p. 65.

[1] It will be found in trying my sterilizer that even without spreading the towel on top, the gauze, immediately after sterilization, is not at all moist, but, as it is called, "steam-moist." As soon as it is taken out of the apparatus the rest of the steam evaporates and the gauze is perfectly dry.

[2] Follows demonstration of the author's portable sterilizer. See MEDICAL RECORD, March 3, 1894, p. 285.

[3] Loc. cit.

[4] The only antiseptic gauze which will always remain in use and be useful is iodoform gauze. If ready made, it cannot be sterilized by steam because iodoform is decomposed by the process. In order to do away with the iodoform gauze prepared in factories it will be preferable (in cases where we have to use (tamponade in mouth, nose, rectum, etc.) or want to use material containing this splendid antiseptic) to take steamed gauze and powder iodoform in it, or to sprinkle the steamed gauze with boiled water and rub in the powder with a piece of sterile gauze.

As soon as this is accomplished, asepticism will also be used in minor surgery, and surgical patients who naturally come under the care of the general practitioner can also enjoy the blessings of the new "aseptic era."

A CASE OF BRAIN TUMOR MEDICALLY TREATED.

By CHARLES E. NAMMACK, M.D.,

NEW YORK.

ATTENDING PHYSICIAN, NEW YORK HOSPITAL OUT-PATIENT DEPARTMENT; VISITING PHYSICIAN, GOUVERNEUR HOSPITAL.

John L——, butcher, thirty-five years of age, applied, October 12, 1893, for relief from headache which had lasted four months, and had received a variety of treatment. He gave no history of injury, or of alcoholic or other excesses. He was not aware that he ever had syphilis. His business had recently been unprofitable, but this had not given rise to any great worry, as his financial circumstances were easy. Beyond the headache he made no other complaint, except that his bowels were slightly constipated. No vomiting. No vertigo. Slight difficulty in concentrating his thoughts and replying to questions.

Examination: Ophthalmoscope shows double optic neuritis (Dr. Leroy Pope Walker). No tenderness on skull percussion. There is very slight right facial palsy. Patient has a severe paroxysm of pain during examination, and it is noticed that both pupils dilate, right facial palsy is exaggerated, and patient becomes semi-conscious for about ninety seconds, and somewhat dazed afterward for three or four minutes, when pupils resume their original size. No convulsive movements during the attack. Urine is negative, except for excess of phosphates.

Diagnosis is therefore intra-cranial tumor, without symptoms indicative of its exact site. The only feature of the headache was its paroxysmal character. The absence of vomiting was noticeable, but in no wise helpful in diagnosis of localization, or of pathological character of the tumor. Vertigo could hardly be said to exist, the patient merely feeling slightly giddy when suddenly changing from the recumbent to the erect posture. The importance of an ophthalmoscopic examination, unnecessary to emphasize for those habitually engaged with nervous or eye cases, could not receive a more convincing demonstration. There was no diminution of visual acuity, nor limitation of the field of vision, and upon the objective sign (double optic neuritis) alone, in this case, could the diagnosis be made, lead-poisoning and Bright's disease having been excluded by the absence of their characteristic features. To be sure, double papillitis does not make the finding of a tumor post mortem inevitable, but when associated with the other typical general symptoms of cerebral tumor, the cases in which that condition is not found after death are, as remarked by Byrom Bramwell ("Intra-cranial Tumors," p. 40), "fortunately for diagnosis, quite exceptional and rare."

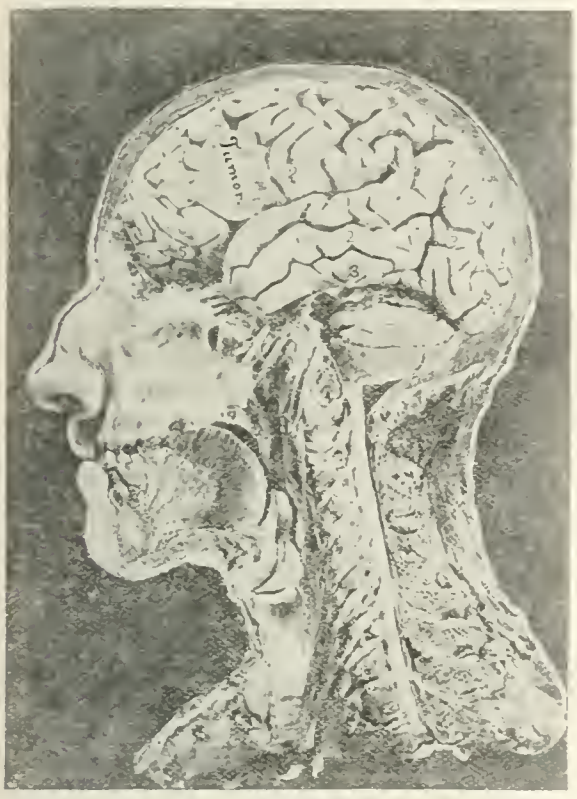
The spasm of the face in this case, coincident with exacerbations of the headache, could hardly be called a localized epileptiform convulsion, although the accompanying dilatation of pupils and purposeless muttering on awaking, together with absence of recollection of any of the events of the paroxysm, bear a strong resemblance to petit-mal seizures. Giving all due weight, however, to this symptom, and considering it to be a limited epileptiform convulsion, it would still be no certain indication of the position of the lesion. The hand grasp was equally powerful on the two sides. Neither anæsthesia nor hyperæsthesia was detected. Neuralgic pains, supra-orbital, infra-orbital, frontal, temporal, and auricular, were prominent symptoms. As already stated, there was at this time neither diminished acuity of vision nor restricted field. Hearing, smell, and taste were not affected. The mental alteration was so slight that patient's wife had not noticed it, until she thoughtfully compared his present with his past mental state. She had attributed his want of former liveliness to the business reverses he had recently undergone. The only derangement of speech was a tardiness in calling the names of objects quickly pointed out to him in succession. General nutrition was well preserved. Appetite good, but bowels sluggish. Temperature was normal, although cranial surface temperature was not tested. Pulse varied considerably from day to day, in frequency as well as in its other characters. Urine was negative, except for the presence of an excess of phosphates. The microscope did not show casts. The left ventricle was not hypertrophied. To the question, Is there an intra-cranial tumor? it was, therefore, comparatively easy to render an affirmative answer. To determine its exact locality or site was more difficult, but a careful review of the symptoms and signs could lead to no other probable conclusion than that the neoplasm involved the centre for the face-muscles and the adjoining motor-speech centre, as indicated by the very slight degree of motor aphasia. In the determination of the pathological nature of the tumor, no assistance could be gleaned from the history, yet since the administration of mercury and iodide of potassium is known to affect sarcomatous, as well as syphilitic, growths favorably, that plan of treatment was decided upon. Patient was given two ounces of blue ointment to be used by inunction, and ten-grain doses of iodide after each meal, to be steadily increased until sixty grains were taken at each dose. The effect of this treatment at first was so happy that the patient became enthusiastic; but the symptoms soon returned with increased violence.

At the suggestion of Dr. George L. Peabody, who saw the case with me after one month's treatment, the iodide was pushed to a daily dosage of four hundred and eighty grains, with marked relief again to the symptoms. Dr. Peabody did not consider the growth to be syphilitic, as the usual clinical features of syphilitic growths (*vide* Bramwell, p. 221) were lacking, yet deemed it proper to exhaust the possibilities of anti-syphilitic medication. After a daily dosage of three hundred grains had been attained, the patient was able for the first time to dispense with the use of an ice helmet. The patient's gratification, however, was not shared by the writer, whose prognosis was, of course, grave, even syphilitic lesions being liable to take on renewed activity after a period of abeyance. Still, since a new hope dawned for the victims of intra-cranial growths on November 25, 1884 (P. C. Knapp, "Intra-cranial Growths," 1891), it was determined to let its rays illumine the gloomy prospect. The patient was accordingly taken to Dr. M. Allen Starr, whose work in this particular field is well known ("Brain Surgery," William Wood & Co., 1893). Dr. Starr agreed with me as to the presence of tumor and its localization in the face-muscle centre (ibid., pp. 4 and 5), but thought it to be subcortical in position rather than cortical (*vide* Seguin and Weir, *American Journal of the Medical Sciences*, August, 1888) and to be gliomatous in nature. In his opinion, the case was a favorable one for operative treatment at once; but the patient could not be convinced of the necessity for this, and he was allowed to continue the iodide of potassium in doses of an ounce daily, the duration of medical treatment to this time having been six weeks. During the next two weeks improvement in the symptoms was so marked that, although the patient had become reconciled to the idea of surgical treatment and was willing to undergo an operation, we could not conscientiously urge it. He was therefore directed to continue the iodide, four hundred and eighty grains per day. Under this treatment, all the subjective symptoms remained quiescent until January 8, 1894, when he had a well-marked spasm affecting the facial muscles, followed by stupor lasting fifteen minutes, but without the severe pain which had formerly accompanied his twitching attacks. At the present writing, patient

has entirely recovered, except as to his choked disks, and it is proposed to reduce the iodide gradually and administer strychnia.

February 9, 1894.

The above report was written February 9, 1894, and on that day the patient was presented by Professor Starr to the class at the College of Physicians and Surgeons. He was entirely free from any symptom, except the defective vision due to his optic neuritis. He remained well there after, visiting his place of business every day and calling at the Out-patient Department tri-weekly until Thursday, March 15th. On this last date he complained of severe headache, and was given phenacetine and codeia. On Saturday, March 17th, his wife called to report that he had attacks of pain, with increasing drowsiness after each



attack. She was advised to bring him to the hospital for operative treatment, and arrangements were made for his admission, but that evening he died. His brain was removed three hours after death and taken to the hospital laboratory for examination. The pathologist, Dr. Frank Ferguson, furnishes the following report:

The specimen shows a neoplasm in the left cerebral hemisphere, involving the posterior third of the third frontal convolution, encroaching upon the lower third of the ascending frontal convolution, and extending down to the tip of the operculum. Its dimensions are $3\frac{1}{2}$ ctm. antero-posteriorly, and $4\frac{1}{2}$ ctm. vertically. It is sarcomatous in nature. From the tumor a cyst extends inwardly through the cerebral substance, beyond the median line, and projects into the right lateral ventricle, the diameter of the projecting portion being $3\frac{1}{2}$ ctm. The cyst-wall at this point is composed of very thin membrane, less than half a millimetre in thickness. On microscopical examination, this wall is found to be composed of spindle-celled sarcoma. The anterior wall of cyst is limited by the knee of the corpus callosum. Its upper wall is limited by the anterior portion of the corpus callosum, which seems to be thinned by pressure.

The tumor itself is 1 ctm. in thickness, and the length of the cyst, from the wall of tumor to the apex projecting into right lateral ventricle, is 8 ctm. The posterior limit of cyst extends to the fissure of Rolando, and must have exerted pressure upon the lower half of the ascending frontal convolution.

29 East Twenty-fourth Street, March 27, 1894.

Progress of Medical Science.

Traumatic Hystero-Neurasthenia. — The condition described by the late lamented Charcot as traumatic hystero-neurasthenia, is reviewed at length in *Médecine moderne*, January 27, 1894, by Dr. A. Schwab, who considers in brief the earlier hypotheses explaining its manifestations, such as the idea that it is due to a meningo-myelitis, to a shaking up of the spinal cord (*commotion médullaire*), or to a diffuse myelitis. Excluding all cases of pure traumatic hysteria, the following are found to be some of the characteristic manifestations of traumatic hystero-neurasthenia. First, there are psychic disturbances, as alteration in the character, in the intellect; trouble with the memory; frequent vertigo, and sometimes fainting; insomnia, and difficulties of speech. Then there are abnormities of sensation, as pain, headache that is almost constant, pain in the spine and sacrum, hyperæsthesia on the injured side, together with anæsthesia to touch, pricking, and temperature. The condition of the reflexes is variable. Sometimes they are exaggerated, sometimes abolished. Muscular sense may be lost. The attitude and gait are often specially characteristic. There is diminution in muscular force, often fibrillary twitchings in the muscles of the face and of the limbs, and paralyses and contractures may be present, similar to those of hysteria. Vision and hearing are both affected. The pupils are dilated and may be unequal. Diplopia, amblyopia, dyschromatopsia, polyopia, are some of the eye-symptoms, together with concentric narrowing of the visual field, the most important of all for diagnostic purposes. The heart and vessels often suffer, as well as the stomach and sexual organs. Tachicardia is not uncommon. General health may be so much impaired as to induce a true cachexia. The course of the disease is extremely variable. Prognosis differs according to the observer. Vibert and Erichsen consider it grave. Judd, Davidson, and Price are more hopeful. Oppenheim takes the darkest possible view. Blum fails to see anything alarming in the situation, finding it necessary to establish beyond doubt the real existence of the patient's symptoms only on account of medico-legal questions that may arise. Simulation and malingering are possible, though rare. The symptoms that can be simulated are psychic troubles, the attitude and gait, neuro muscular asthenia, difficulty of speech, pain, and paralysis. When to these conditions are added concentric retractions of the visual field, cardio-vascular symptoms, fibrillary twitchings, exaggerated reflexes, gastro-intestinal atony, and impairment of general health, all idea of simulation may be instantly rejected.

Elæomyenchysis.—Under this title Dr. J. Leonard Corning has recently described, in the *New York Medical Journal*, a novel method of treating chronic spasm. The essential features of this procedure are the injection into the affected muscles of a non-irritating oil, the point of solidification of which is two or three degrees above that of the normal blood temperature, and the subsequent congelation of the oil in the organ by the external application of cold, either in the form of the ice bag or the ether spray. It is not necessary to continue the application of cold, as the high point of solidification of the oil causes it to remain solid in the tissues for months. As a direct result of the presence of the hardened oil, the blood-flow to the muscle is curtailed, metabolism is interfered with, and the contraction of the organ is mechanically impeded. The author gives the history of an inveterate case of chronic spasm of the splenius, in which all ordinary expedients had failed to afford relief, successfully treated in this way. The method certainly reflects great credit on the ingenuity of its author, and opens a new and promising field in neuro-therapeutics.

The Pecuniary Loss from Phthisis alone, for every million children born, is estimated to be £14,499,40.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street.

New York, May 12, 1894.

THE INTERNATIONAL SANITARY CONFERENCE OF PARIS.

THE International Sanitary Conference of Paris, which has just closed a two months' session, marks another advance in the progress of State Medicine. This was the seventh similar conference, but the results of its work are to prove far more important than any of its predecessors. While other Conferences have considered questions more immediately relating to cholera in Western Asia and Eastern Europe, this Conference grappled with the more difficult subject of preventing the transportation of the cholera infection from India by the pilgrims to Mecca.

This problem is beset with difficulties from whatever side it is approached. On the one hand are the religious superstitions of the Musselmans that render them intolerant of any control; on the other are the jealousies of local governments, which make them resent any interference with their subjects by other Powers, and, finally, there are innumerable complications arising from European territorial and commercial interests. It appears, however, that the Conference was able to solve all of these perplexing difficulties, and formulate an international series of regulations upon which the states represented will finally be able to unite.

Great credit is due the French Government for its persistent efforts to secure international co-operation in the prevention of the spread of cholera. It called the first Conference as early as 1851, for the purpose of securing a uniform system of quarantine, but the results were not attained. In 1859 it attempted to secure a Conference, but the draft of the convention was not acceded to. In 1866 it succeeded in having a Conference of all the states of Europe, Egypt and Persia, at Constantinople, where many of the questions relating to an international agreement on methods of preventing cholera were discussed. But the time had not arrived for the adoption of the regulations proposed, and the Conference failed of immediate results. But it is apparent that there was a much nearer approach to an agreement than heretofore. Three Conferences have since been held, viz., at Rome, Venice, and Dresden, all of which resulted in agreements as to the methods of dealing with cholera in Europe. Finally, the Government of France called the present Conference, and its programme brought prominently forward the question of an international agreement on regulations governing the pilgrimages to Mecca.

The results arrived at were the adoption of regulations which place the pilgrim under strict sanitary care from his departure to his return home. He must first secure a sanitary passport from the local authority, giving full details as to his person and the locality; at the port of departure he must be detained for cleansing and disinfection; he can embark only on pilgrim ships; these ships must have a qualified physician, ample space, pure water, good food, a disinfecting apparatus, hospital accommodations, etc.; island stations are provided, having every necessary appliance for cleansing and disinfection, where the pilgrims debark and undergo cleansing, as also the ship. At Mecca the pilgrim is under rigid surveillance, and on his return receives another passport stating his condition. The code of regulations is very minute, and if they are enforced in good faith would seem to render it impossible for cholera again to spread from India along the routes of the pilgrimages as heretofore.

We learn that the delegates from the United States endeavored to have the Conference add to its programme the closely allied subject of the prevention of the spread of cholera by emigrants from Europe to the United States. The suggestion was favorably received by the Conference, but as the delegations were selected for the express purpose of considering the pilgrimages of the Musselmans, it was decided to postpone the emigrant question to a future Conference. It is greatly to be regretted that this Conference could not have included the emigrant with the pilgrim, for the larger number of the regulations made for the latter would apply to the former. Every emigrant from Europe to the United States ought to be required to obtain a sanitary passport from the local authority, setting forth the health of the locality and other details as to the cleanliness of his personal effects, freedom from all forms of infection, etc. Without this passport he should not be allowed to embark for this country. At the port of departure he and his baggage should undergo the same cleansing and disinfection, and the emigrant ship should be under similar sanitary supervision. The advantages of such a code of international regulations are twofold, viz., the European States would have a much-needed control of their emigrating classes, and second, our quarantine would no longer be one of detention, but only of medical inspection. We trust our Government will improve the opportunity now offered, and take immediate steps to secure the calling of a Conference of the European states with the United States to establish international regulations governing the movements of emigrants to America.

ITALY'S SERVICE TO MEDICINE.

THE holding of the Eleventh International Congress in Italy naturally draws attention to the obligations which medical science is under to the learned physicians of olden times who flourished in that country. Virchow, in his opening address, took for his subject Morgagni and his work. At the same time Sir Benjamin Ward Richardson publishes in his *Æsclepiad* a very interesting account of Malpighi.

Virchow asserts that the progress of medicine has not been in "epochs," as historians describe it, but that it has rather been a continual growth. This is not quite

the truth, for there cannot be said to have been a continuity or steady progress in development of medical knowledge. Hippocrates first applied the principles of common sense and unbiassed observation to disease, and in this way founded a method and a school. Galen followed with the same inquiring spirit, but added little of actual value to our understanding of the anatomy of man or the nature of disease. For nearly two thousand years medicine was little more than a study of these two masters. Their pupils accepted their teachings, but would not or could not follow their methods. The fact that anatomy was studied seriously at Alexandria, and that the Arabs and Jews developed some brilliant physicians in the East, does not essentially alter the case. It was an Italian, Mondino, of Bologna, who initiated once more a study of anatomy. His most brilliant successor was a Belgian, Vesalius; while a little later it was an Englishman, Harvey, who revolutionized the current views of physiology. But Vesalius was a professor in Padua, and Harvey got his education and his scientific training in the schools of Italy, under Fabricius. Malpighi was the legitimate successor of Harvey, for he completed the latter's work by his discovery of the capillaries. Malpighi was born in 1628, and took his doctor's degree at the age of twenty-five. Three years later he was appointed professor in Bologna. This chair he soon exchanged for one at Pisa, and there his scientific labors began. He saw at once the possibilities that lay in the newly discovered microscope, and his achievements are mainly due to the skill with which he utilized that instrument. Malpighi may be said to be the father of modern histology, though Leuwenhoek shares in a measure the honor. His name has gone down in history associated with the *rete mucosum*, or *rete Malpighii*, and the Malpighian bodies of the kidneys. But he, in addition, gave descriptions which are still classical, of the structure of the spleen, of the liver, the brain, and other organs.

But science is sometimes more indebted to those who originate new fields of work, than to those who simply discover valuable facts, though such facts may, of themselves, arouse new lines of thought and investigation. In Morgagni Italy possessed a man who turned the tide of medical thought into a new and eternally fruitful direction. Up to his time the world did not try to find the seat of disease, for Hippocrates and Galen had already settled this question. Disease lay in the blood. Its humors gave rise to the various morbid phenomena according as bile, phlegm, etc., were in excess. Morgagni was not content with this. He found in some of his autopsies local changes, solidified lungs, inflamed intestines, brains torn with hemorrhages. These things which he saw accounted for the symptoms of sickness much better than any humoral theory. Hence he set for himself the problem of finding out the seat of disease, and putting always the question, *Ubi est morbus?* He consecrated the best part of his life to the study of pathological anatomy, and when ripe in years he produced his great work, "De Sedibus et Causis Morborum"—a work which is still a monument of keen and careful observation, as well as of learning and critical study. Morgagni was eighty years of age when this work first appeared (1761). In these days our scientists do not wait so long. But Morgagni had to begin at the very beginning. From the time of Mondino and his pupils the knowledge of human anatomy has steadily grown, and from that of Morgagni pathological anatomy has also steadily progressed. Having got almost as far as is possible, we are now going back again to the humoralist's stand-point, and are searching for the seat of disease in something behind the *locus morbi*. But the world is not the less indebted to the extraordinary impetus given to science by the old Italian universities.

THE SURGICAL TREATMENT OF CRIME.

A NOTABLE increase of crime has lately been reported, more particularly in the larger cities of our country. The "hard times" have been invoked to account for this social phenomenon. Without wishing to decide whether the pressure of adverse circumstances is alone responsible for the rising wave of criminalism, we are aware that the medical mind loves to speculate on the possibility of repressing crime by other than the purely legal methods now in vogue.

In the *Boston Medical and Surgical Journal* the subject is editorially examined in the light of a recent communication by Dr. Bishop. This thoughtful physician explains his views as follows:

If a case comes into court (the hospital for the care of social maladies being so-called) for treatment for curative or preventive results, and a remedy should be proposed altogether rational and promising, its use is not permitted by the learned judge until a precedent for it has been discovered. Then the counsel in the case turn over the pages of legal lore to the times when people did not seem to know much of their own affairs, and if they find something like the case in hand (like it, because it is not like anything else), then they employ it as a remedy—not otherwise. Under such circumstances it is hardly matter for wonder that the disease keeps ahead of the remedy, or that the law's delay should be a proverb and a threat against honest business. It is not so in medicine. If a physical malady occurs, all scientific methods are at once invoked to discover its nature and an efficient remedy and preventive. Chemistry, microscopy, physiology, are all employed. The profession everywhere is enlisted in the investigation. One doctor is never employed by anybody to defeat the honest efforts of another. Under such conditions it is hardly marvellous that there should occur marvellously contrasting results. In court, in equity cases so called, the chances are largely with the rogue. After some further remarks to develop this idea, Dr. Bishop goes on to say that crime of all kinds is on the increase; our jails and almshouses and other asylums are filled with its products. Lynch-law cases (the signal-lights of lost confidence in courts of justice) are flashing everywhere every day, and every day business transactions are largely based on individual integrity.

On the other hand, it need only be mentioned that the average of human life is being gradually raised. Not only that, however, but all the deadly diseases of the past are under virtual control.

Population is no longer decimated. People no longer fly in insane fear from house and home at the approach of cholera or yellow fever, where medical men hold sway.

Seeing that these things are so, would it not be wise for the one profession to borrow the methods of the other? Nay, would it not be even better to profit by both their example and assistance?

The medical profession have long since shown that criminals are of germ origin, some peculiar character or condition of the spermatozoon resulting inevitably in the production of a criminal. The saying, "*Nascitur non fit*," is as true, therefore, for the criminal as it is for the poet. Now, the doctors have found that the true way to prevent diseases of germ origin is to prevent the germ; and if the law wants to prevent criminals, the sure way to do it is to sterilize the parent criminal, and the only way to do that is to castrate him. Of course there will be a thousand objections urged against the remedy, only two of which will be worth answering. One will be cruelty, the other danger to life, both of which are already negatived by anæsthesia and asepsis. Doubtless there will also be the epithets "uncivilized" and "unchristian" applied to such treatment. But how will prevailing methods of treating criminals compare with this? Now they are penned up together to fester and ferment into more and more repulsive and dangerous criminal forms—the petty thief emerging in form of a daring robber, and the robber in the shape of a murderer.

The practical effect of it all is the production of murderers by cultivation and breeding, and the subsequent slaughtering of them by hanging. The thief, especially a bank thief, is imprisoned until the baby is weaned; but the spots of the leopard change not, and the thief remains a reproducing thief in spite of legal punishment. How simple and how clean and how effectual the germicide method! You destroy the germ factory of the thief, and so reform the thief himself more surely and effectually than all the prayers of the righteous would do it, and prevent the production of thieves. If you do not breed thieves you will not have them.

We owe it to the old English custom of hanging thieves that we are now as well rid of them—more than we owe it to moral suasion.

One curious result of the treatment would be the settling of the race problem.

Castration would hardly be a hardship to the negro. It has been practised upon members of the race from all time. The harem of the Turk is always supplied with negro eunuchs. Why they were selected we may never know. Possibly it was because there were individuals who could be restrained in no other way. Of course a law declaring all crimes not punishable by death shall be punished by castration, would not be tolerated by the Constitution as it is now written. But a law could be enacted punishing all slighter crimes by an exceedingly severe flogging, but releasing the criminal upon producing proof of recent castration. There is a Japanese law which secures the destruction of state offenders by restoring to the family the estate if they could prove that the offender had committed suicide. Truly wonderful is aseptic surgery; it enables us to literally obey the Scripture, which enjoins us to cut off the offending member. It is, of course, taken as understood, that lady criminals are meant also, it being as easy to cure one as the other.

So much for Dr. Bishop, the lengthy quotations from whose essay show conclusively that he entertains advanced views on the subject of criminology. It is not to be expected that the lay press will advocate the practical application of his novel methods. There is too much maudlin sentimentality and hysteria in the newspaper treatment of crime to give any hope of encouragement from that quarter. But the medical press may espouse the author's cause. Taking into consideration the ignominious failure of approved methods to suppress crime, there is no valid reason why "something new" should not be given a fair trial. Our gynecological enthusiasts would doubtless welcome the new departure, as opening up a gleeful vista of wholesale castration. And the testectomist, and epididydectomist would soon claim some share of the triumphant halo at present still monopolized by the youthful oöphorectomist.

THE USE OF HEAT IN OPERATIVE SURGERY.

The successful substitution of heat for antiseptics in the preparation of instruments and surgical dressings has naturally led to the use of heat for sterilizing the wound itself. This is an ancient method. Hippocrates, Oribazius, and later writers down to the time of Paré, were unanimous in recommending the use of the hot iron and boiling oils upon wounds. It may even be questioned if Paré did so great a service, after all, when he substituted for the cautery the use of dirty ligatures.

The systematic and scientific use of heat, however, for rendering wounds aseptic, is a thing of recent date. M. G. Phocas, surgeon to the Hospital Saint-Sauveur, of Lille, has made a particular study of this procedure, more especially in connection with operations for resection. He refers to the experience of Felizet (*Bull. de la Chir.*, 1892) who employed the flame of a gas-jet for making the wound surface aseptic. He describes also the method adopted by Dreesnau, a pupil of Trendelenburg (*Centralb. f. Chirurg.*, 1893, No. 3). This surgeon poured into the cavities of the wound oil brought to a boiling-point by the thermo-cautery. In the same year M. Jeannel, of Toulouse (*Gaz. des Hôpit.*, Nos. 59 and 62), proposed to make the surfaces aseptic by touching them with boiling water.

In 1892 M. Phocas began to employ boiling oil according to the method of Trendelenburg. At the same time he undertook, with the help of his assistant, M. Hennecart, some experiments to determine how much heat the living arteries and nerves could bear without disintegration. Three different methods of using heat were tested: first, cold oil was poured into the wound and then raised to a boiling-point by a thermo-cautery; second, boiling oil; and third, boiling water applied directly.

It is sufficient to say that the experiments showed boiling water to be much less injurious to the tissues than the oil. M. Phocas finally adopted the following procedure: In osseous cavities he poured in cold oil and heated it with a thermo-cautery for three or four seconds. In other wounds, but more especially in resections and arthrectomies, he touches the wound with plugs of absorbent cotton upon which he has poured water just at the boiling-point. In this way every part of the wound is reached by water at a temperature of about 80° C. Each part is touched for three or four seconds, and the procedure is repeated several times.

M. Phocas states that since he has used the boiling water his results have been "incomparably better" than they used to be.

A Bill Providing for Registration of Physicians in Massachusetts has passed the Senate.

VACCINATION AND THE LAW.

Our Boards of Health are sometimes compelled to act autocratically and to strain the law a little in order to protect the public. We have feared that they would get into trouble some day, and in Brooklyn this expectation was recently realized. Two expressmen who refused to be vaccinated were quarantined in their stables. Their counsel obtained a writ of habeas corpus, and challenged the right of the authorities to keep them in quarantine.

They were brought before Judge Gaynor, who said that he did not see the shadow of right in the action of the Health Commissioner in imprisoning the men. "It is beyond anything I ever thought of," he continued, "that such an officer should have the power to impose perpetual imprisonment in this way. The discretion you claim is limitless, and on the same theory yon might as easily sentence a man to death as to perpetual imprisonment. I am of the opinion that you have no such power."

The position of the judge is undoubtedly right. The Health Boards have no power in this State to compel vaccination directly, and to punish by imprisonment those who will not be vaccinated. We doubt if a law compelling universal vaccination could be enacted at the present time.

The people have been so long freed from the dangers of small-pox through vaccination and quarantine, that the disease does not awaken apprehension as formerly. Therefore they will not tolerate any radical measures without some further object lesson of epidemic character. We hope and believe that such object lesson will not be furnished. Nearly all American children are vaccinated, and the majority of adults are sensible enough to look after themselves and families.

News of the Week.

The New Post-Graduate Medical School.—The formal opening and dedication of the new Post Graduate Medical School building took place, May 8th, with a reception and appropriate services in the afternoon, and addresses in the evening by Dr. D. B. St. John Roosa, the Rev. William R. Huntington, and Mr. St. Clair McKelway. A report was read by Dr. C. C. Rice, giving the following history of the origin and development of this medical school, a chartered institution of learning that demonstrates by its success the effective force of enthusiasm and unselfish effort in a common cause :—

The idea of clinical medical instruction for graduated physicians assumed tangible form in 1882, when the Post-Graduate began its existence in the old College of Pharmacy on Twenty third Street. Dr. D. B. St. John Roosa, Dr. William A. Hammond, Dr. Little, and Drs. Pallen, Piffard, and Sturgis were its founders. The first year there were one hundred students; last year there were over five hundred. All teaching has been by actual demonstration of patients, didactic lecturing having no part in the methods of instruction. The hospital was added to the school after its removal to the Twentieth Street building in 1885. Each department of medicine and surgery is taught by men who have attained a special reputation in their departments; in other words, by specialists, numbering two hundred.

The mission of the Post-Graduate is to elevate the standard of medical education, giving equal advantages to men and women. The results of such instruction in a teaching hospital are widespread and make themselves felt throughout the country. Skilful physicians and surgeons are not alone to be found in the great cities, but in the smallest villages as well. Students come from Canada, the West Indies, and from every nook and corner of the United States. The new Post-Graduate is necessarily a large building became its needs are so great. Below the executive and school floor there are two others—the dispensary, on a level with the street, and below it workshops for the manufacture of special apparatus, and rooms for certain kinds of surgical work. There are three teaching amphitheatres, libraries, reading-rooms, laboratories, the babies' wards, a female ward, an orthopædic ward, a male ward, and a nervous ward. At present there are ample accommodations for two hundred patients. The ambition of the Post-Graduate School is that it shall become the best-equipped teaching organization of its kind in the world. The ideal institution is a school with both ample space for out-door patients and for large hospital accommodations under the same roof, the hospital being so generously supported by the public that its beds are free to the sick poor. The best instruction cannot be given if interesting and difficult cases in surgery are turned from the door because they are unable to pay board. The school enjoys a legitimate income through its business of teaching. The fees of the students defray current expenses. No salaries whatever are paid to the teachers of the Post-Graduate. They are willing to do the work gratuitously, and only ask that the public help to endow the beds and complete the building fund. And there is every reason to have confidence in the mind of the metropolis, so quick to appreciate effort directed along the lines of higher professional education and relief of suffering and indigent humanity. Once acquainted with the purpose and scope of the Post-Graduate Medical School, its educational value and practical work, the New York public will help place the entire institution on a financial basis that will enable the directors to carry out the purpose for which it was created.

Bellevue Hospital Alumni Association.—The Bellevue Hospital Alumni Association gave its annual dinner at the Windsor Hotel, New York, Tuesday evening, May 1st. Dr. W. H. Katzenbach, President of the Association, acted as toast-master. The following gentlemen responded on call: Professor A. A. Smith, Professor F. S. Dennis, Dr. T. H. Burchard, Dr. L. Carter Gray, Dr. F. P. Foster, Professor E. B. Deuch, Dr. A. H. Doty, Professor A. Flint, Jr., Dr. W. H. Westerfield, Class '94.

The Transactions of the Pan-American Medical Congress.—The proceedings of the First Pan-American Medical Congress were compiled by the Secretary-General, Dr. Charles A. L. Reed, and transmitted to the Department of State in November, 1893. By recent joint resolution of the Senate and House of Representatives the manuscript was transmitted to Congress, and a concurrent resolution has been adopted directing the public printer to print the same. The manuscript is now in the office of

the public printer, and will be put to press at once under the supervision of the editorial committee, of which Professor John Guiteras, of Philadelphia, is chairman.

Credit to Whom Credit is Due.—At the nineteenth annual meeting of the United States Hay-fever Association, Dr. S. S. Bishop, of Chicago, obtained the prize for the best essay on the subject of hay fever, proposing the theory of uric-acid origin, with salicylate of soda for treatment. One year previous to the reading of the essay, Dr. Shawe Tyrrel, of Toronto, read a paper before the Ontario Medical Society, entitled "A Predisposing Cause of Hay Fever," which was afterward published in the Canadian journals, setting forth the uric-acid origin of the affection, and its treatment by soda salicylate and a proper diet.

Report of Health Department on Laryngeal Diphtheria.—The following report has been sent to Hon. Charles G. Wilson, President of the Health Department of New York:

"SIR: Some months ago I had the honor to present a communication to the Board of Health, directing attention to the results obtained in the bacteriological examination of a considerable number of cases of so-called membranous croup. In that communication it was shown that, in a large proportion of these cases, bacteriological examination disclosed the presence of the Klebs-Loeffler bacillus of diphtheria, proving that these were really cases of true diphtheria of the larynx. It was further shown, by the investigation of the clinical histories of these cases, that in many instances there was satisfactory proof that they were cases of diphtheria in which previous and subsequent infection could be traced. Since the former report a large number of further observations have been made, which, I believe, justify this department in considering so-called membranous croup as laryngeal diphtheria.

"Two hundred and eighty-six cases of so-called membranous croup in children have been examined bacteriologically. In 229 of these cases the characteristic Loeffler (diphtheria) bacilli were found, and these cases were thus proven to be true diphtheria. Of these 229 cases 167 showed no pseudo membrane or exudate above the larynx, while in the remaining 62, although the larynx was mainly involved, there was also some pseudo-membrane present on the tonsils or in the pharynx. Of the 57 cases examined in which no Loeffler bacilli were found, in 17 the cultures were unsatisfactory, leaving the bacteriological diagnosis in these cases doubtful. Of the 40 cases remaining in which no Loeffler bacilli were found, in 27 the disease was confined to the larynx or bronchi, and in 13 there was also more or less exudate or pseudo-membrane present on the tonsils or in the pharynx.

"It has been shown, therefore, by these examinations, that about eighty per cent. of the cases of so-called membranous croup in children, which have been subjected to bacteriological examination in the laboratory of the Health Department during the past ten months, were cases of true diphtheria; and of the remaining twenty per cent., six per cent. were doubtful, and only fourteen per cent. were undoubtedly not diphtheria. Further investigations have also shown that cases of pharyngeal diphtheria frequently precede, or follow, these cases of croup.

"Inasmuch, therefore, as so-called membranous croup has been clinically separated from diphtheria, and as cases of this disease are not usually considered as laryngeal diphtheria, and are not reported to the Department as diphtheria, I would respectfully recommend that so-called membranous croup be regarded as pharyngeal diphtheria, and be included in the list of contagious diseases concerning which reports are required from physicians of this city.

"Respectfully submitted,

"HERMANN M. BIGGS,

"Pathologist and Director of the Bacteriological Laboratory."

New Doctors.—The fifth annual Commencement of the Michigan College of Medicine was held in Detroit, Thursday afternoon, March 29th. The graduating class numbered twenty-seven. The Keokuk Medical College graduated a class of thirty-seven on March 6th. The same evening the College of Physicians and Surgeons of Keokuk graduated a class of twenty.

Portland, Ore., has two medical colleges, which recently held Commencements and graduated classes of five and six, respectively. At this distance it seems as if it would be better if Portland had one medical college and a class of eleven.

The Kansas Medical College proposes to have a new building.

The City Health Board has found and condemned tuberculous meat in the New York markets three times in the past week.

Fighting Vaccination.—Suits to prevent the enforcement of school vaccination orders are growing in frequency. In addition to those already reported in New York, Pennsylvania, Indiana, and Illinois, similar proceedings have been begun in Connecticut at New Britain, and at Beloit in Wisconsin. At the latter place the State Board of Health is defending the School Board, and will probably be called upon to do the same for other boards in that State.

Dr. M. L. James, of Richmond, Va., has retired from the Professorship of Practice of Medicine of the Medical College of Virginia.

Death of Dr. Keating, U. S. A.—Dr. William V. Keating died suddenly, on April 18th, in this city, aged seventy-one. He was graduated from the University of Pennsylvania in 1844, and in 1861 was elected Professor of Obstetrics in Jefferson Medical College, holding the latter position for but a short time. From 1862 to 1865 he was Medical Director of the United States Army Hospital at Broad and Cherry Streets. He was the Medical Director of St. Agnes's, St. Mary's, and St. Joseph's Hospitals, and a member of numerous medical and scientific societies. He was the American editor of Ramsbotham's "Midwifery" and Churchhill's "Diseases of Women."

The Wistar Institute of Anatomy of the University of Pennsylvania will be opened with appropriate ceremonies on May 22d, when an address will be delivered by Dr. William Osler, formerly Professor of Clinical Medicine in the University and now Chief of the Medical Department of Johns Hopkins University. Dr. Harrison Allen has been made Director of the Institute, and Dr. Milton J. Greenman, Assistant Director.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, April 19, 1894.

D. B. St. John Roosa, M.D., President, in the Chair.

Amendments to the By-laws.—At the recommendation of the Committee on Library, amendments to the by-laws were adopted, granting members the privilege of taking books from the library under certain restrictions.

Bureau of Nurses.—Dr. Gray, chairman of the Bureau of Nurses, reported that since the bureau had been organized, in January, two hundred and seventy-five nurses had registered, there had been fifty-four calls, the income had been over five hundred dollars, or above the expenses since the bureau had been established. A number of communications had been received, suggesting that there should be no charge to the public on engaging a nurse from the bureau, but such a proposition seemed too absurd to require serious answer. The Academy had discharged more than its duty to the public when it vouched for the character and ability of the nurse. A pay telephone would soon be provided. Physicians should on each occasion come to the bureau for the nurse, instead of going directly to the nurse, if they would assure the success of the undertaking.

Portrait of the Late Laurence Johnson, M.D.—Dr. F. A. Castle, on behalf of the Council, presented a portrait of Dr. Laurence Johnson, which had been donated by certain members. Dr. Castle's portrayal of Dr. Johnson's character and life-work constituted a just and warm tribute to the memory of the deceased. Marbout's painting representing Ambrose Paré using the ligature for the first time to arrest hemorrhage, presented by Fellows of the Academy, had been accepted by the Council.

Persistent Albuminuria and Glycosuria in Functional Nervous Disease, and their Significance.—Dr. Landon Carter Gray then read a paper upon "Persistent Albuminuria and Glycosuria, with Frequent Hyaline Casts, in Cases of Functional Nervous Disease." He first gave the results of his examinations in sixty-nine cases, which were to show that in most of the cases there was persistent slight, or more than slight, albuminuria and glycosuria, and frequently hyaline casts. He reached the following conclusions: 1. That many functional nervous diseases, especially neurasthenia, can constantly, or well nigh constantly, be accompanied by albuminuria, excess of uric acid, and oxalate of lime, and occasionally by excess of urea, indican, and hyaline casts. 2 It is probable that these urinary products are results, rather than causes, of disease. 3. That these conditions very probably represent what has been called lithæmia. 4 That it is probable that many, if not most, of these cases are not cases of early nephritis. 5. That it is possible that there are different albumins in the urine, and that upon the determination of these will rest the future diagnosis of nephritis from other diseases. He then passed on to the treatment of the various forms of these cases, showing that in his experience diet had been of little use, and that relief of the existing form of nervous disease brought, *per se*, relief of the albuminuria and glycosuria.

A Precursor of Arterial Fibrosis.—Dr. Alfred L. Loomis was of opinion that persistent albumin in the urine, however slight in amount, always indicated an abnormality of some kind. That abnormality might not be found in the kidneys, but there was present variations in blood pressure, or faulty use and elimination of the materials taken into the body. Temporary albuminuria existed under various circumstances independent of organic or serious lesions, but persistent albuminuria denoted, in his opinion, something seriously wrong with the subject. The records given by Dr. Gray would seem to show that albumin was constant in the urine of some cases of nervous disease, and when one reflected on its significance it appeared that there must either be something abnormal in the condition of the blood or in the vascular pressure. He thought the author might modify his statement, that there was absence of high arterial tension, if he would examine the patient at all hours of the day, for not infrequently persons who showed no increased tension during the waking hours, did so at night. But neurasthenic patients were apt to be feeble, and there need not be high arterial tension to account for the slight albumin and sugar in the urine on the basis of faulty circulatory state. Every epileptic, so far as he knew, had albumin in the urine, and it was due to change of blood pressure attending the nervous phenomena. Regarding lithæmia, it was not necessary that the urine contain a large amount of uric acid in order that the nervous phenomena of this condition should become manifest. Back of it was faulty metabolism which, continued long enough, led to arterial fibrosis. A man might go on ten or fifteen years taking little exercise, eating more than he should, using stimulants of some kind, and at the end of that time show well marked cardiac and arterial fibrosis of gradual development. Before the evidences of high arterial tension, of cardiac hypertrophy, of hardened arteries—signs of the advanced stage of arterial fibrosis—there had been a variation in the blood-pressure within the kidneys which permitted albumin to escape. The future of a man living in a certain way, having constant slight albuminuria, could be predicted with nearly the certainty of the rising sun. Dr. Loomis said he had yet to examine the urine of a man sixty years of age which did not contain some hyaline casts. It was one of the attendants of the arterial change of old age, of persons who had started on the downhill of life's pathway, which always led to general fibrosis, to infirmity, and the grave. In the speaker's opinion, Heller's nitric-acid test was sufficiently delicate for determining the presence of albumin.

Dr Andrew H. Smith said: I have had several cases recently similar in every particular to those described by Dr. Gray. Within the past few weeks two gentlemen, both of them having enormous financial interests which they have been watching with intense solicitude during many months, have come to me complaining of symptoms indicating nervous exhaustion. In each case I have found, or rather an expert in urinary analysis has found, a trace of albumin, a trace of sugar, an excess of uric acid, more calcium oxalate than there should be, a little too much indican, and a few hyaline casts. One of these patients presented these conditions two years ago, and his urine has improved rather than otherwise since then.

Now, as to the question of the significance of slight albuminuria, I think it is all important that we should recognize as a fact that there is no definite substance to which the name albumin is attached. The name is given arbitrarily to any substance which will respond to certain arbitrary tests. But no two specimens responding to these tests will correspond exactly with each other when subjected to quantitative analysis. We have exact chemical formulæ for starch, sugar, cholesterin, hæmatin, and all crystallizable and some uncrystallizable organic bodies; but when we come to albumin, globulin, mucin, and all the other various albuminoids, the chemists are at fault. They cannot tell us just how many atoms of each of the component elements go to make up the body in question; in other words, they cannot give us definite chemical formulæ to express their composition.

Now, I consider albumin as simply representing an indefinite stage in a process of change from the inorganic food-elements, as they come from the earth and the atmosphere into the organized vegetable or animal tissues. Albumin is always the product of vital activity. It is never formed in dead matter. No conceivable chemical reaction can produce it apart from vital energy. It is a stage, not a step, in a constructive process. Material that was not albumin gradually becomes albumin, and then gradually passes on to finally become tissue. But while it is albumin it is all the while changing, and it is

as hard to tell just when it gets to be albumoid as to tell just when night passes into day; and it is as hard to tell just when it passes into the next stage of development as to decide just when day has given place to night.

Now, I think it can be shown that, somewhere along this line of change, material that either is going to be, or has been, albumin, has the right of way, so to speak, into the normal urine. If you agitate normal urine very thoroughly with one-third its bulk of ether, a gelatinous substance will slowly rise to the surface, and may form a plug so dense that you can reverse the tube without spilling its contents. Now, this is an albumoid substance, but it is not albumin; that is to say, it will not respond to the tests which it has been arbitrarily decided that a substance must respond to in order to be called albumin. The change has not gone far enough yet, or perhaps it has gone too far. But as there is no definite boundary line, and that which is not albumin shades off imperceptibly into that which is, and as in the blood-serum all these shades are blended together, we can see how easily some material may pass into the urine that will respond to some of the tests for albumin. In both the cases of which I have just spoken heat and nitric acid gave no reaction. The albumin was not in that stage of development. But Millard's test showed a faint trace, because Millard's test is adapted to another stage.

Now, clinically we know that albumin in the stage of development that responds to heat and nitric acid is a very ugly constituent of the urine. On the other hand, the substance which is separated by ether is harmless. May it not be also that a less ominous prognostic significance attaches to the presence of the substance revealed by Millard's test? Indeed, may not the particular test employed in a given case be an important factor in the prognosis? May we not find that the material that responds to one test is comparatively innocent, while that which corresponds to another test is associated with grave organic disease. For my own part I am unwilling to consider a case as certainly one of nephritis, so long as the urine gives no precipitate with heat and nitric acid, even though Tanret's or Millard's test may show a trace of so-called albumin.

Another point—in nearly all these cases there are present crystals of oxalate of lime. These crystals are angular and excessively hard, and it may well be that they irritate mechanically the delicate lining of the tubes, and thus give rise to albumous exudation, traumatic in its origin. I have several times seen the slight traces of albumin disappear with the disappearance of the oxalate.

Opposite Experience.—Dr. Christian A. Herter said the results of his observations did not correspond with those of the author in certain regards. During the past two years he had examined the urine, for various products, of about two hundred persons, most of them suffering from some form of nervous disease, and in only two did he find albumin in the urine, sugar in only one. In speaking of albumin he thought we should include only serum albumin, although it seemed Dr. Gray had not made this distinction. If albumin could not be found by the cold nitric-acid or the picric-acid test, he thought we should assume that it was not present. He had found uric acid increased in most neurasthenic cases, but did not regard it as an indication of disease unless much increased and for a long time. He was disposed to accept the view of a German observer, that excess of uric acid was due to excessive breaking down of nuclein from the nuclei of cells. As to indican, it was never dependent upon metabolism, but upon putrefaction of proteid substances in the intestine. Life-insurance men had told him that albumin existing in the urine a long time developed fibroid kidney.

Dr. Gray said, in closing, that while he might be willing to believe persistent small amount of albumin in the urine would in time lead to arterial fibrosis and cardiac hypertrophy, yet it had not done so in any cases which had remained under his observation. No case had developed into indubitable renal disease. Millard's test for albumin was much more sensitive than the nitric-acid test. With it he had repeatedly discovered albumin where the acid test had failed. He could not understand why Dr. Herter should regard serum albumin as the only albumin.

Registration of Births.—Dr. Alexander Hadden called attention to a bill before the legislature relating to the registration of births. As it was an absurd measure, being no improvement upon the existing law, he hoped the Academy would do something to prevent its passage and to bring about legislation which would make the registration of births of value as evidence in courts of law. A committee of three was appointed to report at the next meeting—Drs. Hadden, Armstrong, and Roosevelt.

SECTION ON SURGERY.

Stated Meeting, March 12, 1894.

Charles A. Powers, M.D., Chairman.

Epithelioma of Forehead and Orbit; Flap from Thigh.—Dr. Carl Beck presented a woman, fifty-six years of age, good family history, who when he saw her, about four months ago, had an ulcerating sore above both orbits about the size of his hand. The pathologist pronounced it an epithelioma. He decided to cover the space by the dry-flap method. The granulations were scraped away, the parts were washed with a solution of bichloride, followed by salt solution. From this point on he worked with dry instruments and dry hands, took a flap from the thigh five by three inches, including only the cutis and dermis, no fat; bleeding had ceased, the flap was put on the wound immediately, no sutures used, no pressure beyond what was necessary to hold it in place. At the second dressing, two weeks after the operation, the flap had united thoroughly, there being no gangrene even at the margins. But five weeks after the operation destruction by the disease had set in, and at present only a small area of the transplanted skin remained. The conjunctivæ were involved, but sight was still good. The patient was more cachectic, and further interference would hardly be justified because of her low condition.

Dry Flap to Injured Finger.—Dr. Beck also presented a boy whose entire little finger had been denuded by a stone falling upon it, so that his first thought was to amputate it; but he concluded to apply a skin flap from the thigh, in the manner just described. Only one-third of the flap was found united after a week. A second flap was applied, this time with entire success. The difference in technique was that, at the first operation some pressure was applied over the transplanted flap, none at the second.

Dr. Erdmann said he had had several cases in which he had transplanted flaps in this manner, from two to five inches in diameter, and all had taken nicely. He used no pressure.

Considerations on Different Types of Surgical Inflammation, Based on Bacteriological Examinations in over One Hundred and Twenty-five Cases.—Dr. C. N. Dowd read the paper. All surgeons, he said, had noticed differences in the types of inflammation which came under their care. Some types were rapidly fatal; others pursued a slow course; some tended to spread, others remained limited; some subsided under mild treatment, others resisted even heroic measures.

At the Vanderbilt Clinic, the New York Cancer Hospital, and elsewhere, he had succeeded in making bacteriological cultures from wounds in about one hundred and forty cases, representing various types of inflammation—cases of acute spreading inflammation, of local inflammation, of granulating wounds, of abscesses, of furuncles, of sebaceous cysts, of stitch-hole and needle-wounds, etc. Dr. Park had done nearly one half the bacteriological work. The result had been that different types of inflammation had been found to correspond pretty regularly with certain kinds of bacteria. First, all cases in which there was acute inflammation with consti-

tutional symptoms gave streptococci or golden staphylococci; second, inflammation of less severe type, sometimes with limited suppuration of the hand or foot, sometimes with a little moisture, gave the white staphylococcus or a lemon colored staphylococcus closely allied to the white. Then there was a class in which no bacteria, or indifferent ones, were found, as in cold abscesses, buboes, or healing ulcers; and still another class of mixed type of inflammation and different bacteria. Where the golden staphylococcus was found in the original wound and metastatic abscess had formed, the streptococcus was found to be the cause of the latter

Then there were cases on the border line between acute cellulitis and erysipelas, and in them streptococci were found. The weight of bacteriological authority was also in favor of the view that the differences between streptococci and the germs of erysipelas were not greater than was frequently seen in individuals of the same species.

This was a matter of much practical importance, since it showed the necessity for guarding simple wounds against contamination with streptococci, lest it lead not only to a more severe type of simple acute inflammation, but possibly to erysipelas.

There were many other cases in which streptococci were present, yet which did not show tendency to spread. Whether the milder course of the disease was due to the general condition of the patient, a difference in the kind of streptococcus, or to the manner in which it had in the first place gained a foothold, was not known. The same difference in behavior had also been observed in relation to other bacteria.

The staphylococcus pyogenes aureus was found in pure culture twenty seven times, but in no case in which it alone was present was there a spreading inflammation. The furuncle represented a form of inflammation in which the staphylococcus might be the cause and be attended by severe inflammation, necrosis, and constitutional symptoms, but it did not spread by direct extension as did streptococcus inflammation.

The white staphylococcus was found in pure culture eleven times, only one being a case of cellulitis. It was very evident that this was a type of inflammation far less severe than the types caused by the streptococcus and the staphylococcus aureus, and a type which did not call for the same treatment. White staphylococci were regularly found in superficial granulating wounds, in conjunction with other bacteria. A mass of evidence indicated that this germ ordinarily possessed little virulence for man, although it was not denied that it might show virulence. Its general mildness was a fact of importance since it was present on the skin and even in what we called aseptic wounds. A lemon-colored staphylococcus was observed in five cases, but was probably the white form in a culture kept longer than usual—eleven days.

Seventeen times no cultures, or few, were found, usually in sinuses with pus-like appearing secretion, or tubercular abscesses, sebaceous cysts, necrosed bone, bubo. The pus without bacteria, or but few, which continued to be discharged from bone abscesses, possessed little virulence, and in such cases healing could be readily induced by blood-clot, as it could not where streptococci or staphylococci were found. If we could distinguish between cases belonging to this mild form of inflammation and those of the severe form, we could cure them much more quickly by suture or the blood-clot method than by leaving them to heal by granulation.

The fourth type included cases in which the bacteria of decomposition apparently were the cause of keeping up an inflammation originally started by another source of infection.

Dr. Park opened the discussion. In cases of mixed infection one had to use care, else he would find the staphylococci alone and overlook streptococci. He felt sure that such an error would account for a number of cases having been reported in literature as due to the staphylococci, when streptococci must also have been present to account for the severity of the symptoms. Regarding divisions of streptococci according to whether they grew in long or short chains, etc., it had no bearing upon their virulence. Even virulent streptococci lost their virulence after a few cultures. It was an interesting fact that streptococci caused a spreading inflammation; staphylococci, a local one. When both were present, the staphylococci would be found to remain in the original abscess; the streptococci, to spread. This was of practical value, as it showed the importance of guarding a wound against infection by a new and more virulent micro-organism. Dr. Park referred to his investigations reported before, in which he found streptococci in all throats, although many had little virulence, while others had considerable.

Dr. W. B. Coley referred to the observations of two authors which had led them to divide streptococci into two classes: one producing results like those described by Dr. Dowd; the other called septicæmic streptococci, which, when they entered through minor wounds and eruptions might go on to cause fatal septicæmia before the formation of pus. Personally, Dr. Coley was disposed to regard the micro-organisms which caused erysipelas as distinct from the streptococci under discussion.

Dr. George P. Biggs related a case of very small ulcer over the tibia, rapid spreading, very superficial gangrene extending to the groin, delirium, constitutional symptoms of infection from streptococci, death. Pure cultures of streptococci were found before and after death. There was but one spot of pus, the size only of a pin-head, and this contained streptococci in abundance. He regarded streptococci inflammations as far more virulent than those due to staphylococci, and the latter were, as a rule, local.

Dr. W. W. Van Arsdale was glad to see bacteriologists giving attention to surgical matters. It would be a good thing if, by examination for micro-organisms, the surgeon could tell the nature of the case of inflammation under his care, its severity, and the treatment appropriate under the circumstances. Unfortunately, however, in some instances the germs might kill the patient before the bacteriologist had made his cultures. Clinical experience must lead one to accept Dr. Dowd's conclusions, that there was a difference in the character of inflammation in different cases, and one was not surprised to learn that it corresponded to differences in the character of the micro-organisms present. After hearing the paper one would not think of opening a tubercular abscess in such a way as to expose it to infection with streptococci. Some light might be thrown on mixed infections by the observation that streptococci, cultivated on pure pus which had been sterilized, developed and became more virulent, while staphylococci were destroyed by it in a few days. Anthrax bacilli seemed also to be killed by the pus, which would seem to show that the best way to treat anthrax pustules might be to let them alone, for if incisions were made they might be rendered more virulent. Also simple cases of furuncle, such as were at times seen on the face, might also be let alone, since by incision one was liable to infect them with more virulent micro organisms than the staphylococcus present, and not only delay the cure, but cause extensive inflammation and abscesses

The Chairman, Dr. Powers, mentioned a case similar to the one of Dr. Biggs, in which violent and fatal septicæmia followed an operation on the tongue for cancer, although very little pus formed. In view of Dr. Park's remarks regarding the presence of the streptococcus in the mouth at all times, it pointed to the necessity for special care in disinfection before operating. If in a given wound the streptococcus was found, it would lead the surgeon to make a more guarded prognosis. Some furuncles were also quite malignant and called for radical treatment, but it was not to this class that Dr. Van Arsdale had referred.

Some further remarks were made by Drs. Morris, Gibson, and Dowd.

Inoperable Sarcoma of the Ilium.—Dr. F. Kammerer

showed a young man, from Dr. Shrady's service at St. Francis Hospital, who had an immense sarcoma of the right ilium, the growth having reached the inoperable stage before being seen by the surgeon. Dr. Coley was asked whether inoculations with the toxic principles of erysipelas would give any prospects of benefit in such a case. Dr. Coley referred to two cases in which it had reduced the tumors.

Practical and Efficient Sterilization of Materials for Private Operations.—Dr. Willy Meyer, by request of the Chairman, exhibited his apparatus for sterilizing instruments, towels, and other materials at the patient's house.

Mr. Van Dusen also exhibited a sterilizer. Dr. Stewart described his, which was composed of a series of trays, one above the other; and Dr. Walker exhibited sterilized catgut in a series of bottles contained within a glass case, kept for sale by Druggist Van Horn. The opinion was expressed that it was time druggists should keep sterilized material ready for use by the surgeon.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, March 29, 1894.

Malcolm McLean, M.D., Chairman.

Instruments for Anterior Vaginal Fixation.—Dr. Vineberg presented two instruments which he described in connection with some written remarks upon the indications for anterior vaginal fixation of the uterus; an operation which he had performed nine times, his first operation having been among the first done in this country. The knife shown had a strongly convex blade. The second instrument was a long uterine sound, rather large shank, with a bulb on the end to avoid danger of perforating the uterine walls.

Needle.—Dr. H. T. Hanks exhibited a needle to take the place of the full-curve needle which went with the Hagedorn needle-holder, the objection to the latter needle being that it could not be used with ordinary needle-holders. The needle presented, instead of being a full curve, presented two ends which formed an obtuse angle with the central portion, and could be grasped by the American or other needle holder.

Trocar.—Dr. Hanks also exhibited a trocar and cannula, which had a special use as well as the ordinary one. When, for any reason after abdominal section, it was desired to drain through the vagina, a cannula with a funnel opening could be pressed against the vaginal vault and the trocar plunged into it from above. The perforated cannula on the trocar could then be passed down and irrigation made, after which, as a drain for the required time, a strip of gauze could be passed down through the cannula, and the latter removed. The gauze was subsequently withdrawn a short distance at a time, and finally altogether.

Dr. Mundé said he had not yet found a needle holder which would both hold the needle and not break it. In vaginal drainage he preferred a flexible rubber tube.

The Chairman, Dr. McLean, said he was in the habit of tempering his needles before using them, so that they would not break when clasped by a reliable needle-holder. He held the needle in the flame of an alcohol lamp, then plunged it into wax, which made it tough and did not impair its usefulness.

Abscess of the Ovary.—Dr. Paul F. Mundé read the paper. Only since the progress made by abdominal surgery during the past fifteen years had abscess of the ovary come to be recognized as not an uncommon condition. Puerperal abscess of the ovary, however, had been mentioned in the older text-books. and was recognized as a very dangerous condition, usually ending in death of the patient. While the author was unable to say just how frequently abscess of the ovary occurred, yet it could be inferred that it was not very rare when he stated that he had operated upon sixteen cases. Out of the sixteen women only five had borne children or aborted, so that it was not so often connected with the puerperal condition. The reason it was formerly regarded as puerperal abscess of the ovary, doubtless was the fact that the condition went unrecognized until some accident connected with the puerperal state brought it to light. When one recalled the highly vascularized condition of the ovary, its physiological changes, and exposure to trauma, it could be readily understood why this organ might sometimes become the seat of inflammatory action and abscess.

In the sixteen cases in which he had found abscess of the ovary he did not include those in which this condition complicated pyosalpinx. There was, it was true, thickening of the walls of the Fallopian tubes, a chronic inflammatory state, but not pyosalpinx, which meant pus in some quantity. Women having abscess of the ovary might not be seriously ill; they might be able to be about, but they were scarcely ever altogether free from pain, and pain was increased on exertion and at the menstrual flow. At times there might be chills, moderate rise of temperature, and in acute cases, as in the puerperal condition, the symptoms became much more aggravated and active surgical interference was called for, as perforation was imminent. In the less acute cases the patients were more or less chronic invalids, systemic infection not being striking because, usually, the abscess was hemmed in by adhesions arising from successive attacks of inflammation and matting together of adjacent structures. The absorbent powers of the walls of such an abscess were slight, their thickness prevented rupture, and the patients continued to live often for months and years in a state of more or less aggravated invalidism.

Diagnosis.—For some years past attention had been centred upon the tubes in cases of a fluctuating tumor felt in the pelvis, and while Dr. Mundé did not deny that pyosalpinx was much more common than abscess of the ovary, yet he believed the latter condition had sometimes been mistaken for the former because physicians had not learned to differentiate between the two. When abscess of the ovary existed one felt a rounded tumor, similar in shape to an orange, whereas distention of the tube presented an elongated tumor, and combination of abscess of the ovary with pus-tube gave a tumor of irregular outline, the tube being curled back and attached to the ovary. In the combined disease of tube and ovary, however, differential diagnosis was not always possible, but this was unimportant since pus in either organ indicated removal of both. Of course not every collection of pus in the pelvis was tubal or ovarian, but if not, there would be absence of definite outline of the tumor.

Prognosis.—The eventual outcome of abscess of the ovary was usually like that of pus collections anywhere else in the body; the pus succeeded in forcing its way out in whatever direction there was least resistance. It might, however, take months, or even years. In rare instances the pus became cheesy and remained permanently. There was less danger of rupture than in abscess of the tube.

Causation.—The cause was usually inflammation coming up from the uterus and tube, hence the frequency of involvement of the organs on both sides. Of sixteen cases there was abscess of both ovaries in eight, of the left ovary alone in six, of the right alone in two.

Complications.—There was tendency to the formation of adhesions to the adjacent structures. Perforation into the gut would greatly endanger recovery. Systemic infection was rare since absorptive power of the abscess walls was slight. Perforation into the bladder or vagina might take place. If in perforation into the bowel the opening should be low, the drainage might be such as to permit of spontaneous closure, but if the opening were higher the dangers were likely to be enhanced by fecal matter entering the abscess cavity As to the significance of abscess of the ovary, it passed without saying that an ovary destroyed by suppuration was of no further use to

its possessor. An ovary in which all the Graafian follicles had been destroyed could never be rehabilitated.

Treatment.—The evacuation of the abscess was the treatment to be employed. This did not mean, however, that the abscess should be merely opened, the pus allowed to escape, and the cavity to close, as occurred in abscess of other parts of the body. The abdominal cavity should be opened, the sac enucleated together with the tube. Adhesions might make the operation difficult and dangerous. Generally, however, one could succeed in shelling out the abscess without rupturing the intestine or injuring neighboring organs. He cleansed the cavity with Thiersch's solution, then perhaps packed the seat of the abscess with iodoform gauze, one end of which was brought out of the lower angle of the abdominal wound. In Dr. Mundé's opinion this form of drainage constituted one of the greatest advances in abdominal surgery, without which he would now hardly know how to proceed in cases of extensive adhesions and oozing. He operated in Trendelenburg's posture, but flushed afterward in the ordinary position in order to avoid carrying infection up to the diaphragm. Only one of his sixteen patients died, septic peritonitis having developed.

Vaginal Drainage of Ovarian Abscess.—In a certain number of cases abdominal section was not necessary. He referred to those of long standing, where the whole pelvis was a masss of adhesions and the pus collection was low, so that it could be drained through the vagina with less danger than enucleation after cœliotomy. He did not doubt that in years gone by he had sometimes thus drained ovarian abscesses which he had attributed to pelvic cellulitis. Some had recommended dilatation of the opening where perforation had taken place into the bowel, but Dr. Mundé recommended making an opening into the vagina and encouraging that into the bowel to close. Likewise in vesical perforation.

Dr. Hanks thought that while we could not take too much care in making the diagnosis of the existence of pus in the pelvic cavity, it was not so important to say whether it was in the ovary or in the tube. In either case an operation would be called for, and both organs should be removed when it was necessary to excise one. It was less difficult to make out pus in one or both organs than to differentiate between ovarian abscess and hypertrophy of that organ. In abscess low in the pelvis, other things being equal, he preferred to drain through the vagina instead of through the abdominal opening. He agreed with the author, that some of these patients went about for a long time without apparent great danger, but one could not say how soon perforation might take place, or an acute condition arise which would greatly endanger life. The contained pus, though small in quantity, seemed to be highly virulent, for in one case operated upon by him contamination of the cavity with but a very small amount, caused death from sepsis in twenty hours after the operation, and in the case of another surgeon the patient died within thirty hours.

Dr. A. F. Currier thought the author had done well in giving warning not to attempt too much where all the pelvic organs were fused together, and advised puncture and drainage through the vagina when fluctuation was felt near the vault. Yet Dr. Currier's experience had been that patients were seldom cured in that way. Regarding cleansing the cavity during the operation of laparotomy, he thought that ordinarily it was better to use the dry gauze sponge instead of resorting to irrigation, since by the latter method there was danger of widely spreading the virulent elements. While gauze drainage could be properly highly praised in some regards, yet it was painful to remove after three or four days, and he therefore first gave a few whiffs of chloroform. Moreover, he thought it was more likely to result in a sinus than if a tube of small calibre were used.

Advocates Pelvic Drainage.—Dr. Egbert H. Grandin was glad to avail himself of the opportunity again to emphasize preference for the vaginal route in drainage in a certain proportion of cases of pelvic abscess. Notwithstanding the condemnation which this method had received, and was still receiving from some, he was satisfied of its superiority in a certain proportion of pelvic abscesses, whether connected with the ovary, tube, or other tissue, provided it were situated low. The aspirator was used as a guide, the opening was enlarged with the bistoury. It could be still farther dilated. The finger could then be introduced, and with it break up the pockets of pus, wash out, drain, and thus very favorable chances of cure would be given. If, however, the walls continued to discharge pus, and the tract would not heal, there would then be time to open the abdomen and enucleate the offending mass, and in doing so there would not be the danger of infecting the abdominal cavity which attended primary laparotomy.

Experience a Teacher of Doctor and Patient.—Dr. A. P. Dudley thought the time was approaching when every surgeon would make conservatism rather than radicalism his motto. If the after-histories of patients could be obtained, he believed surgeons would regret many of their operations. A number of his patients whose appendages he had removed had returned three, four, or five years afterward, expressing regret that the operation had been performed, for the reason that hot flashes had either not ceased or had come on. In this line the paper of Dr. Goodell, of Philadelphia, has proven a valuable lesson. Therefore, he believed that if patients could be relieved of their pus by any conservative method, it was better than extirpation of the appendages, since loss of the latter might lead to development or continuance of subjective symptoms, such as hot flashes. Dr. Dudley differed strongly from Dr. Currier with regard to sponging out of pus in the abdominal cavity, for such a step meant certain inoculation by the rubbing process. He never allowed himself to touch pus in the abdomen with dry sponge or anything hard. Use irrigation, floating the pus out, not carrying it in. The hot water also relieved the shock of the operation. If the case were one of abscess which called for abdominal section, it also called for drainage, and this he now carried through the cul-de-sac into the vagina, never through the abdominal wound. Gauze was employed. Vaginal hernia had not followed.

Feculent Odor in Ovarian Abscess.—Dr. Jarman made two statements and offered a query. The great majority of cases of ovarian abscess seemed to occur on the left side; in all cases which he had observed where the abscess was of any size, there was a distinctly feculent odor. This had not been observed in pyosalpinx. Was it not possible, therefore, that the feculent odor was due to juxtaposition of the ovary to the rectum?

Dr. Mundé closed the discussion. He felt that free drainage through the vagina would be the better plan, for pus would not run up hill more than would water. Regarding the virulence of the pus in ovarian abscesses, it did not seem to be great, for in none of his sixteen cases had he succeeded in removing the sac without rupturing it, yet only one patient had died. He agreed with Dr. Dudley in the use of water to cleanse the abdominal cavity, and in condemning the rubbing out of pus because of inoculation of the peritoneum on which it lay. Removal of the gauze drain caused pain only when done too soon.

Further Study of Occipito-posterior Positions.—Dr. S. Marx read the paper. (See page. 585)

Turn the Head and Body.—Dr. Egbert H. Grandin agreed with the author, that the course of labor made the diagnosis of occipito-posterior position more frequently than abdominal palpation. Nor was it always easy to make out the occipito-posterior position early by vaginal touch. If the woman had short, nagging pains, one should think of occipito-posterior position at the brim, and on confirming the diagnosis he should rectify the position before the head engaged by turning the head and body into the anterior position, and maintaining it until a uterine contraction prevented return. If this

failed, resort to version rather than forceps. This was not the first occasion when Dr. Grandin had emphasized the practicality and advantage of correcting the faulty position before the head had engaged, and he thought the author's failure must have been due to neglecting the precaution of holding the body and head in the corrected position until uterine contractions had taken place and fixed it. By this measure one obviated those serious dangers attending engagement of the head in the occipito-posterior position, one of which was prolonged pressure upon the fœtal brain, which led oftener than physicians had realized to nervous diseases like epilepsy and idiocy. Dr. Grandin differed from the author who had spoken of high forceps when the head had engaged, Dr. Grandin regarding this as medium forceps, whereas high forceps meant the application of the instrument while the head was still movable above the brim. He preferred version to high forceps. When medium forceps was called for version was impossible, because the head had already become fixed, and he did not believe that with forceps turning would be accomplished unless the head were small.

A Large Experience.—After Dr. Currier related experience with two cases, showing that the abnormal course of the labor was apt to be the cause of recognition of the occipito-posterior position, Dr. Tucker stated that he had observed 150 cases of occipito posterior position, and that diagnosis had become certain with him only after the skill acquired by seeing thirty cases. Where the head was above the brim he saw no need of rectifying the position, as nearly always it settled down into the pelvis in either the transverse or oblique position. Where the head had engaged, no one would think of using the hand, but would employ forceps.

Dr. Collyer thought an experience of 150 cases rather exceptional, since statistics gave, he believed, only about one case of occipito-posterior position in 50 labors. He recommended version in preference to high forceps.

Diagnosis by Examination Possible.—Dr. Brooks H. Wells had found it quite possible to make the diagnosis of the position under question by abdominal and vaginal palpation, provided it were gone about systematically and properly. Barring deformities and abnormalities, rotation usually occurred by the time the head reached the pelvic floor.

Dr. Jarman said that by following the instructions which Dr. Grandin had repeatedly given, anyone could learn to correct the occipito-posterior position and maintain it before engagement by turning the body with the head. Such had been the experience of the house staff at the City Maternity.

The Chairman, Dr. McLean, said he had read a paper some years ago when such authorities as Isaac E. Taylor, Lusk, and others were present, and his statement, that there was no teacher of obstetrics who could positively make the diagnosis of the occipito posterior position by vaginal touch alone, went unchallenged. It could be made, however, by the peculiar behavior of the labor, by vaginal and abdominal palpation, especially by touching the ear. He thought Dr. Tucker had misunderstood the question: the cases under discussion were those of occipito-posterior position causing symptoms or abnormal labor. His own views were precisely in accord with Dr. Grandin's regarding the success of turning the head and body into the anterior position, and holding it there until it had become fixed by a pain.

The Army Medical Department in Germany.—Nine posts for surgeon majors are about to be added to Frederick William Institute of Military Medicine. It has been thought necessary to take this step in order to provide means whereby army doctors may improve their knowledge of military surgery, and also acquire proficiency in certain specialties, such as mental, nervous, and ophthalmic diseases, as well as in advanced hygiene and bacteriology.

Reviews and Notices.

Memoranda on Poisons. By Thomas Hawkes Tanner, M.D., F.L.S. Seventh American, from the last London, edition. Philadelphia: P. Blakiston, Son & Co. 1892.

The fact of any technical work, great or small, reaching its seventh edition speaks for itself. In the most condensed form are given the history of poisons, their antidotes, and various mechanical methods for overcoming the tendency toward death. The principal changes in the new edition have been the substitution of modern chemical nomenclature and the omission of obsolete portions of the old text. The toxicology of poisonous food has been presented as fully as the concise character of the book allows. As the work is intended for those engaged in actual medical practice, and not for medico-legal reference, the English cases, as a rule, have been omitted.

Lectures on Mental Diseases: Designed especially for Medical Students and General Practitioners. By Henry Putnam Stearns, A.M., M.D., Physician Superintendent of the Hartford Retreat, etc. Philadelphia: P. Blakiston, Son & Co. 1893.

These lectures have been prepared as the basis for instruction in mental disease to the medical students of Yale University. They are based upon the teachings of Ball, Dagonet, Voisin, Griesinger, Obersteiner, Lewis, Maudsley, Spitzka, and Tuke and Bucknill. Three of the illustrations are from Blackburn's "Manual of Autopsies," and twelve from Obersteiner's work on Central Nervous Organs. The appendix comprises the most important parts of the laws of the several States and Territories relating to the duties and responsibilities of physicians concerning the insane at the present time. The classification of insanity that is suggested embraces five divisions that are symptomatological: Melancholia, mania, primary delusional insanity, *folie circulaire*, and dementia. There are twenty forms in the etiological division, grouped into six classes: Epochal, sympathetic, toxic, neuropathic, pathological, and other less frequent genera and species. The lectures are clear and well written, and embody the prominent ideas that now prevail in psychiatry.

The Diseases of the Nervous System: A Text-Book for Physicians and Students. By Dr. Ludwig Hirt, Professor at the University of Breslau. With 178 illustrations. New York: D. Appleton & Co. 1893.

In this book nervous disorders are considered under the following heads: Diseases of the Brain and its Meninges, including those of the Cranial Nerves; Diseases of the Spinal Cord; and Diseases of the General Nervous System. Of the latter two divisions are made—those without recognizable anatomical basis or functional neuroses, and those with known anatomical basis, viz., multiple sclerosis, tabes dorsalis, general paralysis of the insane, syphilis of the nervous system, and intoxication paralysis. The illustrations are clear, typical, and, for the most part, unfamiliar to American books. While not all original, they are copied from non-English authors. The style is plain and forceful, and at no point is there the slightest doubt of the writer's meaning. In the preface he states that "only too well aware of his shortcomings, he is convinced that he has set down concisely what he has learned from others and observed himself in an extensive hospital as well as private practice." The following, concerning the pathology of chorea, is an interesting example of the dispassionate quality of the author's mind, and the clear and forceful exposition of his views: "Our knowledge of the pathology of idiopathic, uncomplicated chorea is very imperfect. Repeatedly capillary emboli have been found at the autopsy in the thalamus and the corpus striatum;

often they could not be demonstrated. The experiments of Money on guinea-pigs and dogs would indicate, very decidedly, that chorea can be caused by capillary emboli. Their mode of action, however, remains unexplained. The objections which Litten has raised against the emboli theory, that the demonstration of emboli processes in ordinary cases of chorea is not proved, and that in spite of the diversity of the localization of the foci of softening in the brain the clinical picture is always the same, cannot be regarded as convincing. The communication of Flechsig, who in the two inner segments of the lenticular nucleus, but nowhere else, found small bodies in the lymph sheaths of the vessels, some of which were larger, some smaller than blood-corpuscles, has since been neither confirmed nor overthrown. 'Their arrangement resembled that of glandular structures; they were strongly refractive, very firm, and almost like chalk, although they contained no lime. In alkalies they slowly swelled.' Though their chemical nature is unknown, they resemble in the main that material which von Recklinghausen has termed 'hyaline.' This observation has not as yet been interpreted, and Flechsig himself declines to give a decided opinion as to whether the bodies have been formed in the blood or lymph vessels, or whether they have to be regarded as products of degeneration from ganglionic cells and nerve fibres. Although we have to admit that lesions in the lenticular nucleus may cause choreic movements, we can as yet make little use of these bodies as an anatomical cause for the disease. . . . Although we are thus still unable to say anything definite about the nature of the disease, the assumption that we have before us an affection of the entire nervous system, in which, to be sure, the brain takes the most prominent part, seems the most probable. Whether certain portions of the brain are particularly qualified to produce choreic movements, whether, besides being produced by irritation of the cortical motor centres, they may also be brought about by lesions of the basal ganglia; further, whether this irritation can ever be attributed to infectious material, microbes, or the like; or whether it can ever be connected with fungous growths, such as Naunyn has found in the pia, and belonging to the species of the cadothrix or leptothrix—all these remain open questions, and we must also leave undecided whether or not the alteration of the blood depending upon the so-called rheumatic diathesis is sufficient for the development of chorea." Concerning hypnotism the author shows an open mental attitude. "We must recognize here indications and contra-indications. . . . Even the smallest operation—that of vaccination for example—has to be learned, so the art of hypnotizing has to be acquired, and one can expect to comprehend the subject and to have success with the practice of the treatment by suggestion only after careful and painstaking study. . . . We must still be very careful in accepting the accounts of the influence of hypnotism upon hystero-epilepsy, and the conditions produced thereby. . . . What, then, are the diseases in which we can, with good conscience and good hopes of success, venture to employ the treatment by suggestion? Inflammatory processes, new growths, infections, or, in a word, organic lesions, do not belong to this class. It is a different matter if we are dealing merely with certain symptoms of such maladies, for instance, insomnia, difficulty in breathing, or pains of the most varied kind, not excluding the lancinating pains of tabes. Here hypnotism should at least be given a trial. Yet the main field in which treatment by suggestion should be employed is not in the diseases here mentioned, but rather all those which we have designated as functional disorders of the nervous system. Here motor as well as sensory disturbances can be influenced, various neuralgias, including tic douloureux, writer's cramp, chorea, the tremor of paralysis agitans, and so forth."

At the end of every subject treated in this text-book a comprehensive list of the most important references is given, of great use for further investigation. It is a delightful book to study, and of the utmost value to the general practitioner.

A Text-book of the Physiological Chemistry of the Animal Body; including an Account of the Chemical Changes occurring in Disease. By Arthur Gamgee, M.D., F.R.S. Vol. II., the Physiology of Digestion. Pp. 528. London: Macmillan & Co. 1893.

This is the second volume of a work, the first volume of which appeared in 1880. The present work, however, like its predecessor, is a complete treatise by itself, and deals only with the chemistry of digestion. This subject is dealt with most exhaustively. Dr. Gamgee gives not only the chemistry, but the anatomy and physiology of the parts, and we can hardly imagine of a single item in the whole range of the digestive processes that is not touched upon. The composition, function, and methods of testing are all given in careful detail. The book is necessarily technical, and is one that will be of especial service to an advanced worker. But as a manual of reference its value, even to the practising physician, must be great.

A Manual of Physics. Being an Introduction to the Study of Physical Science, designed for the Use of University Students. By William Peddie, D.Sc., F.R.S.E. New York: G. P. Putnam's Sons. London: Baillière, Tindall & Cox.

This is a small volume that gives, as far as possible, a review of the elements of physics, keeping in mind the essential unity and interdependence of the various branches of the whole subject. There are many illustrations, mathematical calculations, and a careful consideration of scientific hypotheses, concerning which ordinary notions are somewhat hazy. There are interesting chapters on electrostatics, thermo-electricity, and electric currents. The "Manual" is convenient in size, well printed, and has the available index dear to the real student's heart. Possibly too much has been attempted for a work of the kind, the subject naturally falling into special branches that are each of great importance. Yet the main points of these are carefully given and the book is distinctly useful.

Diseases of the Rectum and Anus. Their Pathology, Diagnosis, and Treatment. By Charles B. Kelsey, A.M., M.D., New York; Professor of Diseases of the Rectum at New York Post graduate Medical School and Hospital, etc. Fourth Edition, revised and enlarged. New York: William Wood & Co. 1893.

A fourth edition speaks for itself. This one contains two chromo lithographic plates and one hundred and sixty-two illustrations. The teaching is practical, and the author's reputation as an authority is sure to secure for this, as for other editions of his work, a ready and gratifying sale.

A Primer of Psychology and Mental Disease. By C. B. Burr, M.D., Medical Superintendent of the Eastern Michigan Asylum, etc. 1894. George S. Davis, Detroit, Mich.

Divided into three parts, the first treating of psychology, the second describing and defining different forms of insanity, and the third devoted to the management of cases of insanity, this primer contains, in very simple paragraphs, much information of value to those in charge of the insane. It is characterized throughout by sound common-sense. There is in it all that an attendant need know concerning normal mental processes and the manifestations of the unsound mind. Directions for the daily and constant care of the insane; for the administration of food and medicine; for exercise, employment, and diversion; for correcting pernicious habits and for checking morbid impulses, are given with force and clearness. The "Primer" is designed for training-schools, for the attendant "who is the agent of the people and represents them." There is an admirable index, by which the material in the book is rendered perfectly available.

Methods of Pathological Histology. By C. Von Kahlden. Translated and edited by H. Morley Fletcher, M.A., M.D., with an Introduction by G. Sims Woodhead, M D. London and New York: Macmillan & Co. 1894.

This manual of methods was first issued as a supplement to Ziegler's "Allgemeine und specielle Pathologische Anatomie," later in a separate form, and is now introduced for the first time in an English dress. The busy student who wishes to utilize it with the least possible expenditure of time and trouble, has now free access to the valuable directions of Von Kahlden. In the form of footnotes the editor gives additions and modifications of great practical value, the results of his own experience, that bring the book well up to date. There are chapters on the microscope and apparatus requisite for histological work, examination of fresh tissues, methods of hardening, decalcification of tissues, methods of embedding, injection of tissues, preparing and mounting sections, staining processes, bacteria, moulds, fungi, animal parasites, and microscopical examinations for medico-legal purposes. This work on "Methods" is plain, practical, comprehensive, and complete. It recommends itself to everyone engaged in histological research.

Transactions of the Third Annual Meeting of the Association of Military Surgeons of the National Guard of the United States.

One of the most important papers in this report is that on Enterorrhaphy, giving the history, technique, and present status, by Colonel Nicholas Senn. It is freely illustrated. Other papers of interest will be found relating to gunshot wounds and other subjects connected with military surgery.

Æro-Therapeutics; or, The Treatment of Lung Diseases by Climate, being the Lumleian Lectures for 1893, delivered before the Royal College of Physicians, with an Address on the High Altitudes of Colorado. By Charles Theodore Williams, M.A., M.D. Oxon., F.R.C.P.; Senior Surgeon to the Hospital for Consumption and Diseases of the Chest, Brompton; Late President of the Royal Meteorological Society. London and New York: Macmillan & Co. 1894.

These lectures take up the factors and elements of climate, temperature and moisture, barometric pressure in its relation to health and disease; and the climates of Colorado.

In the first lecture Madeira, the Canary Islands, Teneriffe, and Egypt, are incidentally discussed as suitable resorts for the consumptive. In the second, the Riviera, Algiers, Southern California, the cold climates of Minnesota and Canada, sea voyages, etc. In the third, the therapeutic uses of compressed air are taken up, together with mountain-climbing and high-altitude sanitaria. The author here cites two hundred and forty-seven cases showing the effect of high altitudes. Anyone at all interested in the climate treatment of phthisis will find enough in these 185 octavo pages amply to repay him.

The Diseases of the Hair and Scalp. A Practical Treatise. By George Thomas Jackson, M.D., Professor of Dermatology, Woman's Medical College, New York Infirmary; Chief of Clinic and Instructor in Dermatology, College of Physicians and Surgeons; Consulting Dermatologist, Presbyterian Hospital; Visiting Dermatologist, Randall's Island Hospital, etc. New, Revised, and Enlarged Edition. New York: E. B. Treat. 1894.

If, in the years intervening since Dr. Jackson wrote his first preface, in 1887, he or anyone else had discovered how to make hair grow upon the average every-day bald head, and the secret were here recorded, this book would meet with such a sale as never book had before. Diseases of the scalp whose etiology is known are less common. Some advances have been made in the past seven years, and these are reflected in the new chapters upon folliculitis decalvans, leptothrix, and aplasia pilorum propria (which would seem to be rather a deformity than a disease), as well as in important additions to the articles upon the parasitic diseases, alopecias, seborrhœas, and others. The author still clings to the trophoneurotic theory of alopecia areata, and lays little stress upon the belief now held by many, that there are at least two forms of alopecia areata, one of which is parasitic and another neurotic. Still, on page 123, he says: "It is probably best to hold that there are some cases that are contagious and maybe parasitic."

The improvements over the first edition consist principally in a record of the observations of others, made in the various departments since 1887, bringing the matter more up to date. Some new wood-cuts have been added, but the illustrations could never lay great claim to beauty or finish.

The Medical Annual for 1894. Pp. 672. Bristol: John Wright & Co. New York: E. B. Treat. 1894.

This is the twelfth year of this useful publication. In general arrangement the plan is the same as in former years, except that the more important contributions to medical science during the year appear in the form of communications from those who originally made them. While only a comparatively small field can be covered in this way, the work will serve as a very good epitome of progress for the past year. The illustrations are excellent.

A Manual of Diseases of the Ear. By George P. Field, M.R.C.S., Aural Surgeon to St. Mark's Hospital; Lecturer on Aural Surgery and Dean of the Medical School. Fourth edition, pp. 382. Philadelphia: Lea Brothers & Co.

The first edition of this "Manual" came out in 1876, and was quickly followed by the second in 1879; while the present, or fourth, edition appeared late in 1893. Its special features are "its lucid exposition" of the etiological and pathological factors of aural disease; its brief and pointed demonstrations of the anatomy of the regions involved, and the novel and striking wood-cuts and chromo lithographs accompanying the text. The author is well known to the seekers of otological literature in this country, and it goes without saying that he is better known in the British domain. His experience has been large, and this "Manual" shows that its results are methodically classified. From this stand-point the work is an addition to the literature of the subject.

Its chief value may be said to be to the student and general practitioner. It is too short to enter fully into questions of debatable interest, or to include recent valuable contributions to clinical experience. The special student in aural therapeutics and surgery must look to text-books and journalistic literature of our own country for the most recent additions to these departments.

New Truths in Ophthalmology. By G. C. Savage, M.D., Professor of Ophthalmology in the Medical Departments of the University of Nashville and Vanderbilt University. Pp. 152. Nashville, Tenn. 1893.

This series of monographs on stray and abstruse subjects of ophthalmology has appeared from time to time in the *Ophthalmic Record*, a monthly publication of the same author. The names of the following chapters will give an idea of the scope and trend of the book: The Harmonious Symmetric Action of the Oblique Muscles in all Cases of Oblique Astigmatism; Insufficiencies of the Oblique Muscles, and How to Correct Them; Rhythmic Exercise, the Proper Method of Developing the Ocular Muscles; The Monoscopter; Heterophoria, and a Safe Line Drawn between Operative and Non-operative Cases; the Author's Method of Operating; Muscle Shortening *vs.* Muscle Advancement.

The monographs are of chief interest to physicists and oculists, and recall lively discussions in the American Ophthalmological Society and similar scientific bodies.

The author has added some personal notes on operations for the advancement of some of the ocular muscles, pterygium, artificial pupil, entropion, and narrowing of the fissure between the lids.

A Manual of Practical Obstetrics. By Edward P. Davis, A.M., M.D., Professor of Obstetrics and Diseases of Infancy, Philadelphia Polyclinic. Second edition. 8vo, pp. 351. Philadelphia: P. Blakiston, Son & Co. 1894.

We have so recently reviewed this excellent work that it is only necessary to reiterate our opinion of its practical merits, and call attention to the fact that in this edition symphyseotomy is fully considered, and some interesting points in connection with obstetric palpation are further elaborated.

Lectures on Surgery. By David W. Cheever, A.B., M.D. (Harv.), Professor of Surgery, Emeritus, Medical School of Harvard, etc. 12mo, pp. 591. Boston: Damrell & Upham. 1894.

The book contains didactic lectures, stenographically reported, which are part of a course delivered at the Medical School of Harvard. The author is so well known to the readers of surgical literature as an accomplished, original, and practical surgeon, that it is unnecessary to predicate that his teachings are in the highest degree valuable, and that his methods of practice are based on the large and varied experiences of a successful operator. As a lecturer for over a quarter of a century, it is fair to presume that he understands the needs of the student and general practitioner. In this respect the reader will be in no manner disappointed. The style is entertaining and lucid, the descriptions vivid and to the point, and the conclusions are convincingly logical. It is, in fact, a charming and practical talk, full of pith and suggestive expedients concerning the commoner surgical difficulties which fall in the way of the general practitioner. The subjects treated are: Anæsthetics; Delirium Tremens; Gunshot Wounds; Injuries of Blood-vessels; Fractures; Dislocations; Frostbites and Burns; Injuries of the Head; Injuries of the Spine; Foreign Substances in the Throat; Wounds of the Face, Throat, and Abdomen; Surgical Diseases of the Blood vessels; Aneurisms; Diseases of the Bones and Joints, and Surgical Diseases of the Nose, Lips, Mouth, Throat, Rectum, Bladder, Urethra, and Scrotum, including the Surgical treatment of Hernia.

The subjects are well selected, and treated as they are from a practical stand-point, cannot fail in being interesting and instructive. The reasons for treatment are so well founded on the broad principles of sound surgical procedure, that the reader is impressed, edified, and instructed. We are struck particularly with the large amount of suggestive comment and practical interpolation that occurs everywhere in the text—so much so that even the experienced reader is often forced to admit that he has never had this or that particular idea presented to him in that way before. The book is small, but no space is wasted. We only wish that the author's course had been longer.

The Anatomy and Surgical Treatment of Hernia. By H. O. Marcy, A.M., M.D., LL.D., of Boston. Published by D. Appleton & Co.

Dr. Marcy says, in offering this work to the profession, he has been actuated by the belief that there exists the necessity for the better instruction of the surgeon, as well as of the general practitioner, upon the anatomy and surgical treatment of hernia.

The book is profusely illustrated, giving excellent reproductions of many of the older writers, and descriptions of most of the more modern operations.

The author claims that the method of Bassini is quite similar to his own, that of reconstructing the inguinal. The description and plates given of Dr. Marcy's operation are confusing, certainly not so easily understood as the method of Bassini.

The new suture material, kangaroo tendon, is excellent for hernia operations, as it is stronger and takes longer to be absorbed than catgut.

Too little consideration has been given the mechanical treatment of hernia, to make the book of the greatest practical value to the general practitioner or surgeon, and we feel that in this day of practical work the author could have quoted less and yet not detracted from the usefulness of the book.

Transactions of the Southern Surgical and Gynecological Association. Vol. VI. Sixth Session. 8vo, pp. 392. Published by the Association. 1894.

This volume is uniform with the previous series, and contains the usual amount and variety of matter in general surgical and gynecological subjects. Abdominal and uterine surgery claim their share, and appendicitis is twice heard in two excellent papers. In fact, all the papers are of excellent quality and give a real value to the book as a whole, differing, perhaps, in this respect, from many other publications of the kind.

Lectures on Genito-urinary Diseases. By J. C. Ogilvie Well, M.D., C.M., F.R.S.E., Consulting Surgeon Aberdeen Royal Infirmary. 8vo, pp. 142. London: The Scientific Press, Limited.

This book contains lectures on "Urethral and Catheter Fever," "The Treatment of Retention of Urine," "Gleet and its Treatment," "Varicocele, Hydrocele, and the Treatment of Syphilis." Of these the lecture on the first subject is particularly interesting, embodying much information and many original observations. Of the others it can be said that their treatment is in accordance with that at present in vogue. The book contains an admirably executed chromo-lithographic plate illustrating the different forms of pyo-nephritis.

The Physician's Bedside Record, with Dietary. By Gideon C. Segur, M.D. Hartford: Plimpton Co. 1889.

The usual chart arrangement for bedside use, with a number of good recipes for preparing foods for the sick.

Transactions of the American Dermatological Association for 1893. Pp. 82. Two Colored Plates. Edited by the Secretary, George Thomas Jackson, M.D. New York. 1894.

Eight papers are printed at length with ensuing discussions. There are also minutes of general discussions on pityriasis rosea and pemphigus. Statistical tables, and a yearly bibliography of the writings of members, close the volume.

Cresilol as an Anatomical Preservative.—Dr. Ramon Timenez, of Madrid, read a paper with this title at the Rome Congress, of which the following were the conclusions: 1. Cresilol, being an injection with glycerine and alcoholic base, must necessarily be very penetrating, and therefore solves the problem of reaching the most remote tissues, removing the danger of partial putrefaction. 2. Being much less toxic than carbolic acid it exposes the dissector to no danger, and, as its caustic action is also less, it does not injure the instruments as much as does carbolic acid or corrosive sublimate. 3. It alters to a very slight degree the color of the tissues, a matter of great importance in museum specimens, and also does not coagulate the blood. 4. It preserves a cadaver perfectly in the open air for at least six months, and, when it is enclosed in a casket for a year, the natural appearance and color are for the most part retained. 5. A regularity in the subsequent phenomena of mortification is observed which is obtained after the use of none of the other preservative methods. 6. In preparations in which cresilol has been employed the flexibility and normal volume may be restored by steaming with warm vapor, and thus they may be restored to a condition very similar to that of fresh specimens.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

LONDON UNIVERSITY — STORMY MEETING — PERSISTENT THYREOGLOSSAL DUCT — VAGINAL AND PAROVARIAN CYSTS—MEDICAL AFFAIRS IN LITIGATION—UNFOUNDED CHARGES AGAINST PHYSICIANS—DECISION ON THE LANOLIN PATENT—DEATH OF DRS. HASSALL AND BRYAN—FOREST GATE SCHOOL—CARCINOMA OF THE BLADDER—SECTIONS OF THIERSCH GRAFTS—SARCOMA OF RECTUM—ECTOPIA VESICÆ—ABERRANT RENAL VESSELS—UNDESCENDED TESTES—THIERSCH-GOULD'S OPERATION—SUPRAPUBIC CYSTOSCOPE—FACIAL PARALYSIS — PELVIC ENCHONDROMA—HERNIA COMPLICATED WITH VOLVULUS.

London, April 14, 1894.

Undoubtedly the event of the week has been the extraordinary meeting of convocation of the London University held on Tuesday to consider the proposals of the Gresham Commission. Although the present university is so much identified with medicine much of the agitation for another foundation arises from its absurd regulations making the attainment of medical degrees difficult. The Senate has not merely raised the standard of examination unduly—which may be of use—but interposed regulations which prevent hundreds from presenting themselves. I do not say this at random, for an experience of more than a quarter of a century as a teacher in London has given me sufficient information as to these points. But to the meeting. Well may it be said to have been rather excited, not to say stormy. Two opposing opinions prevail in convocation, and this meeting was largely attended by both parties. The prevalent view would most likely be in favor of enlarging the constitution of the present university so as to secure all the academic influence of the metropolis. But there seems unreasonable terror among the graduates lest the value of their degrees should be depreciated. On the one hand, it is obvious that the university has up to now been a mere examining body governed by the Senate, while the graduates (of which convocation consists) have no power except to decline accepting a new charter. The Senate and convocation have not worked harmoniously, but now that there is some prospect of legislation coercing both the common danger seems to have shown the two bodies the necessity of consideration. Accordingly after various resolutions and amendments had been proposed and discussed with a warmth scarcely suggestive of academical calm, it was agreed to invite the Senate to meet convocation in a joint committee to consider the Gresham scheme. The next day a meeting of a committee of the Senate appointed to consider this scheme took place and decided to express no opinion, but to recommened the appointment of delegates to the proposed joint committee of Senate and convocation. This plan will probably be adopted and some form of action agreed upon by the two bodies.

At the Medico Chirurgical Society, on April 10th, Mr. Herbert Durham achieved a considerable success with a paper on Persistent Thyreoglossal Duct. Three cases were described, with special reference to the histological character of the specimens removed. It was suggested that many cases which have been regarded as bronchial fistulæ were of the same nature, and interesting remarks on median cervical cysts and fistula were offered. The author had the good fortune to be complimented by both Mr. Bland Sutton and Mr. Raymond Johnson, both of whom are entitled to be considered authorities on the matter. Some doubt was expressed as to Mr. Marshall's well-known case, and Mr. Herbert Durham thought it might possibly be a persistent sinus præcervicalis. A difference of opinion, curiously enough, was also expressed as to whether the thyreoglossal duct could be seen by the naked eye or required a microscope to detect it by finding its characteristic epithelium.

At the last meeting of the Obstetrical Society Dr. Amand Routh brought forward three cases of associated vaginal and parovarian cysts and suggested distension of Gartner's duct as the explanation. This duct may sometimes be traced in the adult from the parovarium to the vertibulum valvæ, beneath and to one side of the urethral orifice. Dr. Routh thinks there is reason to believe that Skene's ducts are not identical with the anterior termination of Gartner's, and that if the latter be patent it may become distended in any part of its course and so form a parovarian or a vaginal cyst. In his cases both forms were present. He advised opening the vaginal portion and allowing the other to contract and close up. Some interesting remarks were made by several speakers, one of whom thought vaginal cysts were not so rare as commonly supposed, for he had met with six cases in the last twelve months. Messrs. B. Sutton and A. Doran and the president (Dr. Herman) agreed in the main with Dr. Routh and expressed appreciation of his exact observations on this difficult subject.

The law courts have again furnished material for reflection by the profession. A respected medical man has been made a co-respondent in the Divorce Court, and athough the case was dismissed and the jury expressed deep sympathy with the doctor in the unfound charge, and the judge said he was glad of this expression, in which he fully concurred, we may well ask whether some redress should not be obtainable in such cases. In our professional work we are peculiarly exposed to attempts at blackmail, and if lawyers are right when they say there is a remedy against every wrong, such abominable charges ought to entail full responsibility. The punishment of perjury for those who make them without any foundation would be appropriate.

An action for libel arising out of remarks by one doctor on another commencing practice where he had been an assistant and had signed a bond not to do so has also been decided. The point urged about the bond was that the death of the master was believed by the assistant to release him from the obligation. Drawers of bonds will probably take care to be explicit on this point in future.

Another case heard lately was a charge against a surgeon by a nurse who had been operated on. She declared the surgeon had promised to carry the operation to a certain extent only, but had gone beyond. The jury justified the operator, and the judge told the nurse, now she had ventilated her grievance, he trusted she would think better of the surgeon. Here is another case showing what annoyance and loss may occur through the unfounded suspicion of a patient—and a gratuitous one to boot. Such cases have occurred too often, and the lawyers ought to tell us the remedy for the wrongs.

The Court of Appeal on Tuesday pronounced the Lanolin patent to be valid. Reliance on the objector's part was largely placed on the remarks of *Dioscorides anent Œsipus*. It was, I fancy, the patentees who first of late years circulated the quotation from the Greek author which was employed to assail their patent.

Dr. Arthur Hill Hassall died on Tuesday last at a good old age, having been born in 1817. He was of somewhat delicate constitution, and in 1866 was attacked by hæmoptysis. He thereupon went to the Undercliffe and established the National Hospital for Consumption on the separate principle Later he retired to San Remo. Last year he published his "Narrative of a Busy Life." He was at one time regarded chiefly as an authority on adulteration of foods, as he was employed by *The Lancet* on its well-known sanitary commission. Indeed, he assumed all the credit of that important work, although, as is well known, other men did all the most difficult work.

I may also report the death of Dr. J. M. Bryan, of Northampton, where he began practice in 1835. He died lately, at the age of eighty-four, universally respected.

London, April 21, 1894.

The allegations made some time since against the Forest Gate School have been to a considerable extent corroborated, and the local Government Board has given a decision which by no means exonerates, but rather condemns, the management. As the school accommodates seven hundred children it is an important case. The district comprises two unions, so that the guardians can only act indirectly, but they will probably very soon take means to let the public know what authority they have exercised.

In Parliament there has not been much of medical interest lately, but the societies have been particularly busy, as is often the case toward the end of the session.

At the Pathological Society, on the 17th, Mr. Charters Symonds reported a case of squamous-celled carcinoma of the bladder, the greater part of which was removed by suprapubic operation. This gave the patient much relief, but suppuration insued in the affected inguinal glands while cellulitis and death followed from pyæmia. Secondary growths were found at the autopsy in the liver and lungs.

Dr. P. Abraham and Mr. L. Bidwell showed microscopic sections of the skin after Thiersch's grafts. The graft was implanted in December, 1892, after excision of lupus, and about two-thirds of it "took" and the rest of the surface healed by granulation. Some of the new skin, including a part of the graft, was removed nine months later on account of recurrence. In the position of the graft a definite cutis was found with well formed papillæ, but neither hairs nor glands; while the subjacent tissue seemed richer in cells than it is normally. Sensibility had become pretty normal in the graft, as has been observed in other cases.

A specimen of melanotic sarcoma of the rectum was then shown. This is one of the commoner primary seats of this disease, and it was remarked that gray horses are very liable to it.

Mr. Shattock exhibited some specimens of ectopia vesicæ, and pointed out that the muscular wall of the bladder was firmly attached to the separated surfaces of the pubic bones, and this he had found to be the case in all his dissections corresponding with the attachment of the normal pubo-vesical muscles. But it was even more obvious, and although the bladder being in such cases not a hollow organ and therefore not having expulsive power, the muscular tissue was hypertrophied instead of the reverse. This he supposed to result from resistance to hernial protrusion, the vesicle wall becoming in fact a part of the abdominal parietes. Another preparation showed the effect of ectopia on the spongy and cavernous bodies.

Aberrant renal vessels, supernumerary adrenal, fat necrosis and pulmonary gangrene formed the remainder of the pathological entertainment.

At the Medical Society Mr. Keetley showed two lads on whom he had operated for undescended testes. He brings down the organ, and sutures it to a skin wound in the scrotum and neighboring part of the thigh, the sutures piercing the tunica vaginalis. In one case the testes was left thus fixed for five months and then separated.

Mr. H. Fenwick showed a man, aged thirty-eight, from whom he had removed the testes, scrotum, and penis, down to the perinæum, for epithelioma by the Thiersch-Gould method. The wound healed at once, and the man is in good health at present. He also showed papillomata from the urethra of a man who had had an obstinate gleet. He further showed an instrument combining a sound and cannula with a straight cystoscope, for the purpose of exploring or draining the bladder through a suprapubic trocar puncture in cases in which urethral cystoscopy could not be carried out in consequence of enlarged prostate.

A case of paralysis of the sterno mastoid, trapezius, and right side of the face in a married woman, aged nineteen, was brought forward by Dr. Lewis Jones. The accessory to the vagus and the hypoglossal had escaped—a rare event. A case of osteitis deformans dating from an injury to the thigh and one of nævus cured by electrolysis complete the exhibits.

At the Clinical Society Mr. G. B. Turner read an account of a case of pelvic enchondroma which had been shown at the Society in March, 1890, when it was generally thought unadvisable to attempt to remove it. It, however, steadily grew, and in 1892 pressed on the urethra and perinæum so as to interfere with micturition and defecation. It was then successfully removed in two halves and weighed above seven pounds.

Some conversation took place on continuance of obstruction of the bowels after operation for hernia, originating in notes of a case read by Mr. R. W. Parker. In his case the intestine at an herniotomy being found in a state of gangrene he made artificial anus, but no fæces escaped, and after sixteen hours laparotomy was performed, as the abdomen was more distended. Remarks were made as to the slight amount of twist that sufficed to produce obstruction and the propriety of surgical relief. The advantage of early operation was also strongly insisted on.

Three other subjects were crowded into this evening's meeting, but cannot be crowded into this letter.

THE STATUS OF MEDICAL LEGISLATION IN UTAH.

To the Editor of the Medical Record.

Sir: Since the appearance of the report of the Illinois State Board of Health for 1893, and the editorial review of the Medical Record of the same, the legal requirements for the practice of medicine in the Territory of Utah have undergone a change at the hands of the recent legislature. The amendments to the old law, which was a good one although far from satisfactory, seem to be for the better, as they meet admirably the peculiar local conditions.

To review these changes and show the progress made in this department of medical legislation, is the object of this communication, which will be of interest to medical men in general, that in the far-away Utah the standard requisite for the practice of medicine is on a par with that in those States in which are to be found our greatest medical centres. No diploma confers the right to practise medicine, but an absolutely independent examination, conducted wholly or partially in writing.

In this connection it is encouraging to note the strong conviction among the people in its favor, and the great willingness on the part of the legislators to elevate the standard of medical requirements, and bring within the bounds of the Territory first-class men.

The Board of Medical Examiners consists of seven members appointed by the Governor and confirmed by the Legislative Council, who hold office for two years, or until their successors are appointed and qualified. They elect their own president, secretary, and treasurer, and attest their official acts under their own seal. Of the Board, four members are of the regular school of medicine, two of the homœopathic, and one of the eclectic schools, all of whom are working in perfect harmony to the end that the communities may have a reasonable amount of protection against incompetency and quackery.

The Board issues two forms of certificates, one for those who have been examined and favorably passed upon, and the other for non-graduates, as described later. Still another form of certificate is issued to those desiring to practise obstetrics after passing a satisfactory examination. These certificates must be recorded within three months after the date of issue, in the office of the recorder of the county in which the holder resides, and until such certificates are recorded the holder cannot exercise any of their privileges. It is further stated that the county recorder shall keep in a suitable book a complete list of the certificates recorded by him, with the date of the issue of

the certificate; and if the certificate be based upon a degree and examination, he shall record the medical college conferring the degree and the date of the same. This register shall be kept open to the inspection of the public, so that at any time one can find the basis upon which a practitioner has gained his license.

The Board has the power to refuse to issue a certificate, and to revoke a certificate once issued, to persons guilty of immoral or dishonorable conduct, the nature of which must be stated in writing; and in all cases of refusal or revocation the applicant may appeal to the Chief Justice of the Territory, who may affirm or overrule the decision of the Board.

As to who shall be licensed, the bill states that graduates of respectable medical colleges who were engaged in actual practice in this Territory prior to March 10, 1892, shall be licensed to practise medicine upon presentation of their diploma, and giving satisfactory evidence of the identity of the applicant. The term, respectable "medical colleges," in this bill, includes colleges in good standing in the States where they exist, or recognized by the examining boards of the States wherein they exist.

As to non-graduates of medical colleges, those who have practised five years continuously in this Territory prior to the passage of this act can, by producing to the Board of Medical Examiners a proper application, accompanied by a petition signed by twenty-five legal voters living in the city or precinct where the applicant resides, and on the payment of a fee, receive a license to practise medicine in the city, county, or precinct where the signers of the applicant's petition reside. But the non graduate so receiving his license to practise medicine, shall not in any way advertise as a doctor, physician, or surgeon, by either sign or card, but may, if he advertise at all, do so as a licensed non-graduate practitioner of medicine.

Thus it may be seen that the bill is much more for the future than for the present, since the non-graduate practitioner of medicine in this Territory will in the course of a limited time be a thing of the past.

The clause as relative to the non-graduate was introduced in deference to certain isolated settlements incapable of supporting an educated physician, and whose only medical assistance is the non-graduate, or perhaps some woman in the practice of obstetrics.

The preceding, of course, affected only those who were actually engaged in practice prior to the passage of the bill. From the approval of the bill, March 8, 1894, all alike must pass an independent examination. To the graduate of a medical college his diploma simply admits him to examination, while the non-graduate, to be admitted to the same examination, must accompany his proper application and fee by a petition signed by twenty-five legal voters living in the city, county, or precinct where the applicant desires to practise. If he pass a satisfactory examination, and on the same footing as the graduate, he shall receive a certificate, but cannot enjoy the same privileges as the graduate in using a sign or card showing that he is a physician or surgeon, but can only advertise as a licensed non-graduate practitioner of medicine.

The question has been raised, Can the person receiving a license to practise obstetrics practise medicine as a non-graduate? This has already been decided in the negative. The intent of the law is that a license to practise obstetrics does not enable the holder of such license to come under the clause for the non graduate. One, to practise under the non-graduate clause, must be known to have been actually engaged in not only the practice of obstetrics, but the general practice of medicine as well, for a period of five years prior to the passage of the bill. Hence the license to practise obstetrics applies only to obstetrics.

The examinations are conducted wholly or partially in writing, upon the different branches of medicine and surgery. The examinations are for all alike, except in materia medica, practise of medicine, and therapeutics, where the examination is in harmony with the teachings of the school selected by the candidate. The percentage necessary to pass is seventy-five, and the certificate must be signed by each member of the Board. Up to date there have been one hundred and eighty-nine licenses issued to graduates of the different medical schools, and twenty-five to non-graduates, five of whom had passed a rigid examination under the old law.

There are known to be some fifty throughout the Territory who have not complied with the law, all of whom will be reached in the due course of time, and suffer the penalties provided for.

FRANKLIN A. MEACHAM, M.D.

SALT LAKE CITY, UTAH, April 14, 1894.

Medical Items.

Contagious Diseases — Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 5, 1894.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	6	1
Scarlet fever	164	19
Cerebro-spinal meningitis	5	12
Measles	263	16
Diphtheria	210	50
Small-pox	19	4
Cholera	0	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0

A Hospital for Lepers, with a laboratory for the study of leprosy, has been established at Rio de Janeiro. Dr. Wolf Havelburg, a German physician, who for the last twelve years has practised in Brazil, has been appointed director.

Thyroid Extract is getting to be a cure-all. Mr. J. D. Menzies finds it useful in eczema and as an external application in ulcers.

BOOKS RECEIVED.

THE TRUTH ABOUT HOMŒOPATHY. By Dr. William H. Holcombe. 12mo, 43 pages. Price, 25 cents. Boericke & Tafel, Philadelphia, Pa.

A MODERN WIZARD. By Rodriguez Ottolengui. 12mo, 434 pages. Price, paper, 50 cents; cloth, $1.00. G. P. Putnam's Sons, New York.

ESSENTIALS OF PRACTICE OF PHARMACY. Second edition. By Lucius E. Sayer, Ph.G. 12mo, 200 pages. Price, $1.00. W. B. Saunders, Philadelphia, Pa.

AN AID TO MATERIA MEDICA. By Robert H. M. Dawbarn, M.D. Revised and enlarged by Woolsey Hopkins, M.D. 12mo, 133 pages. G. P. Putnam's Sons, New York.

NURSING IN PELVIC SURGERY. By Lewis S. McMurtry, A.M., M.D. 12mo, 92 pages. Illustrated. John P. Morton & Co., Louisville, Ky.

THE HUMAN ELEMENT IN SEX. By Dr. E. Blackwell. 12mo, 76 pages. Price, 2s. 6d. J. & A. Churchill, London, England.

HYDATID DISEASE, Vol. II. By the late John Davies Thomas, M.D. 8vo, 166 pages. Price, 5s. Tindall & Cox, 20 King William Street, Strand, London, W.C., England.

DISEASES OF THE THROAT. By James Walker Downie, M.B. 8vo, 268 pages. Illustrated. Macmillan & Co., New York.

PAIN IN ITS NEURO-PATHOLOGICAL, DIAGNOSTIC, MEDICO-LEGAL, AND NEURO-THERAPEUTIC RELATIONS. By J. Leonard Corning, A.M., M.D. 8vo, 328 pages. Price, $1.75. J. B. Lippincott Company, Philadelphia, Pa.

THE ETIOLOGY OF OSSEOUS DEFORMITIES OF THE HEAD, FACE, JAWS, AND TEETH. By Eugene S. Talbot, M.D., D.D.S. Third Edition. 8vo, 529 pages. Illustrated. The W. T. Keener Co., Chicago, Ill.

THE PRACTICE OF MEDICINE. By Edwin M. Hale, M.D. 8vo, 1033 pages. Gross & Delbridge, Chicago, Ill.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 45, No. 20.
Whole No. 1228.

New York, May 19, 1894.

$5.00 Per Annum.
Single Copies, 10c.

Original Lectures.

NON NOCERE.[1]

By A. JACOBI, M.D.,

NEW YORK

I understood that the audience in the General Sessions, consisting of all classes both of medical men and the cultured lay public, was to be entertained with the discussion of subjects, if possible, intelligible to all. Happily, of these there are a great many; for, indeed, the most humane of all the arts is, at the same time, the most human. It is mainly, however, the great specialists in our science that always find topics which, because of their intimate connections with moral, political, and social questions, are interesting to every man and woman of education and culture.

I, Mr. President, am perhaps not so fortunately situated; though I am interested in all of them, I cannot boast of great discoveries in chemistry, bacteriology, or such branches of medical science as are pre-eminently, and sometimes too exclusively, called exact by their adepts and experts. My home has not so much been in laboratories, as on the teacher's platform, and in the sick chamber, the hospital, and the councils of my profession. My life-work has been directed by something like the dictum of Paracelsus, that "true art is not so much revealed by knowing as by acting." Thus I have the honor of addressing you from the stand-point of the practitioner, firmly believing that in medicine, as represented in this Congress, every special research contributed to the general stock of knowledge does not become humanitarian, sacred, ay, medical, before it can be made subservient either to the prevention or the cure of disease. That principle was uppermost in the minds of the framers of these international medical congresses. From that point of view they ordained that special researches should be communicated in their sections, and that all the latter should be held organically together, like the branches of a tree, or the organs of a system, by the binding power of general meetings. If it were not for that, international special societies would fitly take the place of international medical congresses, and we should have twenty-one sciences in place of the one undivided and indivisible medicine.

It is for that reason that our main anxiety must be, under the heading of "Non nocere," that "nil detrimenti respublica capiat." The congresses must remain what they were intended to be, an assembly for scientific, though also for social, purposes, of delegates of great institutions and corporations, of the leaders in general medicine and in its specialties, and of medical men all over the globe whose interests are devoted to science, in their capacity either as teachers and contributors, or as faithful practitioners. All of you, however, who are leaders in the profession and its councils, may you never forget that, as soon as the scientific concerns cease to prevail over the social, as soon as thousands flock together for the enjoyment of entertainments, excursions, and festivities only, or principally, just as soon will the soul escape out of this body medical, and its constituents will be severed. I trust that in all meetings wisdom and moderation will combine to the end contemplated by the founders of our congresses. Do not forget that these congresses are among the intellectual powers of the earth, and that we are responsible to the world for maintaining them in their integrity. From time to time we shall then have the elevating spectacle of thousands of medical men from all parts of the world, and speaking a dozen different languages, convene at the same call and for the same purpose, moved by the same instincts and interests, the great and the lowly, the old and the young, brethren on the same moral and scientific platform, if not of equality, still of fraternity and solidarity.

Still, I set out to speak from the stand-point of the practitioner. The critical physician of the last decade or two has seen wondrous changes. His numbers may have increased somewhat, absolutely, but they have decreased, relatively. In large cities the thorough, all-around, general practitioner is becoming scarce. Now and then he is expected to be but the city directory, or the agent for the specialists in brain and nerves, in kidneys and appurtenances, in uterus and appendages, in skin and corns, in heart and lungs, in stomach, throat, nose, eyes, ears, and what not. It will be very difficult to stem the current, for, indeed, the evolution of specialties, both in science and practice, is spontaneous and legitimate. But the waters left their bed long ago. The tendency of the time is mercenary, the medical man is still a man and but human, and many a one is very, very young, and expects to make a great reputation and an easy living out of very little mental capital, and out of a little manual dexterity, to the neglect of general medicine. "Ein Theilchen hat er in der Hand, fehlt leider nur das geistige Band." He forgets, or never knew, that the great specialistic work is performed by men possessing extensive general knowledge and previous practical training. He does not know or feel that with limiting his knowledge, and running after riches and reputation, he has already encroached upon his morals, and lowered the dignity of himself and of the profession. A young medical man who runs off into a specialty, honestly believing that a human organ can be studied and treated separately, like the wheel of a watch, has not intellect enough to be a physician, and ought to have been discouraged from entering the ranks. He who undertakes it from mercenary motives ought to be frowned down, and told that his tendencies and faculties belong to the places where they sell their wares and souls for lucre, and call it business, not a sacred vocation. You know it is but too true that, while science has taken wings and basked in the brilliant sunshine of rapidly increasing knowledge, the status and the tone of the profession have reason to despond over its restraining clogs. You, who are teachers and leaders in medicine, cannot alter the universal signature of the century; but what you can do is by your teaching to prove the absolute and indestructible dependence upon each other of each organ and the organism, and the logical impossibility of intelligently and scientifically treating a special organ without a closer acquaintance with the body than is obtainable by a four-years' study of medicine and a three-months' special instruction by a teacher who is no better than his pupil. Many a young man sins because he knows no better, and was not told. If the teachers of medicine, if the great professors of specialties in the schools of learning, neglect the duty of teaching from their platforms the morals as well as the science and art of medicine, it is they from whom comes the harm. Moreover, the med-

[1] Address delivered before the Eleventh International Congress at Rome, Italy, in its General Session of April 4, 1894.

ical practitioners, by favoring, as they in their modesty are apt to do, in every possible case, the specialist, and the very existence of the specialists in large numbers and beyond need, have tempted the public into thinking less of medicine and medical men, and more of mere handicraft. That is why the physician has gradually lost his dignified position in large communities. It is in the country, where he still is, in his own person, the sole representative both of his science and his calling, that he is still esteemed at his full value.

This, however, is not the only way in which the medical men of every country have injured themselves and their calling. As they have overloaded their ship with the maintenance of uncalled-for numbers of self made specialists, so they have submitted to the invasion of their lines by the manufacturer of drugs and artificial foods. If the countries be overrun with proprietary and quack medicines and foods, it is to a great extent the fault of the doctors, even those highest in rank. They will accept and praise, and certify to, the merchandises of the venders—I am afraid some of you carry them in your own pockets this moment—open and strengthen the market for them, and thus educate their public into attending and drugging themselves. If there is to be a pharmaceutical gospel, it ought to be for all of us the national Pharmacopœias.

Still another harm comes to the profession from its own members. Through anxiety to do good, and through prematurely jumping at conclusions from a newly discovered fact, we are liable to promise too much, and inadvertently run after fads. *Quod cupimus et credimus libenter.* We promise to extinguish tuberculosis and to cure cholera. The phantasm disappears, and what remains is sneer and ridicule. We pretend to exterminate senility, and those who have to dig graves laugh at us for our pains.

The origin and source of all such harmful mistakes lie in the conscious or unconscious tendency to help and to heal, and in the fact that the practical perfectibility of all medical sciences depends on the good they can do. The greediness with which the modern products of organic chemistry are sought for in the markets of the world by anxious physicians, the great many errors committed in administering injurious doses which—I will only refer to the modern antipyretics with their after affects, debility, collapse, lividity, cyanosis, depression, subnormal temperature, urticaria, salivation, hyperidrosis, etc. — find their explanation in the numberless cases of aches and woes requiring mitigation. But they also lead to the reproach, which is as old as medical practice, that the doctor is killing his patient, not only as Dryden says of the apothecaries in behalf of the warring doctors of London :

> " From random files a recipe they take
> And many deaths with *one* prescription make,"

but with the large number of his medicines and mediæval theriacs.

We all agree not only that over-dosing is wrong and harmful, but also that it is being practised. To give mercury to salivation ; salines until the rest of soluble albumin and salts is gone ; digitalis until heart and pulse are below danger line ; belladonna until the throat is as hard as a gridiron ; quinine until you get deaf ; iron until gastric catarrh and constipation destroy what is left of health ; to burn noses for everything in the line of ailment that may befall the flesh ; to cut the cervix uteri for sterility and endometritis ; to sew up the cervix uteri for sterility and endometritis ; to cauterize and otherwise handle the problematic ulcerations of the uterus for sterility and endometritis ; to introduce glycerol tampons for sterility and endometritis ; are abominations to the minds of well-meaning physicians. Still they are being done, and will continue to be done until knowledge increases, judgment improves, the mercenary spirit disappears from our ranks, and perhaps the public refuses to submit. *Non noceatis.*

But if over-dosing and over-operating be wrong, and sometimes criminal, is it less wrong to under-dose and under-operate ? Indeed that is done, I am sorry to say, to at least as dangerous degree. If you were to stand by a child's bedside strangled by a diphtheritic laryngitis, without resorting to intubation or tracheotomy, would you be made less culpable by relying on some theory of your own ?

It is not enough to avoid legal responsibility, the civil law is mostly on your side—our law-book is the history of our art and the dictates of our heart. Both say that the so-called expectant treatment has done, and is daily doing, more harm than over-dosing. Our sins are those of omission as well as of commission. A whooping-cough leading to broncho-pneumonia, pulmonary hemorrhage, or convulsion in the fifth or sixth week, while it might have been mitigated or checked before, is an arraignment of the doctor. The self-limited eruptive fevers, measles, scarlatina, typhoid, each of them liable to lead to myocardial changes, heart failure, and death, or to mental disturbance, which were not actively treated in time by absolute rest, reduction of heat, and moderate or vigorous early stimulation ; the pneumonia which, when delirium, cyanosis, and dilatation of the right heart became urgent dangers, was not relieved by a venesection ; the protracted and hesitating convalescence, with its anæmia and flagging pulse, which was not supported by heart tonics, not " pro re nata," for res was " nata " already, before it was too late forever, are, and must be for life, loads on the practitioner's conscience. Sophocles says (Aias 581) :

> οὐ πρὸς ἰατροῦ σοφοῦ
> θρηνεῖν ἐπῳδὰς πρὸς τομῶντι πήματι.

" No bright physician mourns plaintively over a case where he ought at once to use the knife." Decision must not be difficult, in spite of Hippocrates (ἡ κρίσις χαλεπή), for ὁ καιρὸς ὀξύς, the favorable time is fleeting. Nor hover over official " maximum doses " in cases where one of the scales contains your anxiety for your own personal safety and lawful righteousness, and the life of a human being is held in the other. Indeed the maximum doses of the Pharmacopœias often appear to be established for the still less than average person who fears more for himself than for his patient.

Parallel to over- and under-dosing, run over- and under-feeding. The latter requires no discussion here, the former I shall refer to only in connection with small infants, for the subject could not be exhausted in ten lectures. They require much food because they have not only to reproduce but to grow. When they take beyond need, one of two things must occur ; for no surplus can pass the alimentary tract any length of time without evil results. Either a surplus material is gradually accumulated in the organs and will lead to disease, or no complete digestion takes place, and then all forms of gastritis, enteritis, or auto infection will develop. I shall only dwell upon two articles which have taken an improper hold on the imagination of medical men, and have almost been raised into subjects of superstitious veneration. The use of milk-sugar in place of cane-sugar in children's food, to any extent beyond what there is in cow's milk, or its exclusive employment, is a source of acid gastric catarrh which afterward requires medicinal correction ; it is transformed into lactic acid beyond need, and proves a detriment to the full conviction of all those who will give the subject proper attention. Thoughtful experience is as valuable an objective addition to our knowledge as a mere chemical or physiological theory.

Next in order is sterilized cow's milk, on which hundreds of thousands of babies are now being fed to the exclusion of everything else. Nobody would teach nowadays the feeding on unchanged or unmixed cow's milk to babies as a proper course to take—as a substitute for mother's milk. But sterilized milk has been looked up to as an object of faith, and treated as a pope among foods, infallible. To feed babies exclusively on sterilized

milk has become the rage since it was recommended by gentlemen of the highest possible standing in science, but, as far as I know, little conversant with the art of treating well and sick infants. I speak so bluntly because I love babies, one and all. Sterilized milk—pasteurized is inferior to it—is superior to unchanged cow's milk, but it is cow's milk still, and not human. Of seven cases, observed this winter, of infant scurvy—a nutritive disorder as far as we can make out—there were three that had been fed, two *exclusively*, one for several months, on sterilized cow's milk.

Mr. President, from the consideration of dangers incurred by the profession through its own fault, I gradually glided into the discussion of injuries inflicted upon the well or sick. That was my main object, and I shall now continue to do so. But you will bear with me when I say just here that what I can bring must be examples only. No book could ever exhaust the subject. These examples will be taken from infant life exclusively. What I mean to discuss before you, will be the three following subjects:

1. A temporary arrest of development, under the heading of *congenital constipation*, and its injurious treatment.

2. The harm done by *certain modes of local treatment in diphtheria*, and on sins of omission in its management.

3. The uselessness and *harmfulness of operative interference with idiocy and with microcephalus*.

These few I selected for your consideration, premising at once that, after having claimed that science finds its highest glory, ay, its apotheosis, in serving mankind, so my address shall try to convey some useful lessons.

Part of the dangers I propose to discuss are congenital, and either of fœtal origin or acquired during birth.

The path of the newly-born is replete with dangers. Bright sunlight beams over ocean and shore after a perilous hurricane, and may meet either a happy landscape or wrecks of ship and man. So the upheaval in a woman's life, with its wonders and terrors, may terminate either in unequivocal felicity or in continued danger. Such a one is the asphyxia of the newly-born, either brief or long; so much the graver the longer; that which occurs after head presentation, or dates from intra uterine inspiration, or depends on protracted pelvic pressure, or is complicated with injury done by forceps or with a spontaneous or traumatic internal kephalhæmatoma, is the worst in its results. Langdon Down elicited the history of forceps application in three per cent. of his idiots; Mitchell details the cases of 494 idiots, 57 of whom had a history of birth after a labor of more than thirty-six hours, 22 that of forceps, 29 of asphyxia. In a large number of cases, four or six every year, of idiots presented at the policlinic of the College of Physicians and Surgeons in New York and elsewhere, after having exhausted every other source of idiocy or mental hebetude, often complicated with peripherous physical symptoms, I am forced back to the probable diagnosis of asphyxia, which then is corroborated by the history of the case. Thus it is that the responsibility of the obstetrician is a very grave one. The future mental welfare of a newly-born may depend on a few seconds more or less of the asphyctic condition. He must allow nothing to interfere between him and the asphyctic baby; not even I should say, a maternal hemorrhage. But now, while he is trying to relieve suspended animation, let him do no harm. There are good methods of resuscitation, some of them very good, provided the tongue is kept well forward. What I am anxious about is to warn against what I have often seen resorted to, the forcible inflation of the lungs through a catheter introduced into the larynx. Though this lies high and appears very accessible, the operation is not always quickly done, time is lost, and the attempt at regaining it has resulted in interstitial emphysema and tearing of lung tissue, to my own knowledge. Air in the pericardium and pneumothorax have been reported. What I am still more afraid of than these accidents is the abuse of the electrical current. Babies will be saved by it, babies will die of it. The interrupted current, to produce satisfactory inspiration, must act a mere second only. While one electrode remains stationary the other must be applied, for a single instant only, as many times a minute as you mean to have respirations. To leave the current at work for a longer time means over-stimulation and sudden death in the asphyctic newly-born, as it does, in later life, in the (fortunately rare) cases of diphtheritic paralysis of the respiratory muscles.

Omitting, for the time is short, daily dangers produced by, and leading to, frequent grave mistakes—among them I think of septic infection through maternal secretions; through aspiration of decomposed liquor amnii; through the umbilical stump and fungi; through abrasions of the skin by forceps; by the hands of the obstetrician or the nurse; by hot bathing; by bursting pemphigus; through the eroded or gangrenous mucous membrane of the mouth and alveolar processes, produced by violent procedures of washing; through external wounds such as circumcision; through dressings, sponges, and scissors—omitting also to speak of the immediate dangers of the narrowness of the nasal channels, depending either on congenital contraction or on early catarrh with all its varied consequences—I now turn, Mr. President, to a subject in which I always was greatly interested for its practical importance, and beg of you first to listen to a tale.

A generation ago I had under my care a newly-born, who began to vomit the day after birth, and discharged no meconium. There was an anus and a rectum, which were freely and often injected during the course of several days, with no effect. The vomiting continued, tympanites set in, meconium was brought up, the abdominal veins became dilated, there was fever. Littré's operation was performed, the colon found and incised, and the baby died of peritonitis some days after. The autopsy revealed the following condition:

Below the point of incision lay the colon, turned three times upon itself; three flexures covered each other in such a manner that the subjacent one was always about one half inch longer than the one above it; the lowest of the three was crowded down into the pelvis, entirely compressed and contracted, and contained nothing but a little hardened mucus. The middle flexure contained the same mucus, and no meconium. The upper one was filled with meconium as far as the contracted lumen of the bowel would allow, and its outer left portion was the only one which seemed dilated (before the operation) by gas, and by the meconium crowding down from above. The inferior flexure reached beyond the median line, stretched upward to near the spina anterior superior of the right side, and from there the intestine turned back in an acute angle into the pelvic cavity, doubled upon itself, reached the median line on the right of the empty bladder, and terminated as rectum in its normal place. The distance from the point of incision in the left hypogastrium to the anus amounted to thirty-five centimetres. The ascending colon was of normal length. The transverse colon was not in its normal position, but stretched out directly to the left spina anterior superior, diagonally, in almost a straight line, formed an acute angle with the upper curvature described before, and gave rise to the pouch I found dilated before and during the operation.

Thus, there was a mechanical obstruction, brought about by the abnormally long descending colon, a condition upon which I look as an arrest of development, inasmuch as its relation to the length of the ascending and transverse colon agrees with their fœtal condition in the last part of utero gestation. By the diagonal situation of the transverse colon, which formed an acute angle with what ought to have been the descending colon; by the mutual compression of the bowels; by its own numerous flexures; by the narrowness of the pelvis of the new born, which became still more marked by the filling up of the bladder; by the infant's crying, which crowded the thoracic and abdominal contents down

upon the intestines; and by the tract filling up with food, fæces, air, and gas, a virtual imperforation of the gut was accomplished.

A brief time after, in the practice of a colleague, there occurred a similar case. A full-term child, no rectal discharge, vomiting, examination with finger and bougie, frequent injections of as large quantities of warm water as the gut would hold, the proposal of Littré's operation, which was refused, and finally, toward the end of the third day, meconium *per vias naturales*. I have seen more such cases since, but never made the same mistakes, for gradually I learned that my mishaps resulted from my ignorance of the fact that what appeared to me extraordinary was indeed but an excessive degree of a more or less normal condition. The ascending colon, after having been formed about the middle of utero-gestation, is quite short in the newly-born, so is the tranverse colon. As, however, the whole length of the colon is considerable, indeed equals three times the length of the mature fœtus, the surplus must be found in the descending colon, and mainly in the sigmoid flexure. This occurs in 25 out of 100 cases of newly-born children. It is found, similarly to what I described in my unfortunate case, bent upon itself in several flexures, crowded out of the narrow pelvis, and frequently, in more than twenty-five per cent. of all the cases, extending beyond the median line of the body, not as an anomaly (according to Cruveilhier and Sappey), not in the majority of cases, as Hugnier claimed, who went so far as to operate for imperforate rectum on the right side of the pelvis; but in a sufficient number of cases; and is important enough to attract our attention for a different reason, viz: A fair number of infants of normal size and weight, and fed on healthy breast milk, suffer from constipation from the first day. There are those who never have a spontaneous discharge; those whose fæces form in hard, round balls of different sizes, unable to pass the sphincter; some who cannot be relieved except by mechanically emptying the rectum. Such cases I have seen by the hundred, and described as *congenital constipation*. It is easy to handle when understood. If we have learned what is the actual fact, that the normal relation of the different parts of the colon may be expected to establish itself toward the sixth or seventh year, we shall have patience. In most cases one or two daily enemata suffice to empty the gut. They must be continued year after year, until the normal end of the anomalous condition will have been reached. Purgative drugs are rarely required—indeed, they are mostly contra-indicated, and when given will do harm. They result in over-stimulation; and paralysis, with more costiveness, is a secondary result. I have seen, as the outgrowth of this congenital constipation, many instances of ulceration, of fetid diarrhœa, of septic auto-infection, of fevers sailing through months under the flag of malaria and continued fever. These are the cases in which the practitioner with knowledge enough, and sufficient intelligence and tact to individualize, will find the occasional indications to regulate the diet, to administer, in rare instances only, a purgative drug; to insist as a rule, however, upon the avoidance of medicines and the administration of regular enemata, and *non nocere*.

Allow me now, Mr. President, to pass to a subject which never appears trite, though its literature fill a library. I offer no apology for briefly considering what I consider harmful mistakes in the treatment of one of the most calamitous scourges of our race.

In diphtheria one of the dangers is suffocation. That can be easily recognized, and the indications for intubation or tracheotomy, repeated fumigations with ten or fifteen grains of calomel, and for steam, are readily found. The second great danger is from exhaustion and heart failure, which is not merely functional but organic. It is always to be feared, for we all know that apparently mild cases may thus perish. The indication, then, is to save and stimulate nerve strength by alcoholic beverages in large doses, and otherwise. The third great danger is sepsis, which is not to be feared to an equal degree in all cases, for diphtheria confined to the tonsils, with their large amount of fibrous tissues surrounding them, and with their scanty communication with the lymph system, is not liable to produce sepsis, and thereby to terminate fatally. The fourth great danger, in the worst forms of diphtheria, is the over officious and directly detrimental exertion of the attending physician in behalf of local treatment.

It is true, where the diphtheritic pseudo-membrane is within reach, it ought to be either destroyed or disinfected. This is not the place to discuss the methods and the remedies. But we must never forget, first, that only a small part of the pharynx is directly accessible to such treatment, and that it is only one class of patients who can be subjected to it. In order to be effective the application must be thorough. None but adults or large children, and of them only a small number, will submit to opening their mouth and having applications made. It is that very class of patients only who can be induced to gargle with anything like success, though indeed, gargling will reach only the oral cavity down to the anterior pillars of the soft palate. Smaller children will object, will defend themselves, will struggle. It takes many a good minute to force open the mouth; meanwhile, the patient is in excitement, and perspiration, he screams, and fights, and exhausts his strength. You may, however, succeed in forcing the jaws; then begins the practice of making applications, of swabbing, of scratching off the pseudo-membrane, of cauterizing, of burning. The struggling child will prevent you from limiting your application to the diseased surface. You cannot help injuring the neighboring epithelium; thus, the process will spread; instead of doing good, you have done harm. No application, indeed, can do as much good as the struggling of the frightened child proves destructive. Even the intervals between the medical assaults are no period of rest to the tortured baby, whose fears result in constant mental and physical trepidation. I have seen them dying in defending themselves against the attempted violence, leaving doctor and nurse victorious on the battle-field. It is incredible, but it is true, that more than one has recommended the use, after forcibly separating the jaws, of the electro-cautery or the thermo cautery on the throat of the baby. It is incredible, for you are aware that the offenders cannot have been, or ought not to be, ignorant of the fact that what they can reach with their instruments is but very little besides the tonsil, and they might have known that the tonsils are not apt to favor the invasion of general sepsis. Why, then, insist upon these cruel and brutal exertions, most of which are discovered and advised by men possessed of a schematic knowledge of a pathological process, which leads them to kill their patients while trying to destroy a bacillus? *le sujet est mort, mais il est mort guéri*. There is no excuse for them, for there are a great many ways in which an antiseptic treatment of the fauces can be carried out, by the frequent administration, both with internal and local effect, of mild doses of medicines, such as chloride of iron and bichloride of mercury.

Again I emphasize the fact, so often forgotten, that diphtheria, not to speak of the larynx, is mostly and almost exclusively dangerous when located in the nose and naso-pharynx. When the blood-vessels ooze slightly the toxine may be immediately absorbed into the blood, circumventing the lymph circulation altogether; or there are more perceptible diphtheritic membranes, either thin and macerating, or thick and obstructive, either odorless or fetid. The pseudo-membranes swarm with bacilli and toxine, with streptococci and staphylococci, and lead to immense tumefaction between the ears and clavicles, to the formation of multiple abscesses, to hemorrhages, to sepsis. All of these forms of nasal diphtheria require immediate, persistent, and efficient local treatment, for it is safe to say that every case of nasal diphtheria has a tendency to terminate fatally. Every procrastination is a death sentence. The local treatment is to consist in

cleansing and disinfecting. In the bad cases, in which the nares are clogged with pseudo-membrane, the cleansing and disinfecting is to be preceded by forcing a passage through the nares with a probe covered with wadding and dipped in carbolic acid. Particularly is this indication urgent when there is sopor, which owes its origin partly to the difficulty of respiration, and partly to the septic condition. Again, I must abstain from alluding to methods and to remedies, for I proposed to say, not so much what is to be done, but what is to be avoided. Still, not to properly propose the proper thing is *nocere*, is committing a direct injury. Therefore, I will say briefly that in making local applications it is important that they should be made often, every half, one, and two hours, and that the whole diseased surface should be touched. *Si duo faciunt idem non est idem.* Your personal supervision and interference is required, for one day, two days turn the scales. Ointments are not available in the average cases, where the whole naso-pharynx is the seat of the affection. The atomizer will seldom convey a sufficient amount of liquid into the cavities to be of much use. A spoon or small feeding-cup, the nozzle of which is narrow enough to enter the nose, will do fairly well, and will allow the introduction of liquids into the nares in small or large amounts, all of which will enter the throat, and be either swallowed or flow out of the mouth. The irrigator is liable by undue pressure, which cannot always be well measured, to injure the ear. It is true that this cannot take place very readily as long as the whole naso-pharynx is covered with pseudo membrane, but this will not always remain, and then there is a possibility of the injection entering the middle ear. This will take place the more readily the younger the infant, because the pharyngeal orifice of the Eustachian tube is relatively larger and much more funnel like in the very young than in advanced age. I prefer a small glass syringe with a conical nozzle of soft rubber. It will close up the nostril, the pressure can always be well measured and modified, and it is effective. The injections must be made in the recumbent or semi-recumbent position, frequently. On no condition must a child be taken out of bed for the purpose of having the nares washed and disinfected. I know of many cases in which the patient has thus died through being taken up by either nurse or doctor. There you have at once grave sins both of omission and of commission. I follow it up with one of omission, which is just as bad, because it is just as fatal. As I have personally seen thousands of innocents die of diphtheria, thousands of them in the course of thirty-six laborious years, therefore, with trembling heart, I know whereof I speak; and still they are dying by the hundred thousand all over the globe, and that is why I preach my old sermons.

Non nocere. Do not harm, and permit no harm.

Cervical lymphadenitis resulting from nasal diphtheria, no matter whether it is the result of bacilli or equally septic and fatal streptococci, must be treated persistently and effectively. This treatment must be preventive and curative. The preventive treatment consists in the frequent nasal injections described above. They will reduce the immense tumefactions, partly glandular, partly peri glandular, which extend often from ear to clavicle, within twelve hours. When large tumefaction has taken place, tincture of iodine and mercurial ointments are useless. Ice externally is rational, but it is useless as long as the infection is not stopped. I have, in a number of instances, injected iodoform, in ether, into the swelled mass. It is too painful and too inefficacious, and does not pay for the agitation, the anguish, and the exhaustion of the unhappy baby. So, indeed, there is no remedy besides the preventive measures, except in long and deep incisions into the immense mass. Do not wait for fluctuation, or even semi-fluctuation, for a great deal of the swelling is inside the fascia. Abscesses, when they form, are seldom large. The formidable swelling consists mainly of necrotic tissue, which ought to be laid open as soon as possible and disinfected. The incision must be a long and deep one—in most cases, from ear to clavicle. The disinfection of the wound may be obtained by subnitrate of bismuth, by tincture of iodine, and iodoform or other antiseptic gauze. No carbolic acid can be used for disinfection, because of its tendency to give rise to hemorrhages. When hemorrhage takes place, it is apt to stop under pressure with antiseptic gauze, but sometimes, large blood vessels having been eroded, the hemorrhages are very copious. In such cases the actual cautery, acupressure, sometimes the ligature of blood-vessels, has to be resorted to. Avoid perchloride of iron and subsulphate of iron, for they give rise to a thick coagulated scab, under which septic absorption is apt to take place.

In connection with this subject of diphtheria, I may be permitted to allude to a remedy which, while having a healing and protecting effect in catarrhal conditions of the oral cavity, never had any right to be puffed up into being a remedy for diphtheria. Large doses, however, have been recommended and given, with the result that many years before I published (1876) cases of fatal poisoning by potassic chlorate in Gerhardt's "Handbuch der Kinderheilkunde," I had seen such cases in fair numbers. Both nephritis and methæmoglobinuria, as found by Marchand, were the effect of its administration. Numbers of such cases have been reported since, and still I have read but lately of the same big doses of the same poison praised in this very dread malady. Are we never to learn from our predecessors? Is our experience of so little consequence that its history counts for nothing and must not be consulted? Is diphtheria not dangerous enough by itself? and must it be punished by fatal doses of ours?

The last subject I dare to discuss before you is that of linear craniotomy, *craniotomie à lambeaux*, and circular craniotomy. The two former have been introduced by Lannelongue, who, in 1891, published twenty five cases of "Enfants arriérés et jeunes sujets présentant, avec ou sans crises épileptiformes, des troubles moteurs ou psychiques." The results he claimed, not only as far as recovery from the operation was concerned, but also as to the improvement in mind which was said to have taken place in a remarkably short time, were so striking and novel that physicians began to hope, surgeons to glory—and the idiotic children? Let us see.

When the brains of operative surgeons were taken with the *furor operandi* on the brains of luckless children, the war-cry was: microcephalus and idiocy. By many the two were identified. Nothing henceforth was required but to open the heads in order to admit light. The literature on the subject having been quite extensive all over Europe, the American facts I intend to give you will require but a brief introduction.

Which are the underlying conditions of idiocy? I recall to your minds only the following records of autopsies and anatomical examinations both of the coarser or finer tissues: Chronic encephalitis (Jeanneret, Stark, Mierzejewski), either diffuse or circumscribed, frequently syphilitic; diffuse (syphilitic) disease of the blood-vessels (Popoff); arrest of vascular development in the cortex (Luys); inequality of the hemispheres; inequality of the peripherous cortical layer on the two sides; defect of the third frontal convolution and island of Reil; meningo-encephalitis with thickening and adhesion of pia and brain such as may occur after forceps or other trauma; kephalhæmatoma internum, spontaneous hemorrhages; embolism from heart disease; thrombosis from cholera infantum, followed by destruction of cerebral cells and atrophy of cortex. This condition was found in 21 cases out of a total of 343 collected by Starr. He further reports: Maldevelopment and apparent atrophic condition of the brain-structure of the hemispheres, chiefly cortical, the cells resembling those of a new-born child, but with no apparent gross defects in the brain, 32 cases; atrophic or hyperplastic sclerosis, congenital or post-natal, 97 cases; atrophy by softening produced by embolism or thrombosis, and limited to certain arterial districts, 23;

arrests of development such as porencephaly, 132 (frequently in a thin cranium); cysts which produced atrophy by pressure, or were associated with the atrophy due to the original lesion, 14; hemorrhages which were discernible by the remains of a clot, or by the hæmatin staining of a cyst of the pia or of sclerotic tissue, 18.

Finally there is among the causes of idiocy hydrocephalus, microcephalus with or without micromyelus, or other changes in the spinal cord, mainly of the pyramidal tracts;[1] and lastly, premature ossification of the fontanelles and sutures.

Meningo-encephalitis in some form or other is very common. Here belongs one of Lannelongue's early cases described by Bourneville. It was operated June 22, 1890, was kept in the hospital to February, 1891, was then carefully nursed and trained, but got no better, and finally died of broncho pneumonia. What did the autopsy reveal? Pachy- and lepto meningitis, normal sutures, wormian bodies between them, and a thin and transparent skull.

If we be told that the operation is made for microcephalus—indeed, many of the histories intrusted to me exhibit that diagnosis though but few measurements be given (in one of which the head had a circumference of 50 ctm. [20 inches])—what does it mean? Which are the causes of small headedness? Is it always premature ossification? Very far from it; the copious literature of microcephalus proves the contrary. Taquet reports 26 skulls of idiots, none of them ossified. Bourneville demonstrated 12, all of them with persistent sutures, 3 even with pathological disconnections. With me it is the rule to see microcephalus with open sutures. While the anterior fontanelle need not be large, the sagittal sutures mainly, but also the others, are open and remain so for years—four, five years, and more. If, finally, the bones coalesce, let me ask the question, is there a sound man who can believe or hope that the linear or circular reopening of the skull will encourage brain growth which did not exist while the sutures were still patent?

Now, premature ossification, in our sense, does not mean absolute absence of the sutures, which is almost never seen. Vrolik's case of a boy of seven, and Cruveilhier's of a child of a year and a half, without any discernible sutures, are exceptional. Nor is it of any importance to know that, according to Huschke, the cranium does grow up to the sixtieth year, or that Pommerel puts synostosis between the forty-first and fifty-first year, or Sappey complete obliteration of the sutures beyond the eightieth. What concerns us is to know that the rapid growth of the brain is impeded normally, if at all, by a virtual closure of the sutures about the fifteenth month of life, and that, according to the period of this closure, the intellect is either but little or much impaired, or that the most serious motory, sensitive, and sensory disturbances are brought about by it. Between a slight impairment of mind and complete idiocy every possible degree and manifestation is met with. Virchow's old dictum, that cerebral functions may depend on size and symmetry of cranium and brain, still holds good. He never said there was no other cause of the disturbed cerebral equilibrium, and a recent writer who gloats over his own assertion that this teaching of Virchow's has been put to rest, lost his own equilibrium in his critical effort.

The nature of premature ossification can be best studied in such cases as exhibit that anomaly to a slight degree only, and symmetrically; namely, where the closure of the cranium takes place, say between the fifth and tenth months of life, instead of the fifteenth. There you have a solid capsule, with deep digital impressions, like those of an adult, and narrow or absent foramina emissaria. The dura mater is firmly attached, rather anæmic, unless a secondary morbid process resulted in hyperæmia; in the same condition is the substance of the brain; it is pale and dense; its convolutions are apt to be flattened, remain in that condition when the dura is cut or bulges out like an elastic mass; the ventricles are narrow and contain but little, if any, liquor. The brain when removed from the cranium is apt to remain hard, and slices of moderate thickness retain their consistency.

This condition of a relative hypertrophy of the brain, or rather, of a normal brain locked up in an abnormal skull, I have met with quite a number of times, before and since I published, in 1857 and 1859, my papers on the etiological and prognostic importance of the premature closure of the fontanelles and sutures of the infantile cranium. A similar case was published by Mauthner in 1857, in the *Oesterr. Zeitsch. f. Kinderheilk.*; but even some of the greatest pædiatrists, such as Rilliet and Barthez, had and have since overlooked the condition. It was only Bouchut who quoted a description of this condition in his manual. This class of children are apt to exhibit a good or fair intellect during their early lives. They smile at the proper time, are robust and apparently healthy, but with that complication every morbid condition is liable to develop dangerous symptoms; a moderate broncho-pneumonia is apt to become complicated with convulsions, and may prove fatal; or, without any apparent complication, there will be slight symptoms of irritation, contractions of the extremities, clonic convulsions, sopor, death. Generally, there are no unilateral symptoms; where they occur, they are rather the result of a convulsion, followed by a local lesion, than of the original compression of the cerebral tissue. As I have met with such cases in large numbers, I always examine the heads of babies affected with any inflammatory or febrile disease. Simple cases, like the following, will be met with: A boy of eleven months was seen November 1, 1857, after having been quite well before. In brief intervals there was fever, vomiting, clonic convulsions, dilated pupils, and death on the sixth day. The head was of fair size, symmetrical. There were six teeth; the first had appeared in the upper jaw. The fontanelles were virtually closed three months previously.

Many cases are of this simple character, but many more are less hopeful. Paralysis, epilepsy, idiocy are met with in those whose crania were closed at birth or soon after, and every possible symptom of paralysis or irritation, unilateral or bilateral, may become visible. Besides, we must not imagine that premature ossification is always of the same character. It is true it depends on a local nutritive or inflammatory disorder of the bone; but it cannot always be known whether this process is localized or complicated. It may be independent of the brain. Zuckerkandl says so, and I know it. It may be complicated with similar affections of the brain, and with premature growth and development of the bones of the face and of the teeth and the rest of the body. Therefore it is that in many cases premature ossification is universal, and the teeth come early, and the upper teeth first. In others the teeth may come at the normal time, or even later, and the bones of the trunk and extremities may by no means be more advanced than normally; also the brain symptoms may be of the most various kinds. Among my cases are the following: In Vanderveer's, the fontanelles closed at nine months; no vision, eyes roll, head not sustained, frequent convulsions, body well developed; idiocy. In Willy Meyer's, anæmia, paralysis of the lower extremities, strabismus; idiocy. In Wyeth's, restlessness, "cataleptic attack," talipes varo equinus, mainly of the left side, left hand slightly flexed, spasms of the internal recti, pupils dilated, jerky movements of arms; idiocy. Now, what is the diagnosis of premature ossification?

The latest writer on the operative treatment of micro-

[1] This connection has often been observed (Aeby, Thiry, Flesch, Anton). In their slow evolution (Hervouet) from the fifth month of uterine life to the completion of the fourth year, many changes are liable to take place. The number of the cells of the anterior horns was found diminished by Hervouet, Steinlechner, Gretschischnikoff, Schottenberg. Other arrests of development are also frequent. Bourneville mentions phimosis, and patent foramen Botalli, ectopy of testicles, and hypospadias. The two latter I met with several times.

cephalus has the following to say in regard to diagnosis: "As changes of the cranium cannot be recognized with certainty, anamnestic points are of the greatest importance. Where the history excludes protracted and difficult labor, the application of forceps, the presence of asphyxia at birth, or cerebral affections and kephalhæmatoma after birth, the symptoms of traumatic epidemic, or endemic meningitis, or the local signs of diffuse or circumscribed encephalo-meningitis, or the motory or sensitive disturbances of porencephaly, all of which may result in deaf-mutism, blindness, paralysis, either general or local, or in local convulsions or contractions—where all these can be excluded, it is permissible to assume the presence of premature ossification, and to perform an operation."

Still many of these symptoms may occur in premature ossification also, the diagnosis of cerebral affections leaving still so much to desire; I know, however, we can do better in the direction of a diagnosis. What I have to propose in that line is old, I know, but for many I am certain it is new, for if it were not, many of the reckless operations on the helpless, unfortunate young ones would not have been performed. In this respect I totally disagree with my famous friend, M. Allen Starr, who asserts that it is at present impossible to determine absolutely the pathological condition present in any given case, without an exploratory operation.

In a great many cases I have succeeded in making the diagnosis with certainty. Some are unmistakable; they

Reported by	Patient.	Age.	Diagnosis and history.	Operation.	Results.
Dr. Charles McBurney.	M. H. (female)	12 yrs	Microceph. since birth. Mentally weak, petit mal, and convulsions.	Nov. 11, 1892	Petit mal not so frequent.
	Same.			Dec. 19, 1892	Attacks as formerly. Feb. 20, 1894, Dr. Starr's report: much improved in many ways.
	W. L. (male)	6 yrs	Microceph. Deficient in mind, unruly, no intelligible speech.	Oct. 6, 1893	April 11th, no change. Feb. 20th, Mrs. Seguin thinks "improvement great and out of proportion to other not operated similar cases."
	F. M. (male)	7½ yrs	Well until 4 years of age. Convulsions, fever, right hemiplegia, aphasia, epilepsy.	March 27, 1893	No improvement.
Dr. Willy Meyer	M. B. (female)	2 yrs	Microceph., oxyc., premature ossification, anæmia, paral. ext. inf., strabismus, idiotic expression. Forceps, strabismus, and insufficient motility of both lower extremities since birth, lately frequent convulsions, general and local (face), head retracted during sleep.	May 8, 1891. Linear craniotomy, little hemorrhage, 9 ctm. long, 2 ctm. wide.	Died May 11th, with high temperature (up to 106°), gritting teeth, sudden cries, and retraction of head.
	J. B. (male	4 yrs	Tumor suspected	June 19, 1891. 12 ctm. long, 3 ctm. wide.	Died after four hours, increasing temperature.
Dr. John A. Wyeth	B. S. (male), N. J.	4 yrs	Skull 50 ctm., epileptic since 4 months, no speech, no hearing.	April 7, 1890	Died after twelve hours, shock.
	I. W. H., Ind.	11 mos.	Font. closed at 4 weeks, restless, "cataleptic attack at 8 months, after which tal. vaso-eq. mainly left, left hand slightly flexed, eyes conv. mov., pupils dilated, dull look, jerky movement of arms, cran. small, pointed."	Jan. 7, 1891. Two long trenches above eyes to occiput, tearing of bone from dura.	Sept. 1893, "triumphant letter" of mother. Jan. 31, 1894, "4 years, but 2 or more behind in mind," speaks a few words.
	R. R., Conn.	14 yrs	Infant small, delicate, sinking spells the first 2 and 3 weeks with cyanosis, feli at 2 years, 6 weeks after convulsive through 2 years, free 5 years, head small, epileptic.	Oct. 20, 1891	Temporarily improved; No improvement (letter of mother).
	F. H. G., Conn.	5 yrs	Microcephalic	Nov., 1891	Died after fourteen hours, shock.
	L. H. G., Me.	22 mos.		Dec. 16, 1891	Died on the sixth day.
	J. O. (female), N. Y.	20 mos.		March 21, 1892	Died on the third day, portion of right par. bone removed.
	H. C. C., N. Y.	4½ yrs		Jan. 4, 1893	No improvement.
	I. F. D., N. Y.	2 yrs		Jan. 4, March 29, May 8, 1891. Portion of both par. and occ. bones near vertex removed.	Feb. 14, 1894, splendid physique, after excitement jerking in sleep, recognition better, knows family, kicks when tied in chair, cannot stand without assistance, does not grasp or hold fast, less rolling eye, not much crying, left hand always closed, hearing good, delighted with music."
Dr. W. W. Keen	M. E. (female)	4 yrs. 7 mos.		Nov. 19, 1890, Feb. 17, 1891.	Recovery. Moderate improvement.
	K. K. (female)	1 yr. 7 mos.		March 12, 1890, Feb. 3, 1891.	Recovery. Moderate improvement.
	I. L. H. (male)	1 yr. 4 mos.		Jan. 16, 1891	Died of sudden heart failure one and one-quarter hour after operation.
	E. S. (female)	3 yrs. 6 mos.		Nov. 7, 1891	Recovery. No improvement.
	L. F. (male)	2 yrs		Oct. 14, 1891, March 16, 1892.	Recovery. No improvement, but slept quietly.
	G. F. C. (male)	3 yrs. 2 mos.		Oct. 20, 1891	Died the same day.
	H. T. (female)	6 yrs. 6 mos.		May 29, 1891	Recovery. Slight improvement.
	P. I. (female)	6 yrs		1891	Died after three hours.
	H. H. (female)	3 yrs. 6 mos.		Nov. 2, 1891	Recovery. No improvement.
	F. S. (female)	3 yrs. 2 mos.		March 15, 1893	Recovery. Slight improvement.
	F. W. (female)	1 yr		April 22, 1892	Died after a week.
	H. T. M. (female)	2 yrs. 6 mos.		April 27, 1893	Died after thirty hours.
	M. D. (female)	3 yrs. 3 mos.		May 29, 1893, June 22, 1893.	Recovery. No improvement, skull as thick as adult's.
	M. D. D. (female)			Sept. 29, 1893	Recovery. History unknown.
Dr. Burney Sachs	Female	4½ yrs	Walked after 2 years, spoke a little in 2 years, two convulsions at 15 months, one at 29 months, more idiotic since, lost speech, irritable, unruly, sleepless. No fontanelles, circumference of head 31 ctm., nose to occipital prominence 30 ctm., binauric 25½ ctm.	Jan. 9, 1891	Died suddenly in three and a half hours after rallying.
	Male	4 yrs	Forceps and asphyxia, some convulsions between first and second year, teething late, walked after 3 years, drags left leg, no speech. Skull small in front 45 ctm., binaur. 28½ ctm., naso-occipital 27½ ctm., right.	Sept. 14, 1891, linear right under ether.	Laughed, stood up in bed, played as never before, otherwise no improvement.
	Same.			Nov. 20, 1891, left, chloroform, more hemorrhage than in first operation.	Unconscious, vomited much. Died eleven hours after operation. Autopsy: skull thick, dense bands of fibrous tissue under opening in skull, sutures obliterated, anterior lobes of both hemispheres very irregular in fissuration, convolutions half size.
	Female	5 yrs	Four convulsions between 15 months and 3½ years, discharge of ear since third month but hearing fair, eyes normal, no intelligible speech, eats the floor, does not call for food or defecation.	Jan. 29, 1891. Trephine, chisel, rongeur, like previous operations.	Died the next afternoon.

are those which were born with their sutures closed, and with early cerebral symptoms of a general and bilateral nature. Still some difficulty may arise about those who are first presented when from one to three years old or older. Indeed there are some of the operative cases in my hands, three and four years old, which are supplied with the notice that the sutures were closed at that time. Indeed they should be, for the time of the normal obliteration is within the first half of the second year of life. Now there are but few parents but can answer the following questions: Was there ever a fontanelle? Was the head ever soft on top and pulsating? How old was the baby when he first smiled? When did he walk or attempt to walk? When did the first tooth come? Was it a lower or upper tooth? Are the teeth strong and healthy, or not? Are the right and left limbs equal in power? If there be twitching or rigor are they more visible on one side than on the other?

The replies to these questions make your diagnosis. The first appearance of teeth in the upper jaw is an almost constant symptom and characteristic (though irregular protrusion of teeth may occur in rachitis). Uncomplicated cases will also stand on their feet early. It appears that in many the whole osseous tissue ossifies at a nearly equal pace. The superior maxilla, however, appears to participate in this general process more than the rest. It is noticeable that these children with premature ossification are generally the first born.

The more irregular the cerebral symptoms, the more unilateral, or confined to one limb or a set of muscles, the greater is the probability of a complication of brain disease with premature ossification. In such cases of older children the history elicited must be positive as to the absence of a fontanelle in the first year.

What are the indications for the operation? Starr says when the condition is one of arrested development of cerebral tissue it may be of service. When the skull is markedly microcephalic from early union of sutures the increased space given to the brain by the operation appears to stimulate its growth and development. It may be performed where medical treatment is inefficient, in hemiplegia, sensory defects, imbecility with or without epilepsy, aphasia, and athetosis. He is also of the opinion that if great caution and little time be used the dangers of the operation can be avoided. European operators go far beyond these indications. One claims to have transformed mania into quiet dementia—a change which is common enough without saw and chisel—by destroying fibres of association (Burkhardt); but while another operates for septic meningitis, recent hemorrhages, and headaches (Horsley), another restricts the surgical interference to abscess, trauma, and tumor (Bourneville).

Lannelongue's first report of 1891 comprised twenty-five cases of linear craniotomy with remarkable results; a great many improvements were said to have taken place in the twenty-four survivals. No such statistics have ever since been submitted; on the contrary, the mishaps of the surgeons of both hemispheres make them appear more fabulous than ever. But the brilliant example was not lost. It was about the time of the tuberculin excitement. Pulmonary tuberculosis and idiocy in all its forms could be eliminated from the surface of the globe by simple means—the millennium was coming.

I hold in my hand, Mr. President, the reports of cases operated upon for so-called idiocy, or for so-called microcephalus, by such American surgeons only as I could reach personally, so as to have their tales verified from their own lips. The cases I command are 3 of Dr. Charles McBurney, of New York, 2 of Dr. Willy Meyer, of New York, 8 of Dr. John A. Wyeth, of New York, 14 of Dr. W. W. Keen, of Philadelphia, 3 of Dr. Barney Sachs, operated upon by Dr. Arpad Gerster, of New York, and 2 of Dr. I. Vanderveer, of Albany, N. Y. On these 33 cases 41 operations were performed. Of 33 there were 14 deaths and 19 recoveries. The deaths did not occur in the very young ones alone, but also in those four, five, and six years of age. Most of them occurred soon after the operation, six within a day. Cause of death is not always given or known, in one it was attributed to the anæsthetic, a number of them developed a very high temperature which was not explained, inasmuch as not even the dura was injured. Many died of shock a few hours after the operation.[1] The final report as to their mental and general condition was as follows: No history obtained, 1; uncertain, 1; no improvement, 7; slight improvement 7; "some," 1; much improvement, 2.

Permit a few more words as to the results of the operation.

Dr. Vanderveer, of Albany, N. Y., reported the case of a girl two years of age. Forceps operation of four hours' duration resulted in extensive lesion of the scalp. Never developed mentally; had as many as twenty-five convulsions daily, with and without vomiting, after the age of three months. Operation October 14, 1893, on the left side of cranium, four and one-half inches long, extending to nearly the lambdoid suture, and one inch wide. Left hospital October 30th. Seventeen short days after that, November 15th, the family physician reports that since November 8th the child did not sleep well, and had returns of the nervous spells or partial convulsions; but before that, ten days after leaving the hospital, the child seemed brighter and took more notice of things around her.

The following case was also reported by Dr. Vanderveer:

Arthur McKee F——, born May 22, 1891. Previous to his birth a miscarriage at six weeks and a still-birth. Mother had albuminuria every time (syphilis?). Teething at nine months. Then the fontanelle was noticed to have closed. Examined July 1, 1892. No vision, eyes roll, head not sustained, body well developed. Convulsions frequent. Operation October 6, 1892, on left side from frontal to occipital bones, four inches long, one wide. November 2d appeared "more natural." Second operation May 19, 1893, on the right side. Examination of the left side of the skull at this time did not give evidence of any great development of the brain, as there was rather a tendency for the dura to sink in than to rise above the surrounding portions of bone. November, 1893, more quiet, does not see, recognizes sound, moves arms and legs, and stands when supported.

Dr. John E. Wyeth reports a case which appears to be one of premature ossification with cerebral complications, though there be no exact measurements. The fontanelles are said to have closed when the child was four weeks old. The operation was performed when the child was eleven months old. January 7, 1891, two long trenches were dug from above the eyes to occipital bones, and joined posteriorly, the bone torn off from the dura and elevated so as to produce a fracture anteriorly. On September, 1893, a "triumphant letter" was received from the mother. On January 31, 1894, however, she writes that the child was now four years of age, but two or more behind in mind. It may be remembered that this is three years after the operation.

Léon Gallez says, in his "La Trépanation du Crâne," p. 417, 1893, of craniotomy that *elle procure le plus souvent une amélioration évidente*. That is an over-estimation. Personal knowledge of the facts he does not claim. Firstly, the mortality of the operations is very great. Secondly, a large number of cases are admitted not to have been benefited at all. Thirdly, when amelioration has been reported, what does it mostly amount to? It would be absurd, theoretically speaking, to deny the power of observation or the veracity of those who report; but who are they in most instances? In the majority of cases they are loving, hoping mothers. Who has not seen to what extent the idiotic child in a family—frequently the first born—is petted, made most of, admired,

[1] According to Akerman the causes of death after the performance of the operation, and depending thereon, were acute sepsis, loss of cerebro-spinal liquor, shock, collapse, fever, acute anæmia, and the anæsthetic employed during the operation. Altogether the deaths amounted to from fifteen to twenty per cent. of all the operations collected and discussed.

and how every ray of mental light is reflected from a magnifying mirror of adoring and anxious scrutiny. Besides, many of the reports are made soon after the operation, and therefore become rather valueless. Moreover, after the performance of that serious operation, made for a special purpose, attention and training are doubled; and progress attained through assiduous training was never questioned even before the times of Edward Seguin. Finally, a difference of from one-half to two years amounts to a great deal in a child of one or two years of age, in the possibility of mental improvement.

A temporary relief, either entire or partial, of epilepsy, does not mean much, for any operation on any part of the body is apt to modify its course.

Altogether, the mortality and the insufficient results in those who survive have exerted a discouraging influence on my surgical friends. What here follows are the opinions of some of them as they were expressed but a short time ago.

In a letter dated June, 1892, when he had operated on twelve cases, Dr. Keen makes the following statement: "I would at present operate on cases under eight years of age, but not over, and in cases with sufficient physical vigor to make recovery probable. I would only operate on one side at a time, but make the incision as long as possible, from the forehead to the occipital bone, and possibly, or even probably, T-shaped by a vertical incision toward the ear. My results have been those of improvement in almost all the cases that survived; an improvement makes the operation worth doing. But do not promise too much intellectually or even physically."[1] In a letter I received from the doctor lately (1894) he says: "The mortality is very high, and in my experience the gain is moderate, but possibly worth the risk."

Dr. Wyeth formulated his experience for me on February 22, 1894, as follows: "My operations were eight.[2] There were three deaths, one dying of hemorrhage on the table, two of shock, of whom one after twelve hours, and one with temperatures of 104° and 105° F., on the fourth day. There are two varieties of microcephalus, one due to premature ossification and consequent compression; and one due intrinsically to deficient brain development. These can be made out by incision through scalp, when the white cartilage lines can be seen in the intercranial sutures. Operation is useless in these cases, unless cyst or tumor be present. In the other cases, temporary improvement at least can be expected." In a letter published in the *Journal of the Arkansas Medical Society*, October, 1893, he says: "The operation is so dangerous that I shall hereafter undertake it only in cases of very marked microcephalus with undoubted symptoms of compression."

In reference to these operations Dr. B. Sachs says he has not advised them since 1891. He regards the danger "extremely great in all young children, the shock and uncontrollable hemorrhage from the scalp and bone being greater than most children are able to stand." And Dr. Arpad Gerster, who performed the operations for Dr. Sachs, expresses himself as follows: "The operation of linear craniotomy is a very serious one in small children, on account of the unavoidable hemorrhage accompanying it. Yet, in view of the otherwise hopeless outlook, I am still willing to undertake it in well-nourished individuals, at the direct request of their parents. As our diagnosis is very unsatisfactory as to the condition of the brain in microcephalus, the operation is often the only test of the presence or absence of cerebral structures which, if present, might develop, if the confinement due to premature ossification of sutures be relieved by craniotomy. On the whole, my standpoint as regards the future of the operation, is not a very cheerful one." Finally, Dr. McBurney is only willing to perform the operation on the responsibility of a medical man in whose judgment and knowledge he has absolute confidence.

Lastly, and unfortunately, what is the result of the operation in reference to the intended enlargement of the cranial cavity? In a letter dated March 11, 1894, Dr. Vanderveer says: "Both Dr. Hun and myself have the impression that the skull has not expanded, but that there is some reason for believing that the resulting cicatrix in the scalp and membranes has caused a diminution rather than an enlargement of the brain." Bourneville finds a narrowing of its interior by thick fibrous bands encroaching upon it in a case the drawing of which he publishes, and the cranium I here present, placed at my disposal by Dr. Burney Sachs, and twice operated upon by Dr. Arpad Gerster, proves the exact condition alluded to by Bourneville. Instead of enlarging the cavity the operation has diminished it. The whole lower aspect of the first craniotomy wound is thickened by about half a centimetre of a newly formed hard tissue; it presses down upon the brain which the operation was expected to relieve. The first operation was performed on September 20, 1891, the second on November 26th. Thus the changes you here perceive are the results of sixty-seven days revengeful action on the part of nature.

After all, Mr. President, that I could contribute to the knowledge of the operative interference with the condition of "enfants arriérés," of idiocy, of microcephalus, it appears that, in the face of so many deaths and so few results, the operation is not promising of good to mankind. The operations thus far performed do not effect what they were intended for, they do not even enlarge the cavity. Wyeth knew that well when he made a circular groove and raised the bone from the dura mater forward, leaving a bridge of one and a half to two inches, which he fractured and allowed to heal. For a similar reason and in a similar manner Dumont,[1] treated a child of fourteen months with epileptoid attacks and strabismus. I am not informed of the condition of the bones or fontanelles. An incision was made from the forehead over sagittal suture until it reached the spina occipitalis externa. Galea and periosteum were severed down to the tubera parietalia. A number of trepanations were made, each of 2.5 ctm. in diameter. Gouge and saw were used so as to connect these openings and render the bone movable. The galea was sutured, no drainage applied, and the wound healed. Two months after the top was still movable and there was no epilepsy, and less strabismus. I am not acquainted with the final outcome. It is not improbable that the extensive denudation of the bone will have bad results in the shape of necrosis. I should rather believe that a circular incision and removal of the galea and periosteum, merely as far as required for a sufficient grooving of the cranium, would be safer.

If any cases be at all amenable to treatment by such an operation, they must be those of uncomplicated premature ossification of the sutures and fontanelles. Such a one appears to have been that described by Akerman. He operated on a child aged sixteen months. Forehead narrow, circumference 40.1 ctm.; mother did not notice a fontanelle. Circumference of head was not changed two and one-half months after the operation, and the angles of the wound had filled up: ten months after the operation circumference was 42 ctm., the usual increase, perhaps a little less, of that age. And the final report, when the child was three years old, was that there were less convulsions than before the operation, and the mother says the child "knows the difference between me and a stranger."

An additional case was published by Dr. I. A. Dibrell, Jr.,[2] of Arkansas. It was that of a girl three years of age. circumference of head 16 inches (40 ctm.), bipar. diam. 4, occipito-frontal, 4⅝ inches. There was "complete ossification of all the sutures and fontanelles." Ten months afterward the operator reports: "I am unable to perceive the least improvement in the child's condition."

Dr. Roswell Park[3] operated on a girl of four years, for premature ossification. No result.

[1] Journal of the Arkansas Medical Society, October, 1893.
[2] The histories Dr. Wyeth was so good as to place at my disposal refer to eight cases, with nine operations.

[1] Corresp. Schweizer ä., 23, 1893.
[2] Journal Arkansas Medical Society, October, 1893.
[3] Medical News, December 2, 1892.

Dr. Willy Meyer's case died two days after the operation, with unexplained high temperatures.

Dr. Wyeth's case was operated on when eleven months of age; when the child was four years of age, the mother admits he was "two or more years behind in mind."

Dr. Vanderveer's child was operated when thirteen, and again when twenty four months old. A year afterward he was "better in some respects."

And that is all there is of it.

The relative impunity of operative interference accomplished by modern asepsis and antisepsis, has developed an undue tendency to, and rashness in, handling the knife. The hands take too frequently the place of brains. Who does not know that the alleged safety in operating tempts some of our skilled operators, and the credulous public, into useless or even contra-indicated procedures? Who is not aware that but too frequently the first principles of diagnosis are not practised before an abdominal wall is opened? Is it enough to know that clean fingernails, and nurses conversant with corrosive sublimate, and disinfected catgut, are almost universal safeguards against immediate fatal termination? Is it sufficient glory to don a white apron and swing a carbolized knife, and is therein a sufficient indication to let daylight into a deformed cranium and on top of a hopelessly defective brain, and to proclaim a success because the victim consented not to die of the assault?

Such rash feats of indiscriminate surgery, if continued, moreover in the presence of fourteen deaths in thirty-three cases, are stains on your hands and sins on your souls. No ocean of soap and water will clean those hands, no power of corrosive sublimate will disinfect the souls. Goethe once said the most interesting book that could be written would be a treatise on the errors of mankind. Let us see to it that our mistakes may not swell that book.

Original Articles.

OBSERVATIONS ON CHRONIC URETHRITIS IN THE MALE.[1]

By HOBART CHEESMAN, M.D.,

NEW YORK.

The following remarks are not intended by any means as an exhaustive treatment of the subject, but for the most part to present some personal experiences and observations.

Chronic inflammation of the urethra is essentially the same as that of chronic inflammations of other mucous membranes. Such points of difference as exist are mostly due to differences in anatomical and physiological conditions. The same kinds of lesion are found in chronic catarrhs wherever located, and, in general, the same principles are applicable in treatment. It is a disease liable to present serious difficulties to whatever special practice it belongs. The difficulties ought not, however, to be greater, as a general thing, in the urethra than in other organs. On the contrary, they might reasonably be expected to be less than in many, both on account of the greater accessibility of the urethra to local treatment, and also because nature has provided for the urethra, in the frequent voiding of urine, an efficient means of cleansing it from all morbid and irritating secretions. No artificial measures are likely to prove so effective for flushing out a foul urethra, thoroughly from end to end, as a forceful stream of urine from a full bladder. In addition to this, the urine can be made artificially medicinal or antiseptic by the administration of appropriate internal medication, such as balsams, salol, quinine, boracic acid, and other well-known therapeutic agents. Measures artificial, intended only to cleanse the urethra, would therefore seem superfluous, if not meddlesome. Passing from natural advantages, some of the artificial ones, recently acquired, are a knowledge of the normal size of the urethra and of how to detect stricture where formerly overlooked; knowledge of the importance of stricture as a cause of gleet; measures for radically removing stricture, as by the use of the dilating urethrotome and conical sound; the utilization of the endoscope in exploring for disease and for applying treatment; the proper use of ordinary urethral injections, of "deep" injections, and of medicated bougies. There are other particulars of the science and art of modern urethral surgery worthy of mention, doubtless, but these are the ones principally to be relied upon in connection with our subject. With such advantages, both natural and artificial, it would seem that this opprobrium of genito-urinary practice, which has so long stigmatized it, ought to be in a fair way of removal. This is not to be understood as belittling the difficulties, but only as expressing confidence in the potency of the means at command to overcome all ordinary difficulties. In other words, failure is no longer the fault of the profession, but, for the most part, of the individual practitioner.

The lesions found in chronic urethritis, like those in other chronic catarrhs, are of three varieties:

1. **Diffuse Inflammation.**—This may extend to the whole or any part of the urethra; may be superficial and appear like a torpid congestion, merely, of the mucous membrane, without evident erosions of the epithelium; or it may penetrate more deeply and give rise to induration and stiffening of the urethral sheath, to erosions of the epithelium, and to granulating surfaces.

2. **Circumscribed Erosions.**—The lesions may consist of circumscribed erosions or ulcers, more particularly behind, or in some connection with, stricture.

3. **Inflammation of Mucous Follicles.**—The common characteristic of all forms of chronic catarrh, and one of the most important in relation to practice, is the indolent nature of the inflammation, the lifeless and inert condition of the affected tissue. To arouse the affected tissue from this condition and restore it to healthful activity is to effect a cure, and therefore the main object of treatment. It is reasonable to suppose that essentially the same measures for this purpose are required in the urethra as elsewhere. In treating chronic pharyngitis we witness the prompt disappearance of granulations on the vigorous application of strong solutions of nitrate of silver. When studying otology, fifteen years ago, a patient who had had a purulent discharge for twenty years from the middle ear, in which granulations existed, was finally cured by instilling solutions of nitrate of silver into the tympanic cavity. Beginning with a very weak solution and gradually increasing the strength, when ten grains to the ounce had been reached the discharge suddenly ceased, and it has never returned to the present time. In this way indolent granulations were destroyed which had not been reached by applications made by other methods. I have observed in dispensary practice that the worst cases of balanitis and posthitis, where there is tight phimosis and the glans cannot be exposed (and the patient refuses circumcision), that by ballooning the prepuce for a few minutes with a solution of twenty or forty grains to the ounce of nitrate of silver, a cure will often be effected by one application. The distended prepuce should be squeezed and thoroughly fingered, so as to cause the injected fluid to penetrate all the diseased tissue. It causes no pain of consequence in chronic cases. Nothing, in my experience, will so quickly and so surely cure an obstinate eczema of the leg as the vigorous rubbing into the affected surface of a strong solution of silver nitrate. The essential thing for success in all these conditions has seemed to be that strong application be made and rubbed into, or caused in some way to penetrate thoroughly, all affected parts; and this will apply with equal force in stubborn cases of chronic urethritis. In cases of subacute or mildly chronic and uncomplicated urethritis, doubtless the judicious use of ordinary injections with a clap syringe, or other temperate measures, will generally prove sufficient. One of the most effective agents for the

[1] Read before the Manhattan Medical and Surgical Society of New York, January 24, 1894.

purpose of injection in these cases, according to my experience, is the permanganate of zinc, of which two grains to the ounce of water is ordinarily as strong as will be comfortably borne. The salts of zinc, I am convinced are the most efficient, on the whole, for urethral injections of anything yet approved by the profession; but evidently quite as much depends upon the method of using the injections as upon what is used. The urethra should be filled to distention in making the injection, after it has been flushed out with a bladder full of urine, reserved for the purpose; then the fluid should be retained in the urethra for two or three minutes by pinching together the lips of the meatus with one hand, while with the other the under surface of the penis is stroked and the urethra pinched and fingered all along its course, gently or more vigorously, according as the case is more acute or chronic, in order to cause the injection to penetrate thoroughly everywhere, even if possible into diseased follicles. Only one such injection should be used at a time, and, as a rule, repeated every eight hours; and its use should not be discontinued until a week after all signs of discharge have disappeared. The following case will serve as an illustration:

Case I.—The patient (sent me by a physician) was aged twenty four, bookkeeper, and had a gonorrhœa eight weeks old, which the attendant had been treating unsuccessfully for six weeks—in the ordinary way with injections and internal medication; and for two weeks, in addition to these measures, by passing sounds every two or three days. I discontinued the sounds, as the discharge was profuse and frankly purulent, and prescribed an ordinary zinc injection and a mixture of balsam of copaiba, giving the patient careful instructions how to apply the injection, as indicated above. On his return in three days, the discharge had already nearly dried up, and at the end of a week or ten days had entirely disappeared. Sounds were afterward passed every three or four days for a few weeks, to dilate what appeared to be several incipient strictures along the pendulous urethra. Many cases like this could be related, in which a chronic discharge has been observed to disappear promptly on simply instructing the patient in applying his injections.

When the discharge arises in the deep portion of the urethra, which cannot be readily reached by ordinary injections applied by the patient, deep injections should be made by the attendant of a mild solution of silver by preference in this class of cases every two or three days, or oftener, if practicable. In case the affection is not confined to the deep urethra, but exists also in the pendulous section, the installations made with the long catheter syringe may be distributed along the whole canal, drop by drop, as the nozzle is withdrawn. In this case the penis should be grasped behind the glans, and after the syringe is removed, the urethra fingered as described above. Quite strong solutions may be applied in this way in very chronic cases in which the whole canal is affected, without causing any pain of consequence or subsequent harm; but they need not be made so often in such cases as in more acute conditions. Mild solutions, however, should be first tried, and strong ones employed only as by gradual approach. The following case is an example:

Case II.—The patient was aged twenty-six, and had had one attack of clap several years previously, lasting five weeks. The second attack had occurred in October, 1891, and lasted until March, 1892. Ceasing then, it returned the following September, after coitus, for the first time subsequent to the last infection. The discharge at this time was only slight, until the attendant passed sounds down to the bladder, two weeks later, when it promptly became profuse and creamy. Notwithstanding this, the daily use of the sounds had been continued, the patient passing them himself by direction of the attendant, who, the patient informed me, was an expert otologist. This was continued until he called on me, November 24, 1892. The sounds were discontinued, and a zinc injection and an ordinary internal remedy prescribed. After a few days the discharge diminished to only a drop in the morning, of a sero-mucous character, and the patient ceased his visits, thinking, doubtless, to dispense with my further advice. But after repeated trials, finding the discharge reappeared every time two or three days after ceasing to apply the injection, he gave it up and again presented himself, about the middle of March, 1893. Instrumental examination disclosed several soft strictures, all within an inch and a half of the external meatus. These, except the deepest one, were reached and cut with a bistoury, and the latter was soon dilated by sounds, up to thirty-six, French, which sound could then be passed into the bladder comfortably, being the full size suitable to his urethra according to the rule of Otis. But curing the strictures did not cure the discharge as had been expected, although the use of the sounds was continued for several weeks after all trace of stricture ceased to be detected. Applications through the endoscope were next tried, varying in strength up to sixty grains of nitrate of silver to the ounce, wherever the affection appeared to exist, which was over pretty nearly the whole urethra. But they had no effect on the discharge. Resort was next had to the syringe for deep injections. The applications were made all along the canal, as described above, beginning in the prostatic region while the bladder contained urine, an important precaution, especially in using a strong injection, else coming undiluted in contact with the sphincter of the bladder, it is liable to prove uncomfortable. Only one or two grains of nitrate of silver to the ounce were applied the first time. The next time five grains to the ounce; the third ten grains, and so on, increasing by a few grains each time, until thirty grains were reached. Up to this time the discharge had continued about as usual, but after one application of the thirty-grain solution it ceased entirely and never returned, all treatment from that time being discontinued. None of these injections caused much smarting or discomfort at the time of the operation, but there would be more or less subsequently at micturition, lasting a few minutes, for the first twenty-four or thirty-six hours after the operation, and at this period an increase of thin secretion; but nothing more serious than this ever resulted from these applications. But several months later the patient called, complaining that he had been having pain for two or three weeks in the peroneal region, and upon my instilling four or five drops of a five-grain solution of silver in the deep urethra only, it caused severe burning for an hour or more and, for two days after, on micturition. Doubtless the greater tolerance on the former occasion was due to the toughening of the urethra and blunting of its sensibility by the protracted inflammation and by the almost equally protracted treatment. One or two grains to the ounce of silver, injected into a healthy urethra, is liable to cause exfoliation of the epithelium, as you who have tried it have probably observed.

Applications of silver, and other agents, through the endoscope will sometimes prove very effective in those cases, especially, in which the affection is confined to the surface and to that section of the urethra in front of the isthmus. Beyond this point it is not so easy to make applications effectively through the endoscope, and in follicular affection, in any part, they are useless. But it may be rubbed into any surface affections in front of the triangular ligament, sometimes very effectively, especially where granulations exist. Contrary to what, without experience, might be expected, quite strong applications may sometimes be rubbed thoroughly over large affected areas, at least as much as sixty grains to the ounce, without causing serious pain or other unpleasant consequences, and with very prompt benefit.

This is well illustrated in Case III. The patient was a single gentleman of thirty-odd years of age, whom I treated on two occasions only. The history was the ordinary one of several gonorrhœas, developing into incurable gleet. At least for two years it had proved incurable under experts of good reputation. Strictures had

been cut, sounds passed, the lacuna magna split up, deep injections made, and endoscopic applications, all in vain. The discharge continued sufficient to leave, every morning, a muco-purulent stain on a piece of white cloth on squeezing the penis; and there was also history of exacerbations, under the circumstances ordinarily exciting them in such cases. On the first occasion of my treating him, the routine measure being employed, that of the sound passing was applied. Three months later, sound-passing and endoscopic applications having in the meantime been practised, being again called to treat him, on introduction of the endoscope the urethra semed to be generally affected from the meatus back about two inches, beyond which it presented its normal healthy pink hue, and the sheath was perfectly soft and pliable; while in the affected region it was perceptibly stiffened and the surface was dark red and more or less covered with fine granulations. Upon the cork-screw extremity of a wire holder a cotton swab was securely twisted, and then dipped into a fifty-grain to the ounce solution of nitrate of silver. The swab was passed entirely through the distal end of the endoscope, introduced to the further limit of the affected region, and then rubbed back and forth behind the endoscope as the latter was withdrawn, over the whole affected region, very thoroughly. There was no complaint of pain at the operation. A prescription for an injection of permanganate of zinc, two grains to the ounce, was given for the patient to apply with an ordinary syringe, every twelve hours. He returned in two weeks, perfectly cured. He reported that the injection caused sharp smarting, for which reason, as directed, he had reduced its strength by adding an equal part of water, after having used it in full strength three or four times. The discharge ceased to appear after the fourth day from the operation, and the injection was discontinued, according to directions, four days subsequently. Several weeks later there had been no return of the discharge, and endoscopic examination showed a healthy-looking urethra. This cure proved as permanent as it had been prompt.

Case IV. is an example of a class in which, under unfavorable circumstances, all ordinary measures having failed, the patient is sent away with a simple prescription and gets well promptly. The patient first applied for treatment in June, 1890, with a history of several attacks of gonorrhœa. For some time the arrested discharge had had the bad habit of returning on slight provocation, such as indulgence in more wine than usual, tobacco, or venery. He continued to reappear every two or three months to be treated on such occasions. At first, ordinary injections and medication would dry up the secretion entirely in the course of ten days or two weeks, but gradually this ceased to be the case, and the morning drop at least became a permanent symptom as soon as the injections were discontinued. But he refused instrumental exploration, until becoming engaged to be married. He announced this engagement in April, 1892, and that he must be cured before October, and that he was ready to submit unresistingly to any measures advisable to this end. Exploration of the urethra disclosed only slight strictures, one just behind the meatus and two others, both in the first inch and a half of the urethra. These were divided with the expectation that the operation would cure the gleet. It did not, however. Neither did the subsequent diligent use of sounds, applications through the endoscope and with the deep urethral syringe. The whole urethra, as far as could be made out through the endoscope, was congested or inflamed. The patient was cashier of a large corporation, and at this season driven with work ten hours a day; and being a slight, nervous man, this, with hot weather and worry about his case, and with visiting his affianced four nights in the week, and spending the other evenings at his club—altogether, was exhausting. When he got to his club he would feel so depressed that, notwithstanding the best resolutions to obey orders, he would often yield to the temptation to brace up on alcoholic stimulants, and to quiet his ruffled nerves by too much smoking. But the greatest difficulty was to prevent his visiting his girl so often, and probably exciting himself sexually for several hours. I first sent him on a sea voyage, directing him to remain away a month; but in ten days he was home again. Notwithstanding the subtle opposition of the young lady, he was sent away again, promptly, to a farm-house on the coast of Maine, far from the madding crowd, taking a vial of permanganate of zinc injection and armed with a clap syringe. He came back in four weeks cured, and was married without unhappy consequences.

Case V. is an illustration of follicular inflammation. The patient was a married man, about thirty years of age. Had been treated in this country and previously in Europe for chronic urethritis and stricture. He had suffered for several years, at times seriously, having had several attacks of retention of urine. He was in a miserable state when I first saw him, the urine coming away after much straining, in driblets, accompanied with pain. Micturition was also very frequent, and there was a gleety discharge. Exploration showed the urethra strictured throughout nearly the whole of the first inch to a considerable degree, then it appeared free from stricture until a point three and a half or four inches from the meatus was reached. Through this point, after the anterior strictures had been cut with a bistoury, a seventeen (French) steel sound could with difficulty be urged; when, on manipulation over the sound, a firm nodule could be felt at the point, extending a third of an inch longitudinally. This was at first taken to be a callous stricture, and an operation with Otis's dilating urethrotome was advised. It being refused, sounds were passed every two or three days, and the nodule stretched and rubbed each time over the sound. It disappeared so rapidly that in three weeks it was hardly perceptible, and in six weeks the cure was complete. The conclusion was reached that the nodule probably had been an inflamed follicle with thickened walls, packed with inspissated secretion, which the pressure of the sound and massage gradually removed. Certainly it is not according to my experience that a tough annular stricture, such as this was at first supposed to have been, can be caused to disappear so readily by passing sounds. The cure has proved to be permanent.

No one of experience, probably, any longer advises to attempt the cure of chronic gleet, where stricture has been shown to be present, by other measures, until after the stricture is cured, either by urethrotomy or by gradual dilatation. But it is also probable that most of us are, by this time, pretty firmly convinced that curing existing stricture will not always cure the co existing gleet, although it is always a necessary preliminary in order to assure anything more than temporary suspension of the gleety discharge. The use of sounds in treatment of gleet, when stricture is absent, although a very popular practice, and sometimes effective in exciting health reaction and curing the disease, yet often proves disappointing in bad cases. It has seemed to me sometimes to be more productive of profit, in this connection, to the practitioner than to the patient. But for the radical removal of soft and yielding stricture, whether accompanied by gleet or not, it is indicated, while urethrotomy should be reserved for those cases which do not yield readily to dilatation.

It is most important to be able to diagnose incipient stricture, and to determine when a stricture has been radically removed. But we can determine these points only by reference to the normal calibre of the fully distended urethra. Therefore, to know what the latter truly is becomes most important. In this connection, Professor White, in Morrow's "Handbook" (page 18), remarks: "The figures which Dr. Otis gives, while they doubtless represent accurately the distensibility of the male urethra, do not by any means represent what can fairly be called its normal calibre. Dr. Otis's views and teachings have been of great value as showing the distensibility of the normal urethra—as bringing out the full pathological value of stricture, and adding exactness to urethral surgery."

This quotation would seem, on examination, to be only another way of stating very well, indeed, what Dr. Otis himself would express, and is misleading only in seeming, in connection with the figures and other statements of Professor White, to imply that his own teachings differ in some material respect from those of Dr. Otis. As a fact, the difference would seem to be only in that their respective figures refer to the urethra under different conditions. In other words, the only disagreement is as to what degree of distensibility the surgeon shall regard as the normal calibre of the urethra.

In the last edition of his book on stricture of the urethra, Sir Henry Thompson, who cannot be justly accused of lack of becoming conservatism, says: "Indeed the question of diameter of the urethra must be considered as resolving itself, to a certain extent, into the measure of its capacity of being safely extended, and this is of greater practical importance perhaps than any other question regarding it." Call it, therefore, distensibility or normal calibre. Practically these are the same; for it is evident that, whatever may be normal calibre, regarded functionally—regarded from the surgical point of view, it is when the urethra is fully distended, that is, to the limit sharply drawn by the inelastic fibrous sheath—where the elastic constituents of the urethra find their extension limited by the capacity fixed in the inelastic constituents of the sheath. Up to this limit the healthy mucous membrane easily expands, without danger of rupture, while the surrounding sheath of inelastic fibres, constituting this abrupt boundary, is too strong to be in danger of rupture by any ordinary force, such as is employed in exploring with the urethrometer or in passing sounds. But in case the mucous membrane has lost its elasticity by disease, it is readily seen how it might be liable to fracture, but not the sheath itself. The fracture of the mucous membrane alone would not seem, should it happen, a very serious matter.

Practically, the term moderately distended as applied to the urethra, has no determinable nor definable value, and is consequently meaningless to the surgeon.

328 West Fifty-seventh Street.

STERILIZED CATGUT IN A CONVENIENT AND PORTABLE FORM.[1]

By OTTO G. T. KILIANI, M.D.,

NEW YORK.

INSTRUCTOR IN CLINICAL SURGERY IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL; SURGEON TO THE GERMAN DISPENSARY.

Surgery in its present state of development is surely a great science and a great art. But the more elaborate our methods grow, and the better our technique becomes, the more does our success depend upon very small and apparently unimportant details. This is one of the reasons why I venture to bring to your notice to-night this little arrangement which is the subject of my paper.

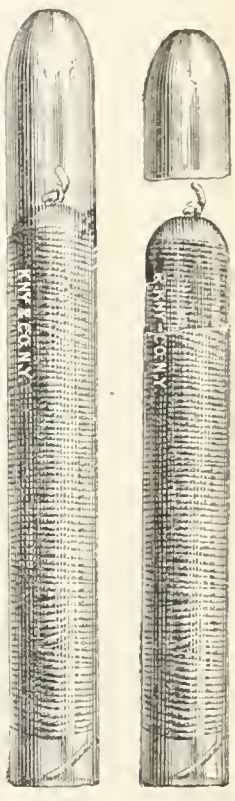
One of the most important features of surgical technique is the material for sutures and ligatures, and its preparation. In all the cases where we wish to use absorbable material—and it is used now in our aseptic period, where most of the operations are expected to heal under one dressing, a great deal more than ever before—catgut is *the* material; and it would be used still more, if a good many surgeons had not lost faith in the possibility of sterilizing it. How important this question is, is shown by the fact that, for instance, I personally know of eighteen different methods of preparing catgut. There are very likely a great many more, in fact nearly every surgeon has his own method, or at least the "modified" method of somebody else. Now, it is a well-known fact that wherever a great many methods exist for achieving the same thing, and wherever new methods are constantly being invented, none of the old ones is satisfactory, and I should like, therefore, to hear your opinion about my method.

[1] Read before the Medical Society of the County of New York, April 24, 1893.

In preparing catgut for surgical use three points come into consideration, namely: 1. How to sterilize catgut. 2. How to keep the sterilized catgut in this condition. 3. How to make it portable in that sterilized condition.

Without entering into particulars concerning other methods, I will briefly describe my own, and we will then see how it answers these three requirements.

Dry catgut, not kept in oil, is put in absolute alcohol for twenty-four hours to remove all moisture. Then it is cut in pieces of two and three yards length, one of which is rolled on a glass rod, and then put in a glass tube open at one end, and with a little hole at the other, through which a short end of catgut is pulled. The glass rod is removed and the roll of catgut is in the glass tube. This tube with its contents is put in a second glass tube, a little wider and longer, with one end open. Then the filled tube is put in a dry hot-air sterilizing apparatus, the temperature of which is brought within one hour up to 80 centigrade, 176° F. This is to let the alcohol evaporate, and what might be left of water. Then the open end is closed by melting the glass, and the hermetically sealed tube is again put into the sterilizing oven, the temperature of which is brought up in the course of two hours more to 140 centigrade, 284° F., which is kept up for a whole hour. Another hour is consumed in letting the temperature gradually sink again. Then the outer tube is scratched with a file and it is ready for use. Immediately before using it, the outer tube is broken, as described below,[1] at the marked place, and the inner tube with its contents put for two minutes into the solution in which the instruments are lying, whether it be carbolic acid solution or soda solution, or whatever else is used. Then you pull out through the little hole as much as you need, and so gradually use it up; or if all is not used, the rest is thrown away. This is a most essential point, that each tube contains only just about as much catgut as will be needed for an operation; for an extended operation several tubes may be opened in succession; and that then it cannot happen, as it does in other methods, that the remainder of the unused catgut becomes infected. This, of course, only holds good when the unused pieces are thrown away.



Our bacteriological experience has shown any number of times, and shows every day, that all micro-organisms and their spores are definitely destroyed by the temperature to which the catgut is subjected. It was really entirely unnecessary to prove it again, and I have done so only for the sake of completeness. I have here tubes with pieces of sterilized catgut in the gelatine or agar, where absolutely no cultures are to be seen. Some of them contain catgut as it is in the market and then sterilized, some, catgut which I infected with pus or with cultures of staphylococcus pyogenes aureus and citreus, streptococcus, and anthrax, and then sterilized.

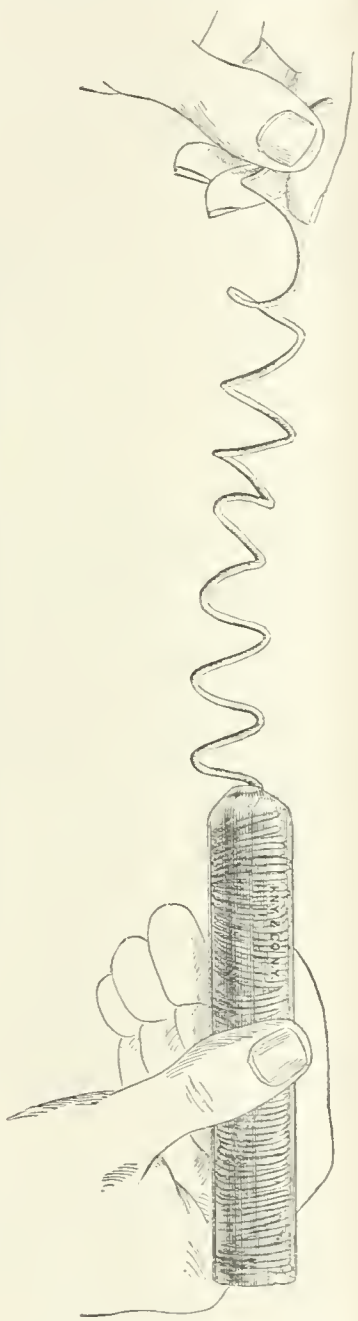
I have been making these experiments for over six months, and I never got a culture except sometimes by carelessness a non-pathogenic culture of asparagillus, the bacillus of mould.

But there is another question to be answered, and this

[1] The outer tube is broken as follows: A small piece of wire comes with each lot of tubes, it is heated red-hot in the flame of a spirit or other lamp, and on being placed upon the file-mark, cracks the glass cleanly. Or the tube can be easily broken between the fingers without danger of lesion, by wrapping some sterilized gauze around it.

is: Does sterilizing in dry heat not injure the catgut and impair its durability, elasticity, etc.? I am fortunately able to give a definite answer to this question.

Reverdin and Benkisser first employed this way of sterilizing catgut, and found out how not to injure the quality in the process. I do not know how much it came into general use, but Schede, surgeon to the new Hamburg State Hospital, had the catgut prepared in that way since 1889, and it was there, during my service in 1890, that I learned how to do it. Since that time I have had the method in constant use for my own work, and I never had reason to complain about it. So the experience of one of the largest hospitals in the world—Schede has six hundred surgical beds—speaks for it, besides my own experience. Now to the second point. How to keep sterilized catgut sterile. All sorts of ways have been tried to achieve this end, and everyone knows the different glass jars and bottles in which the catgut is kept, on glass spools in alcohol, with or without salicylic acid, chromic acid, carbolic acid, iodoform, bichloride, etc.



In my method of preparation it is beyond any doubt that the catgut, if it ever becomes sterile, must remain so forever in the glass tube which has been closed by melting And it seems to me to be a very important feature that the catgut is contained in a hermetically closed tube during sterilization, and therefore is absolutely safe from infection of any kind by handling, during or after the process.

The last point to be investigated is the convenience in carrying around. A great number of receptacles have been constructed and recommended, a part of which I have tried myself and found them all unsatisfactory. The reason is plain, as first, in all of them the catgut must be kept in a fluid, and secondly, these must all be refilled. I think this is the strongest point in favor of my preparation. Nothing can be easier and more convenient and handier than these little tubes. There is nothing to run out or spill, with reasonable care there is nothing to break, there is nothing to get out of order, and they are always ready for use.

It only remains for me to mention that the preparation will be very cheap, a point which will have some bearing on its use for general practice. It is intended specially for the general practitioner, and not only for the surgeon, whose operations are for the greater part performed in the hospital, where he can keep his catgut the way he prefers, or can have it sterilized according to his own liking.

For this purpose the firm of Richard Kny & Co., who are prepared to furnish this catgut, will also sell it unsterilized with the outer tube open, according to a suggestion made by Dr. Gerster when I spoke with him about it. It can then be easily closed by a wad of cotton instead of by melting the glass.

I know of only one objection which can be urged against the use of this preparation, viz.: That it is impossible to see whether the catgut is really sterilized. In this respect we have to trust to the makers, except that, as a further precaution, some specimens of each lot of sterilized catgut should be subjected to bacteriological tests before being put on sale.

It gives me great pleasure in conclusion to give credit to Dr. Francis Foerster, whose suggestion was the incentive in my attempt to perfect a portable form of dry-sterilized catgut, which I hope may prove of some practical value to the profession.

133 East Fifty-seventh Street.

PYOTHORAX AND ITS TREATMENT.[1]

By CARL BECK, M.D.,

NEW YORK.

Among all so-called surgical diseases none shows a greater prevalence in this city than empyema. Its predisposing cause is probably due to the rapid variations of climate, which favors so much the development of pleuro-pneumonia. If it be true that figures demonstrate its prevalence, it becomes evident by the fact that, during a period of eleven years, I have performed resection of a rib in this city in one hundred and forty-one cases for empyema. You will find a great difference in the statistics of European surgeons. So, for instance, with the one exception of Kœnig (seventy six cases during twelve years), some of the most eminent surgeons furnish reports of between ten and thirty-five cases treated likewise during the same length of time.

The *Universal Medical Journal*, of Philadelphia, in its last issue, June, 1893, published the statistics of empyema treated by F. C. Holt, of Christiania, from 1874 to 1891. It impresses the reader that the twenty-three cases operated upon during this time were regarded to be a large number.

The *St. Louis Clinique*[2] does not disdain to draw classical rules from the observation even of two cases. That under the auspices of antiseptic principles the question is still pending whether aspiration, incision, or resection should be the treatment is a deplorable fact, the explanation of which, in my opinion, can only be found in the fact that the general practitioner is seduced to attempt the solution of surgical problems, which lead to the fields of speculation. One of the few glorious exceptions is represented by Gerhardt (as shown in his excellent essay about diseases of the pleura).

When, last year, I was visiting one of the greatest surgical clinics in Europe,[3] on inquiry I was told by the chief that only one case of empyema had been treated in the surgical ward during the whole year, as the other cases had to be under the attendance of the physician on internal medicine.

At the last Medical Congress in Vienna no less than six methods for treating pyothorax were still advocated; they were:

1. The expectant treatment.
2. Simple aspiration (done once or more), recommended by Silly, Ewart, Kapteyn, Peri, Hughes.

[1] Read before the County Medical Society of New York, February 26, 1894. (Part read before the Pan-American Congress, Washington, D. C., September 8, 1893.)

[2] Arnot Spence, February, 1893.

[3] University Place, with five hundred thousand inhabitants.

3. Aspiratory puncture followed by antiseptic irrigation, recommended by Senator, Reichelt, Baelz, Kashimura.

4. Permanent aspiration (Bülau's method), recommended by Subbotin, Bowditch, Immermann, Leyden, Curshmann, and Playfair, and modified by Phelps.

5. Simple incision, recommended by Kussmaul, Bartels, Quincke, Ewald, Rose.

6. Resection of one or more ribs, recommended by Roser, Koenig, Schede, Bardeleben, Runeberg, Billroth, Rydygier, Weir, Bull, McBurney, Estländer, Ziemssen, Glaesser, Raczynski, Gerhardt.

There is no doubt that the latter method, resection, is gaining ground more and more, especially among and through the real professional surgeons, and it will be the endeavor of this paper, in analyzing the other methods, to convince you of their insufficiency.

It is particularly Koenig who deserves the most credit for having first offered clear, simple, and methodical indications of a true surgical character.

The genius of my great teacher, Gustav Simon, even at the pre-antiseptic era, found a way to heal old cavities by resecting from three to seven long pieces of ribs, thus enabling the thoracic wall to approach the retracted lungs.

I may be allowed on this occasion to give this eminent surgeon, who performed the first nephrectomy, due credit for this ingenious method, which generally is attributed to Estländer.

The last year saw us admire Schede, who obtained satisfactory results by removing even the whole thoracic wall. Ribs had been perforated already by Hippocrates, the great master, and by studying his book "De Morbis" one cannot help getting the impression that, long before him, opening of the chest-wall was a well-developed operation, the indication for which was well defined and must have also been based upon a very frequent and extensive employment of the different methods of incision by knife, cautery, or by perforation of a rib.

In the seventh book of the "History of Nature," Plinius, for instance, describes the case of a certain Pharæus, who, after having been given up by his physicians, wanted to die on the battle-field. But when thrust by a spear into the chest, pus escaped, and the seeker of death recovered—in fact being cured by the weapon in the hands of his enemy. Euryphon, of Knidos, is supposed to have saved the life of Kinesios by opening his thoracic cavity with the actual cautery.

There can be no doubt that, based upon nearly perfect diagnostic means, such operations were performed frequently and successfully during the great Hippocratic era, and that the most of its admirable knowledge had been lost during twenty three centuries.

Is it not astonishing that Hippocrates laid great stress upon frequently washing the patient with warm water, before the operation should be performed? Does this not appear like a dawning of aseptic principles, and explains so well why the successes of operations performed then were so excellent that some are inclined to doubt their truthfulness?

It would suit the spirit of our sterilizing age to be reminded of the custom of frequent washing by our Hebrew friends, which was made a religious rite by Moses, who must have been the greatest connoisseur of human nature. It is a pity that just this doctrine is so poorly appreciated by some of his Russian offspring.

A slight impression of what we must have lost of the immense knowledge of the school of Kos, and how highly educated Roman surgery must have been, one may gain by visiting the so-called house of the surgeon at Pompeii. The streams of water which were constantly flowing through the streets of Roman cities were certainly apt to remove germs. But more than that—and I do not know if it has ever been mentioned from this point of view—the exceedingly large number of small wells in the house points to the more or less conscious knowledge of the principles of asepsis.

On a recent visit to this most interesting place I felt, more than ever before, how little advanced in fact we are in comparison with the medical civilization of many centuries ago. And why should not the ancient surgeon, with his fine art of diagnosis and with his powerful weapon—cleanliness—have obtained better results than the surgeon of not many years ago, who went directly from the autopsy room after having washed his hands, *secundum artem*, in a questionable fluid, to the operating-room, repeating his anatomical masterpiece on the living subject, and—with the same effect?

It is not at all astonishing that Sedillot, who brought the operation for pyothorax to light again, was not greeted enthusiastically. His results were so discouraging that the greatest surgeon of his time, Dupuytren, when suffering from pyothorax himself, being advised to be operated upon, declared that he would rather die from the hands of God than those of the doctors. Bearing in mind that Velpeau had lost all his cases, and that of fifty cases of empyema he had only seen four recoveries, we may well appreciate his conviction.

Later on Sedillot and Langenbeck recommended trepanation, Roser resection. But, as a rule, even among such surgeons as were in favor of resection, it seemed still to be understood that resection should especially be done in adults, while aspiration or incision should be preferred in children, because of their greater tendency to recovery. When I, nearly eight years ago, as far as my knowledge goes, for the first time[1] emphasized the adoption of the method of resection for all cases of empyema without regard to its original cause or to the age of the patients, in a paper before the German Medical Society of this city, my views were received very unfavorably. There was indeed not one gentleman present who had not obtained so and so many excellent results by aspiration or incision, that it was a crime to mutilate poor patients by resection without any necessity, and at the end of the discussion I had the feeling that the condemned Shylock was a nobleman in comparison with me.

It is a great satisfaction to me to know that several of the gentlemen present at that time are now of the same conviction as myself, and it seems to be difficult for them to remember that they ever were possessed of a different one. At the same meeting I, on the strength of twenty-four cases, maintained that the main indication for resecting a rib was not only, as usually supposed, furnished by the necessity of having sufficient drainage or to induce the thorax to approach the pulmonal pleura, but for enabling the surgeon to introduce his index finger, thus making it possible to palpate the pleural walls.

It is, as I repeat to-day, indeed the only procedure which with certainty shows the presence and allows the immediate removal of clots consisting of fibrinous or cheesy products attached to the pleura. My experience has shown me that in nine out of ten cases I could be certain to find such lumps—at an average of goose-egg size—free in the cavity as well as fastened to the pleuræ.

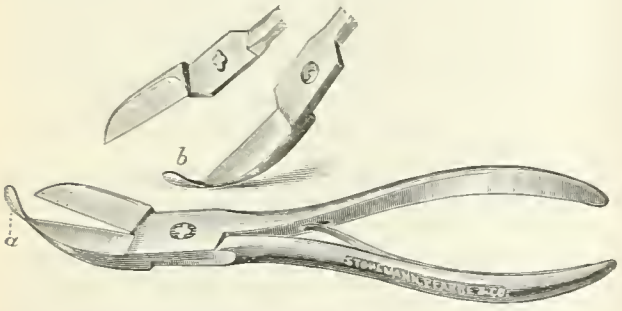
As long as we have no physical, mechanical, or speculative means to distinguish between this condition and a simple collection of pus, or so long as we cannot liquefy these lumps by the use of a dissolving injection first, aspiration and even incision are insufficient and therefore unsurgical procedures. I tried to dissolve such masses by the injection of pepsine, but without avail, as the resection later showed clearly. In three such cases large clots were found afterward. Anæsthesia was only administered when the pulse was strong. Generally caffeine was given before. In the greater number of cases the operation, which can be done in a few minutes, was performed under ether spray.

If the patient or his relatives are adverse to the seeming cruelty of this treatment, their attention can be called to the immense dangers to which anæsthesia might expose the organs of the thorax, the functions of which are so much impaired already by their compression. Not more than one or two drops of chloroform should be poured into the mask, the smell of which often gives the

[1] Cf. New Yorker Medicinische Presse, December, 1886.

patient the agreeable impression of getting or being insensible. This may explain why I never met with an accident during operation.

As the diaphragm after evacuation is always rising I usually resected the sixth rib. Only when the extent of the cavity is found to be very small, I incise above the same, using the aspiratory needle as a guide for the incision. As a rule, between the anterior and posterior axillary line—under antiseptic precautions, of course—I make an incision about three inches long, which at once divides the periosteum. From here the thoracic walls can be palpated equally well anteriorly and posteriorly. Furthermore, the patient, when brought on the edge of the table, can assume the dorsal decubitus, while, if the incision should be made further back, he would lie on the healthy side, which on account of the pressure of the effusion would expose him to great danger. Then with a small curved elevatorium I lift the periosteum from the rib, which then is pushed underneath the rib so that the rib rides on the instrument. A blunt hook retracts the tissues alongside the rib toward the axilla. One blade of a bone scissors is introduced below the rib between hook and elevatorium, and the same cut through. Then the elevatorium is pushed toward the sternum, thus forcing the rib from the last fragment of adhering periosteum, the hook inserted opposite to the wound, and with scissors the same manœuvre is repeated. If my own elevatorium shears (see cut) are used, it is only necessary to tear away the connection between the periosteum and the rib and cut the rib through, the instrument being of such a shape as to keep the tissue properly retracted. The one blade, if separated, can be used as an elevatorium, so that, without having anything else on hand than a knife and this scissors, the whole operation could be performed. A piece long enough to allow the introduction of the finger suffices.



It is impossible to strike the intercostal artery during these manipulations. Iodoform (as a powder or as a saturated solution in ether) is then distributed above the wound surface, to prevent infection from the pus as it flows from the cavity. Through a small opening made into the pleura with a bistoury a Pean forceps is introduced and the pus slowly evacuated. A sponge is pressed against the opening from time to time to interrupt the stream, to avoid a too rapid expansion of the lungs. (The time of evacuation should be at least twenty minutes.) The finger is now introduced, and lumps, which are now probably found to be adherent to the pleural walls, are wiped off with the index finger or with a blunt spoon made for this purpose (like a spoon for stone in the bladder). If bleeding should exceptionally occur, this may be deferred for two or three days. An irrigation of a bichloride solution (1 to 5,000) is used mainly for mechanical purposes, that is, to evacuate thoroughly. The pleura is then stitched to the skin with four iodoform silk sutures, forming a mouth (pleurostomia). These sutures at each edge of the wound and two opposite ones at its middle are generally sufficient to cover the wound surface, to prevent secondary hemorrhage, and keep the opening large. Some iodoform powder is put into the cavity to reduce the secretion, then the wound is covered with iodoform gauze. The whole side is protected by a piece of pasteboard-like absorbent moss, which, after being slightly dipped into a solution, adapts itself to the contour of the body like a plaster-of-Paris dressing. A strip of rubber adhesive plaster keeps it tight, so that no air can enter. During respiration it acts like an aspirating valve and absorbs at the same time. After three days a rubber drainage-tube, of the size of a man's index finger, secured by two large safety-pins in the shape of a cross, is introduced. I have refrained from introducing it immediately after operation, since I have witnessed considerable bleeding from it. Undoubtedly the constant respiratory movement of the pleuræ causes irritation in the way of rubbing. It seems that after the pleuræ become more accustomed to the contact of the atmosphere, as soon as granulations appear, they stand the irritation well. As the cavity is, indeed, entirely emptied after the operation, there is no necessity of washing it out afterward. As an average, two weeks after the operation a smaller drain is introduced, which gradually has to be shortened. When the serous discharge becomes scanty the drainage-tube may be left out and a small strip of iodoform gauze introduced. For the following few days the patient has to be watched very carefully. It may be that the cavity is obliterated the following day, but very often union is only superficial and retention of pus occurs, as an expression of which an elevation of temperature will be noticed.[1] Then, of course, the drainage-tube has to be introduced again, and after a week the same manœuvre must be repeated, until four days after the obliteration no secretion has been showing up and the temperature has remained normal. In doubtful cases the grooved director may reveal the presence of retained pus. The patient should always lie on the diseased side of his thorax, and should be lifted up by the feet about every four hours so that the pus will flow into the dressing. This renders the procedure, as advised by Küster, unnecessary, to make a counter-opening to avoid the retention of pus. There is no reason for introducing gauze into the cavity.

The dressing has to be changed twice a day for the first week, later on once a day, and after three weeks only every second, third, or fourth day. The patient, if in any way possible, should get up after one week. The thermometer is controlling the treatment, *i.e.*, the change of the dressing. During the after-treatment for the first few days small doses of morphine are administered for the purpose of immobilization. If the pulse be weak, strophantus or caffeine may be given at the same time. Later on, syrup. ferri iodat or cod-liver oil is ordered. Nourishment is given frequently in small quantities to avoid distention of the stomach. Great stress is always laid upon the necessity of gymnastics to prevent curvature. My experience leads me to the conclusion that simple empyema, operated early, will only under extraordinary circumstances turn out unfavorably. In other words, the chances of an empyema depend entirely upon the early diagnosis of the general practitioner. The diagnosis of empyema has to be made by the aspiratory needle. If there is much cheesy accumulation, or a small cavity, or if the fluid be encysted through the division of the cavity by adhesions, it has to be introduced quite often on different portions. I sometimes have explored ten times before I could corroborate my suspicion. I found it useful, when I could not draw any pus, to push the wire through the needle, a procedure which sometimes made a trifle of pus appear on the end of the needle.[2]

After deducting the 24 cases published seven years ago, 117 remain in this series. Among the cases 39 were below three years; 32 were between three and five years; 19 were between five and ten years; 10 were between ten and sixteen years; 17 above this age. Of them 12 died above sixteen years, 5 from tuberculosis; 98 were simple acute cases, 19 were complicated. Among 5 double-sided, 4 recovered.

In the case of a child, two years of age, where I had operated one year ago, and where recovery was perfect

[1] Cf. history of Case XIII.
[2] Cf. history Case IX.

four weeks later, I had to perform a resection after a second pleuro-pneumonia only four weeks ago on the same side.

All the empyemas with offensive odor (4 cases) died.

The average time of the healing process was five weeks. Recovery of a baby, aged six months, was perfect after six days.

Among the cases of simple empyema (collection of pus —*bonum ac laudabile*—following an acute inflammatory process in the lungs or pleura) in 63 the diagnosis was made early. These cases recovered without exception.

Among the 37 cases which were diagnosticated late, 5 showed the typical vaulting of the thorax. (In two of them a fistula remained; one of them died after resection of seven ribs.)

In 6 cases I was doubtful whether tuberculosis was causing the empyema, or if the long standing of the latter did not cause the tuberculosis. In fact I cannot understand how an accumulation of pus could occupy any portion of the body for months without causing sinister manifestations.

Two cases, where tuberculosis was diagnosticated, and therefore considered non operable, recovered after resection. So they, according to the wisdom of the dissuading capacities, had, as one would imagine, been treated wrongly.

Based upon this experience (similar cases of respective cures are reported by Schede and Güterbock),[1] I repeat that resection of a rib should be performed whenever the presence of pus has been verified by the exploratory needle, no matter if tuberculosis is confirmed or not. What harm can be done by resection? A consumptive has nothing to lose and everything to gain.

As before alluded to, the differentiation between tuberculosis and simple empyema is not so easy as it seems on superficial contemplation. An abnormal condition, for instance, at the apex does not necessarily show the tubercular character of the empyema, and *vice versa* bronchial breathing, râles, and bronchophony during auscultating, the symptoms of compression as well as forced pectoral fremitus, can all be due just as well to a tubercular infiltration of the lung tissues.

I may, for instance, relate the following history: A machinist, twenty-six years of age, showing an excellent family record, took sick suddenly, never having been ill before, with a chill and nausea. Pleuro-pneumonia developed, which ended by crisis. Perfect recovery, however, did not follow, but the patient went around for three months while suffering from slight dyspnœa and low fever. Four months after the onset of the pleuro-pneumonia I had a chance to perform resection, but three months later the patient died from tuberculosis. Now, was the acute inflammation already the expression of commencing tuberculosis? Hardly!

In the cases of so-called stinking empyemata other serious suppurative processes had been present. So it may be that the patient succumbed to the multiple pyæmic foci. So if I abstract the deaths caused by pyæmia and tuberculosis, only 5 cases, including the 3 Estländer operations, remain, where I can attribute the fatal result directly to the consequences of the operation.

My results of the so called Estländer's operation were little encouraging. Among 5 cases where I had to resort to it, I saw only 1 recover perfectly (3 died)[2] and another is still mourning his fistula.

In a case of thoracic fistula, existing for two years, I recently tried the following osteoplastic experiment: On a man, thirty-six years of age, who after an attack of pleuro pneumonia suffered from pyothorax, resection of a rib was performed only after repeated aspirations—that is, about six weeks after the onset of the suppurative process. The cavity did not fill up and a fistula still remained fifteen months after the resection. At this time the cavity would hold about a pint of irrigation fluid. The fistula was situated one inch behind the right anterior axillary line at the level of the seventh rib. Probe and finger introduced into the dilated fistula canal, proved that the cavity extended from the second to the eighth rib. Laterally in its centre it reached from the posterior axillary line forward to about an inch to the inner side of the sternum. According to my determination I made a semilunar incision from the upper margin of the second down to the upper margin of the eighth rib, dividing all the soft tissues at once. The beginning as well as the end of the incision was situated at the anterior axillary line. The middle of the segment nearly touched the sternum. While sharp hooks retracted the soft tissues, the periosteum was incised around each rib and with an elevatorium it was freed from its attachments. The rib was divided then with the bone shears. In this manner the third, fourth, fifth, sixth, and seventh ribs were cut through in the direction of the semilunar incision. Then they, still in their connection with the periosteum, could be pushed down into the cavity to a considerable extent. If I had had any difficulty in dislodging the ribs I would have resected pieces of them. The bleeding was insignificant. A very tight dressing consisting of sponges and boards of moss, pressed the fallen-in ceiling of the cavity inward, which had been previously scraped and was slightly packed with iodoform gauze (but only toward the dorsum). Every second day the dressing was changed and pressure made upon the flap. The patient's condition was not impaired by the procedure, and three weeks after the cavity would hold only three fourths of a pint.

Originally it had been my idea to make semilunar incisions, according to the periphery of the cavity, anteriorly as well as posteriorly at the same time, but the fear of insufficient nourishment of the flap prevented me from doing so. Therefore I preferred to divide the same ribs further back twenty-four days after the first operation, when the condition of the depressed portion was such that I could expect the circulation to be well restored. Now the sunken-in area forms a deep depression. In proportion to this two tablespoonfuls of the irrigation fluid is retained only by the cavity. The patient's general condition was very much improved.

It seems that I am justified in hoping for a permanent obliteration. Of course the adaptation of the thoracic wall to the pulmonal pleura is not as thorough at once as after total resection, but it is evident that, if my experiment proves to be a success, the patient enjoys the great advantage of not having suffered the loss of his bony support. At the same time I may call attention to the scant loss of blood, and especially to the impossibility of interfering with the intercostal arteries. (Further remarks about this case I reserve for a future communication.)

In reference to sero-fibrinous exudations I may state that I do not approve of resection as recently recommended in Germany. In this connection I may say that in two cases I have injected a ten-per-cent. mixture of iodoform glycerine, with success, into the pleural cavity, after having aspirated first.

In reference to the etiology, I found pleuro pneumonia occupying the front rank. Among the complete histories I found it eighty-four times, twenty-nine times after influenza; scarlet fever, eight times; puerperal processes and other septic infections, four times; whooping-cough, twice; and diphtheria, once.

As far as the pathological significance of empyema is concerned, I acknowledge that it is very different. The etiology as well as the extent of the exudation, the kind of pus (if thin, thick, smelling, or putrid), the age and constitution of the patient, the pulse, the temperature, the digestion, the subjective condition of the patient, and the stage of the disease, have all to be taken into consideration. Furthermore, it is of great importance to know to what particular microbe the empyema is due, that is if to the streptococcus, the pneumococcus, the tubercular bacillus, the typhoid bacillus, to the staphylococcus aureus or albus. Some empyemas contain simultaneously several forms of schizomycetes.

[1] Cf. Berliner klinische Wochenschrift of June 27, 1892, p. 655.
[2] Cf. histories

Netter, in 109 empyemas, found: streptococcus, 51 times; pneumococcus, 32; saprogenous organisms, 15; Koch's bacillus, 12 About half of all empyemas contain streptococci. As this microbe is most commonly found in suppurative processes, and has its domicile constantly in and on the most healthy persons, it is self evident that it frequently will be demonstrated in pyo thorax.

It seems that it especially tends to the formation of solid masses. Its predilection is for the infectious diseases of adults. The pneumococcus of A. Fränkel is more prevalent in the primary empyemas of children. About twenty-five per cent. in adults, and seventy per cent. in children.

This form of empyema shows the most benign character among all, so that some are inclined to attribute this to the microbe; but it seems to me that the vitality of the organs and the compliance of the thoracic walls, are the main causative factors of the more benign character of empyemas in children. The absence of the tubercular bacillus does not prove the absence of tuberculosis, as it very often is not found. There are empyemas where only Koch's bacillus is found, and there are some where streptococci, staphylococci, and several mixed forms could be discovered. In the latter case tuberculosis has repeatedly been diagnosed by other methods. There is still left a good deal for future investigations, to make these microscopical examinations more useful for the surgeon.

All these points certainly influence the prognosis as well as the after-treatment, but certainly could not prevent me from performing the resection, as long as there is the slightest hope for recovery. *As long as our diagnostic means are so insufficient, that we never are able to know, before the operation, exactly if the lung will expand in proper time or not, we from the start must make our arrangements in such a way that we can meet all eventualities afterward.*

It is certainly very disagreeable, if the patient, for instance, has been promised to be cured by incision, and then the ribs approach each other so much that drainage becomes imperfect and resection must still be done weeks after the incision! An occasion like this will hurt the reputation of the surgeon to the greatest extent.

Among the accidents I have witnessed, I may mention that, no less than four times, I have been called to extract drainage-tubes which were imperfectly secured (such as by one safety-pin), or where the rubber was of an inferior quality, so that breakage occurred. Once I removed a drainage-tube, nine inches in length, a year and a half after operation by Bülau's method.

Breakage of a poor rubber tube, however, occurred to myself once, but fortunately I was able to grasp it with the forceps the moment it slipped off.

Once I assisted a general practitioner (cf. history below) who, when trying to stitch the pleura to the skin, broke his needle. I fortunately was able to extract the fragment from the cavity, where, on a level with the second rib, it was already driven into the lung.

In analyzing the six different methods mentioned above, I can hardly say anything else about the value of the so-called expectant treatment, than that I regard it to be a crime. How men of the standing of a Leyden can maintain that empyemata, following pneumonia, are very quickly absorbed as a rule, I fail to understand. I hold exactly opposite views, that is, that absorption takes place only under the most exceptional circumstances, and if it really does, it seems to me to be a great misfortune for the patient, because this procedure most probably furnishes the first step in tubercular infection.

P. K. Pel [1] mentions that the principle, ubi pus, ibi evacua, has justifiable exceptions, and that if empyemata be of small size, if the general condition of the patient be excellent, the pulse slow and well filled, if no fever be present, and the appetite remain good, absorption through thickening can be expected. Now, if one should recover from such a healthy disease without having used the exploratory needle, diagnosis will certainly be doubted; and, on the other hand, if an aspiration should have yielded pus, who will dare to recommend expectant treatment? Simple aspiration is to be condemned because it may only cure some of such cases, where no clots are present, and, as we have explained above, we have no means of knowing of their presence otherwise than by making an opening which allows the introduction of the finger. So it is a hazardous procedure. When Pel says: "We, without performing resection several times, had perfect results," I may answer that I hardly know of any disease which, no matter how badly it was treated, has not occasionally been cured, in spite of bad treatment. It is a pity that the advocates of the aspiration never have an opportunity to see the clots, and therefore they are under the impression that there are no such things in existence. They are satisfied in aspirating a certain amount of liquid pus; the patient is relieved and gladly submits to a second and third aspiration, because a stab with the needle is indeed no operation, and the most unsurgical physician can perform it.

If the patient could with his intellectual eye see the lumps in his pleura, common sense would teach him, the layman, that they never can be aspirated. But as it is, he will be aspirated so long till he is emaciated; and he is sucked, in the truest sense of the word, till the lungs become contracted. Then, as a last resort, resection may be recommended, which at this late stage, when the expansion of the lungs is so much interfered with, usually proves to be a failure.

From this the aspirating enthusiast deducts that resection is an operation which yields a bad prognosis, and that "he never saw a good result from it." Albert says very well, in reference to aspiration: "This procedure is analogous to the pumping out of other abscesses, for instance, suppurating buboes. In such cases a variety of aspiratory instruments have been tried, and once in a while a cure was effected."

The only courageous and clear treatment is the broad opening.

This whole surgical business is strictly analogous to the interference of a badly trained midwife. It is a great satisfaction to me to state that among my personal professional friends, I have been able to convince every one of them of the incorrectness of aspiration, although they all, more or less, had experienced a few results with it. For conviction I needed only to invite them to a resection at the hospital, and when they had seen me remove the clots from the pleura, they confessed they did not have the slightest idea of their existence, otherwise "they would not have tried their adventurous policy."

Aspiration, however, is by no means an innocent manipulation. The irritation in the pleural cavity may produce epileptic spells, vertigo, nausea, fainting, and even fatal collapse. At the same time a nervous physician may interfere with an intercostal artery. (As reports show, death has occurred repeatedly through extensive bleeding)

Upon aspiration, followed by irrigation, only a few surgeons rely, so far as my knowledge goes. The idea to wash out solid particles is, of course, a very good one, but regarding the large size of the lumps, the evacuation through the small tube is absolutely impossible. Therefore, this method, which fifteen years ago was received with great enthusiasm, has dropped into deserved disuse, and in fact is identical with simple aspiration.

Nearly the same can be said about the aspiration followed by permanent drainage (Bülau's method). In cases of simple empyema of short standing, where the lungs still expand easily, or wherever there are no lumps present, this method would be the ideal one. It consists in puncturing the pleural cavity with a trocar, into which a rubber tube can be introduced, this being long enough to reach a bottle partially filled with an antiseptic solution.

Analogous to the syphon-drainage after lithotomy, the pus should be constantly aspired, as negative pressure in

[1] Zeitschrift für klinische Medicin, p. 211. Berlin, 1890.

the pleural sac is caused. But as the lump question cannot be settled before a free opening is made, this method is nothing but an interesting experiment, although the author's results deserve attention.

It is certainly very interesting, that once in a while fibrinous products, especially when tightly attached to the pleural walls, can slowly be absorbed. But as we, in fact, are not at all able to judge the conditions under which this takes place, and furthermore, as we, while trying to find out if the solid masses will be absorbed, or if we must not resect anyway, are losing so much precious time, it is only little better than the simple aspiration. Besides it is very probable that the absorption of the cheesy masses, if it exceptionally should occur, would favor tuberculosis. The tube, however, becomes easily displaced, so that its main advantage—the hermetical exclusion of the air—is void. Finally, the treatment can only be carried out in a hospital.

The method of simple incision has still many advocates, who claim that a small incision suffices. Furthermore, any general practitioner could perform the operation; while resection, a very difficult and mutilating operation, would require the skilful hand of an excellent surgeon. Resection should therefore be only performed in such cases where, after several months' treatment, the ribs have approached each other so much as to make drainage impossible.

In reference to the first point I may say, that if we open an abscess nowadays, we do not think that a small opening suffices, but we make the incision as broad as possible. Indeed, so wide that, if we have a chance, we try to overlook our whole field of operation. We may palpate the walls of the abscess and find, besides its thin lining membrane, necrotic tissues. After having noticed them, the immediate removal is a matter of course. Only after this do we mean to have evacuated our cavity thoroughly. Then we do not need to wash it out every day, as only a serous secretion is to be expected, and the natural sequence is a perfect and quick recovery.

Would a surgeon have the audacity to lance a large abscess anywhere else, to introduce a small drainage-tube, and to wash it out every day? Such surgeons perhaps change their antiseptic fluid once in a while, assuming this perhaps to be the cause of the insufficient progress? And where is the difference between this and a pleural abscess?

I am not able to overlook the field of operation and to introduce my finger into the pleura after incision. I can wash out small but no large clots, and it is impossible to diminish them inside. Furthermore, I cannot detect those clots which adhere to the pleural walls. So they undergo fermentation and if the patient's condition stands it, they become decomposed, and then, under repeated febrile elevations become dissolved and are then washed out. Therefore irrigations cannot be dispensed with, which are destroying those very adhesions which we need so much for the obliteration of the cavity. How important these adhesions for the agglutination are, has been emphasized already in 1865, by Dr. A. H. Smith, of this city.

That retention of pus is always present in this condition is self understood. In regard to the difficulty of the operation, I am confident that herniotomy or tracheotomy, operations which every general practitioner should be able to perform, are much more difficult. As far as the possibility of interfering with the intercostal artery is concerned, this accident, on account of the anatomical situation of the same, happens much more easily than during resection. The incision is only made as far as to the periosteum. Then with blunt instruments the tissues, in which the artery is imbedded, are pushed aside, so that it can easily be seen and avoided. For the same reasons there is no loss of blood, while after incision through the intercostal space, fatal bleeding has repeatedly occurred. In reference to the scarcity of the moving together of the ribs, I find that this condition is the rule. In fact it is a healing process, it is the healing tendency of nature itself which makes the ribs approach, and so the remedy itself in this case is a prevention of the cure, because it occludes the opening.

Altogether, the only rational method of treating empyema is the subperiosteal resection of a piece of rib. It is a clean, easy, safe, and nearly bloodless operation. It guarantees a large opening for a sufficient length of time, and the resected piece, if the periosteum has been preserved, is always restored. Scoliosis I have never observed, with the exception of one case of Estländer's operation.

Among the histories I may report the following:

Case I.—Mrs. B——, aged fifty-six, a widow, shows a healthy family record. In April, 1882, she had an attack of pleuro-pneumonia, which was followed by pyothorax. After several aspirations, each of which gave temporary relief, I was asked to make an incision. But I insisted upon performing resection, which was done in presence of Drs. Waechter, Stutzer, and George Stiebeling, of this city. During the three weeks following the operation hectic fever was almost continually present, which weakened the patient considerably. Irrigations were made daily. Nearly every third day, I confess to my own shame, I tried another irrigation fluid, in the erroneous supposition that "in hoc signo" I would be victorious. In this manner I used boric acid, salicylic acid, acetate of alumina, carbolic acid, chloride of zinc, and at last, in my despair even made irrigations with solutions of tinct. iodi and of argent. nitr., with a bad result, of course.

Just by accident I happened to introduce my finger to palpate the pleuræ. To my great surprise I found a large amount of adherent tissues, which I instinctively removed at once. On the following day the temperature was normal, and after a few weeks the healing process was perfect. So far as I know the patient is still enjoying good health.

This case taught me to carry out the principle of cleansing more extensively *a priori*.

Case II.[1]—A. L——, a girl aged one year, sickened with pleuro pneumonia on the right side. Pyothorax followed, which was recognized by Dr. A. Aronson, of this city.

Five weeks after the onset of the inflammatory process I performed resection. Six weeks later healing was perfect. Two weeks afterward pleuro-pneumonia developed at the opposite side. Resection of a rib was performed fifteen days after the beginning of the pleuro-pneumonia for an empyema of small extent. Lumps were present this time as well as at the first operation. Recovery took place three weeks after the operation, while being treated as an out-door patient.

Case III.—M. R——, a boy six years of age, took sick with acute inflammatory symptoms which were supposed to be dependent upon typhoid fever. Four weeks later Dr. L. Haupt demonstrated the presence of pus. Resection was done immediately. Lumps were present. Recovery was nearly perfect, when, four weeks thereafter, the parents suddenly left for California, where, as it seems, through great negligence, a fistula became established. After four years' stay the patient returned to New York, where I found him in a desperate condition. The old fistula led into a cavity which extended from the second to the fifth rib, and from the margin of the sternum to the right anterior axillary line. After having resected the second, third, and fourth ribs correspondingly, perfect recovery took place five weeks later.

Case IV.—E. F——, a girl fourteen years of age, suffered from pyothorax after she had gone through a pleuro-pneumonia, as stated by Dr. A. H. Stiebeling.

Four weeks after the onset of the acute symptoms resection of a rib was performed by me. (Lumps found.) After three months I was summoned again, as a discharging fistula still existed. I dilated and scraped. After an absence of five months I saw the patient again. Now I found that an assistant had performed resection of the sixth and seventh ribs, but only to the extent of a half

[1] Case presented to the German Medical Society, March, 1890.

inch, just to "make the rib sink in," as his idea was, but this scheme did not work, as the same *status quo ante* was still present. Now I resected a very long piece of the fifth, and two shorter ones of the sixth and seventh ribs corresponding with the roof of the cavity, which would hold about three tablespoonfuls of fluid. Four weeks thereafter recovery was perfect.

Case V.—Miss E. L——, thirty-three years of age, of good family history, took sick with chills and sharp pains in the right side. She had coughed a good deal, and about three weeks after the onset of the disease (undoubtedly a pneumonia) was able to be about again. After this she was treated by her physician for two months, but only occasionally, until chills and pain in the right side compelled her again to stay in bed.

Dr. L. Weyland, who was called in now, found a prominence of the size of a man's fist at the right thoracic wall, the centre of which corresponded with the sixth intercostal space. The diagnosis of an empyema necessitatis was made then and an operation performed by me without delay. Considerable improvement followed, but a fistula remained, which in spite of repeated scraping, gymnastic exercise, and pneumatic treatment in Williams's cabinet, could not be obliterated. Therefore I undertook a resection of the fifth and sixth ribs to the length of five inches, as corresponding with the middle of the roof of the cavity. This was followed by a considerable decrease of the secretion, but still a year thereafter the cavity had not filled up.

Two and a half years after the onset of the disease I performed a third resection (St. Mark's Hospital). After the patient had inhaled only a few drops of chloroform, pulse and respiration stopped. It was a long time before we succeeded in resuscitating the patient. I now, without administering any further anæsthetic, resected four ribs more (third, fourth, seventh, and eighth). The very large opening was covered with iodoform gauze. After the operation was over the patient, still lying on the operating table, overwhelmed me with the assurances of her gratitude, a fact that shows clearly that she did not consider the omission of further anæsthesia to be a cruelty. Six months later the cavity had become so small that it could hold only one-half tablespoonful of an irrigation fluid. In accordance with this the patient's general health was excellent. In spite of the removal of seven ribs altogether, only a very moderate lateral curvature could be noticed. During the epidemic of spring 1891 she became affected by the influenza, to which she succumbed quickly.

Case VI.[1]—A. N——, thirty years of age, from a healthy family, took sick with repeated chills, disturbances of digestion, and rapid emaciation. He was treated first for malaria at his home in South Carolina, but when a slight cough set in, he was supposed to be tuberculous, wherefore he was sent to New York, as at this time, under the jubilee hymns of the Kochian Tuberculine era, an antituberculous institution had been established. There, however, in spite of the hyperactivity of the hypodermic syringe, the art of diagnosing had not been forgotten, and it was recognized that an abscess, originally situated in the liver, had perforated into the pleural sac.

The patient was brought to my department in St. Mark's Hospital, where I, after having performed resection of a rib, could make out a cavity of the size of a goose egg in the parenchyma of the liver. The communication with the bronchi could be demonstrated by irrigating an antiseptic fluid. The first few times when I did this, the patient got such a severe attack of cough that he became dark blue in the face, and dyspnœa was so serious that I was very much alarmed. Finally, we both became accustomed to this phenomenon, and I could frequently demonstrate before my students the connection between cavity and lungs by irrigating. Six months after the operation the patient had gained thirty pounds, but there was still a cavity, wherefore I resected two ribs. Hereafter the cavity became smaller. I then lost sight of the patient. His general condition was excellent.

[1] Demonstrated before the German Medical Society of the City of New York, June meeting, 1892.

Case VII.—E. W——, boy, six years of age, shows a good family record. Three years ago I was called twice to perform intubation resp. tracheotomy for laryngitis. Each time I postponed the operation, and, as it is evident, with perfect success. (If intubation had been done, the result would certainly have been a good one, and it would naturally have been supposed that it had saved the patient's life.) Now, after a preceding pleuro-pneumonia, empyema had developed, which was aspirated, without success as usual. The house physician was desirous to perform a resection himself, and asked me to lend him a helping hand. Everything went on nicely until the operator, too ardent in his desire to get the needle through the pleura, drove the needle into the rib, so that the needle broke. The fragment could not be found. Although the optimistic colleague assured me that he saw it fall on the floor, I insisted upon palpating the pleural cavity. Here I soon discovered it at the level of the second rib, where it, being an inch long, had already perforated the lung. As the sixth rib had been resected, I could just reach it with the tip of my index-finger. By pressing it against the thoracic wall I at last succeeded in dislodging and making it fall down during inspiration. I had already given up hope of catching it this way, as I was afraid to push it farther inwardly by the use of a forceps during the respiratory movements, and had therefore thought of resecting the second rib. The patient recovered in spite of all, and as it is my principle never to allow a member of the family to be present during operation, this incident passed unnoticed.

Case VIII.—O. F——, boy of fifteen, took sick with pleuritis five weeks ago. The effusion first was of a serous and later on of a purulent character. When I was consulted by the house physician, I found the patient somnolent, in cold perspiration and with great dyspnœa. The temperature was subnormal and the pulse could hardly be felt. The exudation extended over the entire half of the thorax. I declared that, under these circumstances the operation should be performed without delay and without an anæsthetic. To this latter proposition the house physician objected most emphatically, especially because the father objected to the cruelty of such a procedure. When I declined to intermingle in this aspect of the question altogether, the colleague reproached me with injuring him in his position as the family physician.

I cannot spare myself the blame of having been thus intimidated and having sacrificed my scientific conviction to etiquette.

The punishment, however, was not long in forthcoming; after the patient had inhaled only a few drops of chloroform, the respirations, heretofore so frequent, stopped entirely and the face became cyanotic. I had insisted upon administering the anæsthetic myself, and was at once ready with tongue forceps, dilator, and electric apparatus. With this armamentarium and artificial respiration I, after half an hour's work, resuscitated the patient. Then the operation could be performed without any objection to the not administering of the anæsthetic, so that at last the patient did well.

This was a good lesson for the colleague as well as for myself.

Case IX.—S. R——, girl of ten, four weeks after the onset of pleuro-pneumonia was aspirated for empyema in a hospital of this city. One week later an incision was made. When six months hereafter recovery did not take place, a resection was performed. This was done with a chain-saw, and just as much of the rib had been removed as to enable a thin lead pencil to slip through the opening. Into this small canal a rubber drainage-tube of the thinnest calibre was confidentially introduced, which after it had courageously resisted the permanent rush of the retained pus, at last resigned and broke beneath the safety-pin, which alone kept it *in situ*. As the parents moved just at this time to Long Isl-

and, the dressing was not changed for nearly a whole week.

It was reserved to Dr. Voegtle there to ascertain the error loci of the drain-fragment. With his aid I performed a more thorough resection, and could then, as introduction of my index-finger was very easy, extract the fugitive tube without any trouble. Scraping of a large amount of granulations completed the procedure. Four weeks later recovery was perfect, after the poor child had been aspirated, incised, and resected, first with saw and then with shears.

Case X.—In reference to the case of the tubercular machinist mentioned above, I may state, that on account of insufficient technique the exploratory needle, although repeated by one of the most prominent authorities of this city, yielded no pus. On account of this, the well-developed dulness was supposed to be due to an infiltration. Three days later, when I saw the case for the first time, I aspirated three times until I found pus.

A more striking illustration of the difficulty of the exploratory technique is the following case, which shows how grave an error I committed only a few months ago:

Case XI.—A. R——, two years of age, of a good family record, was sent to my office with a letter from Dr. Moskiviecz, stating that the child had suffered from pleuro-pneumonia, and that this was followed by empyema. Aspiration had yielded pus, and so he had referred the patient to me for operation.

The parents took the child first to another physician, a very well-known diagnostician in this city, and one who has had much experience with empyema. After several aspirations, in which he failed to find pus, he stated that no operation was required. The child not improving, it was brought to me. I made six aspirations, and then the parents objected to its further use, so I became somewhat perplexed and did not give any positive opinion about the case, although the symptoms of dulness, weakened respiration, and the history were in favor of empyema. The question of operation was, therefore, deferred for twenty-four hours. The next day pus was found and the operation performed.

After resecting the rib I found a small cavity filled up with an immense cheesy mass, only about half a tablespoonful of pus being present in the cavity. The aspirating-needle undoubtedly had been inserted into the mass repeatedly, and could naturally draw no pus.

Case XII.—L. I——, aged twelve, had developed empyema after pleuritis. The exploratory needle yielded pus. On the following morning I had determined to operate on the child at St. Mark's Hospital; but during the night repeated attacks of cough, lasting several hours, brought on a considerable amount of expectoration.

On the morning I repeated the explorations a dozen times without finding pus, so that I, regarding this rapidly improved condition of the patient, restrained from operating. Shortly after perfect recovery took place. I assume that in the night, perhaps induced by the puncture, perforation into a bronchus had taken place.

Case XIII.—M. T——, a girl aged eight, with the same history, recovered after I had drawn pus. On the following day, before I wanted to operate, I could not find any more pus, even after I had aspirated a dozen times.

In this case no cough had been present. Perhaps there was a connection here between irritation by puncture and rapid absorption.

Case XIV.—M. L——, aged six, strong boy with good family record, took sick, after having swallowed a considerable amount of orange kernels. He located his very sharp pains in the right iliac fossa, had vomiting and slight convulsions. The temperature was 106° F.; pulse, 144; respirations, 42. It was not at all unnatural that the house physician thought of appendicitis, much more so as one of the patient's comrades had, during play, taken gymnastic exercise by jumping on his abdomen.

One of our most prominent surgeons was called in at once, who, as he could not ascertain any resistance in the right iliac fossa, advised expectant treatment. The right leg of the patient could be lifted without causing any pain. At the same time I had a chance to examine the patient. I got the impression that a difference of sounds was obtained by percussing the right lower lobe. But as the nuance was only slight, and people as a rule do not have much confidence in the percussion of a surgeon, we agreed to have a well-known specialist for lung diseases present, who indeed, when he had examined the child on the following day, could now easily make the diagnosis of pleuro-pneumonia.

Three weeks later I performed resection for empyema. The patient improved rapidly, until the house physician, three weeks later, tried to do without a drainage-tube. The opening obliterated outside at once, but a few days afterward chills set in. As no subjective symptoms, especially no pains, were present, typhoid fever was thought of by the attending physician, a diagnosis which was corroborated by one of the greatest clinical teachers of this country.

When I was called, two days later, I, by forcing a grooved director into the old scar, could easily demonstrate the presence of pus. It is superfluous to say, that its evacuation cured the "typhoid" immediately. A drain was introduced again, and eighteen days later perfect recovery had taken place.

37 Thirty-first East Street.

Clinical Department.

LOCOMOTOR ATAXIA, WITH REPORT OF A CASE CURED.[1]

By T. E. SCHUMPERT, M.D.,

SHREVEPORT, LA.

SURGEON TO THE CHARITY HOSPITAL, AND MEMBER NATIONAL ASSOCIATION OF RAILROAD SURGEONS.

The pathological histology of posterior sclerosis of the spinal cord is well determined, although our knowledge of the true nature and development of the lesions and theory of the disease is somewhat speculative. The exact beginning of the sclerotic process has not yet been determined. Some pathologists maintain that the disease is parenchymatous, *i.e.*, that the original change is in the nerve-filaments, while there are as many, on the other hand, who hold that the disease is interstitial, and that the nerve-elements are wasted because of the pressure exerted upon them by the hyperplastic neuroglia. The walls of the blood-vessels are thickened at the expense of their calibre, their elasticity gone, thus causing a trophic degeneration because of the impeded circulation; they are bound by inflammatory adhesions, as are also the pia and dura mater, thus tracing the line of a chronic inflammatory process. Tabes dorsalis is very insidious; while the original site of the disease is in vastly the majority of cases in the spinal cord, and especially in the lumbar or dorso lumbar regions, it may begin in its upper extremity and linger there for years, with such obscure and questionable symptoms as double vision, pain in the head, vertigo, etc. There are also some well authenticated cases where the peripheral nerves seem to have suffered the primary lesion; and that the disease was not due to propagation by contiguity of the spinal lesion, was shown by the fact that the larger nerve-trunks were free. Since, therefore, there is good reason for believing that the original focus of disease is at times in the nerves, and that the spinal cord is subsequently affected, it would appear that both pathological changes are the result of a common cause; during the latter stages of the disease the sclerosis of the posterior column involves also the posterior portion of the lateral column, and the general muscular atrophy which supervenes is in proportion to that of the cord, and therefore an index to same.

[1] Read before the Shreveport Medical Society.

This now hereditary disease is a disease of middle life, its cause usually very obscure, although syphilis seems to strongly predispose to it; its progress is unaltered by specific treatment. So great is the relationship between locomotor ataxia and syphilis that it is claimed by authors of no less renown than Professor Strumpel, that it only occurs in syphilitics; this, however, is highly improbable. Immoderate exposure to wet and cold, especially when combined with exhaustive labor, seems to have had decided influence in the production of some cases; there are numerous causes assigned, but it is most likely that a number of causes enter into the make-up of the one disease.

Locomotor ataxia is generally considered an incurable disease, although it does not *per se* compromise life, as the sufferer whose misfortune it has been to contract this disease is often left as a burden for his family to bear for a quarter of a century; but usually life is sooner or later cut short by some intercurrent disease, such as disease of the kidney or heart, to which it has predisposed. So much for a brief reflection of the pathology, etiology, etc. Gentlemen, the case which I am now about to present in Mr. J. M—— interests one, first from a pathological standpoint, and secondly, because of the interest we always feel in our patients for the patients' sake. Mr. M—— has been with us now a little more than a year, is fifty-one years of age, an ordinary day laborer (a ditcher). Hereditary history good. About ten years ago was first told that he had heart disease, and which he has unmistakably to this day; about the same time dimness of vision and vertigo. Two years since, numbness and a tingling sensation began in the four extremities, simultaneously with muscular weakness, a girdle sensation about his lower abdomen. Was admitted in the hospital September 19, 1892, in a very anæmic condition, which has been growing worse ever since, until, as you will now observe, it is profound. The paræsthesia has extended to his thighs and shoulders. His gait is slow and faltering, with slight locomotor ataxia and a great sense of fatigue of the lower extremities. Eight months since his feet and legs began to swell; at times his fæces are voided involuntarily, but as yet has complete control of his bladder. Pupils of his eyes are dilated, knee-jerk obtuse. There is marked both sensory and motor impairment, with sharp, darting pains. This condition, both of pernicious anæmia and of his heart, I believe to be the result of degeneration of the spinal cord, the heart trouble I believe to be only a symptom. It would seem that his cervical, lumbar, and sacral regions are at fault, and that the dorsal had been spared. In 1879 Vulpian called attention to the frequency of valvular disease of the heart in locomotor ataxia, and his observations are fully corroborated in this case. I believe the lesion to be strictly trophic and due directly to a centric nervous disease, the heart muscles themselves as well as the valves being involved, and which is but in keeping with the patient's general condition.

He has taken iodide potash, bichloride mercury, digitalis in its various forms, strophanthus, nitro-glycerine, various chalybeate waters, and preparations of iron of highest repute. In spite of all this his anæmia grows more profound, all remedies directed toward his heart seem utterly powerless to meet their indication, for this organ is unimpressed by any drug or size of its dose, maintaining throughout its irregular pulsations at first regular, next intermittent, then dicrotic. His nervous symptoms are steadily though surely stealing their way to the vital parts. Now I propose to place him on heroic doses of strychnine. I will begin with one twentieth of a grain and increase it to intolerance As it is a known fact that this drug has the power to restore nerve energy, to build up exhausted nerve-tissue, to revive the nerve-cells, and to enrich the blood by increasing its red corpuscles, it also has a tonic effect on the heart; by increasing blood-pressure it slows its beat.

Six months later I have prosecuted my plan, and here is the result. His anæmia is all gone, instead of the blank exsanguinated sallow face that was presented before, there are now to be seen numerous blood vessels coursing through his skin, his complexion a beautiful pink; is stout, robust, and active; his gait steady; his step nimble, and I defy anyone to detect a heart-murmur. In fact every symptom of disease has left him. Picked up, as it were, in that "pray that I might die state," and landed in his present condition of perfect health. He had often prayed that he might die. I began his treatment: ℞. Strychniæ sulph., gr. ij.; aquæ, syr. simp., āā ℥ ij. M. Sig. Teaspoonful every four hours, thus giving six doses in twenty-four hours. My next ℞.: Strych. sulph, gr. ijss., aquæ, syr. simp., āā ℥ ij. M. Sig.: Teaspoonful every four hours; and so on, thus adding a half-grain to his four-ounce mixture as oft as it was taken, until he arrived at ℞.: Strych. sulph., gr. vijss.; aquæ, syr. simp., āā ℥ ij. M. Sig.: Teaspoonful every four hours. When he began to evince slight toxic effect of the drug, thereafter his dose was increased more slowly, only a quarter of a grain being added each time instead of a half, and a few days' intermission at different intervals. He has just finished a bottle containing one-third of a grain at a dose, or two grains for the patient a day; but I will not push it farther, as I deem it unsafe; the patient had unmistakable clonic spasms of the leg flexors and back. At one-sixteenth of a grain the physiological effects of the drug were observed but never after that until about three-sixteenths of a grain was taken, a tolerance at that point seemingly having been established. This unprecedented strychnia dosing not only demonstrates the large amount that some patients may take when kept under careful observation, but it also shows that strychnia is not cumulative, as is claimed by materia medica.

The success of every physician depends on the number of sure remedies for certain diseases that he is familiar with. Now, if strychnia can be laid down in this limited category of sure cures as a specific for locomotor ataxia, a long link will have been snatched from the chain of incurable diseases, and another stride of advancement made in the circuit of a physician's sole professional aim in life.

CHANGE FROM MYOPIC ASTIGMATISM TO HYPERMETROPIA.

By F. T. BOWLES, M.D.,

NEW YORK.

THE change from myopic astigmatism to hypermetropia is so rare that I am led to report the following case:

June 16, 1892, Mrs. M. S ——, aged thirty, was examined by me at the Manhattan Eye and Ear Hospital, with the following result, viz.:

Javal, Rt. Eye, 3.0 D. ax. 105° V. 15°.
" Left " 3.0 D. ax. 90° V. 180°.
O. D. $\frac{20}{50}$ + : $\frac{20}{40}$ W. −2.5 D. cy. ax. 15°.
O. S. $\frac{20}{50}$ − : $\frac{20}{30}$ W. −2.5 D cy. ax. 180°.
Javal No. 1, 8 inches to 15 inches, with above glasses.

These glasses were ordered after three examinations.

They were worn constantly for several months with absolute relief from asthenopia, and with improved vision.

During the past few months they were discarded, as she was conscious of a gradual improvement in her sight.

On January 14, 1894, the following record was made:

Javal, Rt. Eye. No Astigmatism.
" Left Eye. No Astigmatism.
O. D. $\frac{20}{40}$: No glass.
O. S. $\frac{20}{30}$: $\frac{20}{20}$ W. + .50 D.

The glasses ordered in 1892 now give vision $\frac{20}{100}$ as opposed to $\frac{20}{30}$ then.

154 WEST NINETY-THIRD STREET.

Street Nomenclature and Medical Celebrities.—The naming of streets has been created in Paris into a fine art, and the memories of eminent citizens are kept green by this means. The name of the late distinguished histologist, Charles Robin, will henceforth be thus associated with a portion of the Rue Claude-Vellefaux, which has been rechristened Rue Charles-Robin.

Progress of Medical Science.

Treatment of Renal Insufficiency. — According to Rochester we should not try to stimulate into activity an organ that is inflamed or degenerated by the use of drugs that excite functional activity of such organ. In the case of the kidney, we should rarely, if ever, have recourse to stimulating diuretics, or to diuretics which, like digitalis, act by increasing the arterial pressure, until we have relieved the venous congestion by diaphoresis or catharsis, or both. Attention to diet is of the utmost importance in these cases. In order that the materials to be excreted by the kidney may come to that organ in the most unirritating form, the metabolic process should be carried to completion; this is to be accomplished by regular systematic exercise, which is to be obtained by massage when active exercise is not advisable, by inhalations of pure oxygen gas when it is evident that sufficient oxygen is not obtained from the air, and by the dilution of the katabolic materials by drinking large amounts of distilled water, or one of the mildly alkaline waters, such as Bethesda, Poland, or Buffalo lithia water. The anæmia that accompanies these cases should be met by the use of oxygen and iron. As the symptoms indicative of this condition are the result of toxæmia which depends upon the non-elimination from the body of certain katabolic materials that should normally be carried off through the kidneys, and as these organs are in such condition that they cannot do their work, all other avenues of elimination should be opened up for the escape of these poisons. This is to be brought about by exciting the activity of the skin by means of hot air or steam baths, accompanied and followed by vigorous massage, keeping the bowels open by means of salines and by washing away the contents of the colon, thus keeping the mucous membrane in a proper condition for excretion, with copious enemata of slightly alkaline water, occasionally followed by a high enema of 500 or 600 cubic centimetres of pure olive oil, as suggested by Fleiner—*New York Medical Journal.*

Nitrogenous Diet and Hot Water in the Treatment of Obesity.—In *The Lancet*, says the *Therapeutic Gazette*, January, 1894, Savill gives an account of his treatment of obesity that presents some features of special interest. A man, five feet ten inches in height and weighing two hundred and eighty-four pounds, was admitted to the Paddington Infirmary to be treated for an ulcer on the leg. This patient, sixty-eight years of age, was unable to walk, chiefly by reason of his bulk and partly on account of stiffness of the hip joints due to morbus coxæ senilis. There was a history of gout and a suspicion of chronic Bright's disease. Earlier he had been put upon the same plan of treatment about to be described, for obesity and ulcer of the leg. The ulcer had healed and weight had been reduced from two hundred and ninety four pounds to one hundred. But in a month or two both conditions returned. Upon the second admission he was put upon a diet of one pound of cooked fish and one pound of lean cooked meat a day, and a pint of hot water sipped at intervals every two hours. The fish and the meat were distributed in meals, according to the taste of the patient, but no bread, vegetables, milk, or any other article of food was allowed. The patient was a person of intelligence and did everything toward the success of his treatment, managing to drink five or six pints of hot water during the day. Weight decreased steadily. On admission, September 21st, it was two hundred and eighty four pounds; on October 2d it was two hundred and seventy-four pounds; on November 18th it was two hundred and fifty-six pounds, and on December 4th two hundred and forty-six and a half pounds. At Christmas there was some latitude given in diet, and the result was a prompt addition to his weight of seven pounds; but by January 15th weight was reduced to two hundred and thirty-nine pounds. After four months treatment, the diet was modified by the addition of two small slices of bread and butter at breakfast and supper, and milk and sugar in his tea night and morning. On February 7th, he returned to ordinary meat diet, such as other patients had, with the exception of potatoes. He then weighed two hundred and thirty four pounds and a half. Weight increased slightly for a time after resuming ordinary diet; but on March 21st, when the patient left, he weighed two hundred and thirty and a half pounds, having lost over fifty pounds in six months. The ulcer healed within four weeks of his admission, and pain and stiffness soon disappeared, permitting as much walking as the space in the ward would allow. Weight remains the same (two hundred and thirty and a half pounds), the man being now on ordinary diet, but drinking no beer. His health is excellent. The treatment is something like that adopted by Marienbad. The rationale is apparently that the patient lives upon his own fat, supplying from his own economy the necessary hydrocarbons and carbohydrates which are absent from the diet.

Simultaneous Intra-uterine and Extra-uterine Fœtation.—Dr. Vargas has described a case of twins which gave rise to very contradictory diagnoses, and ended fatally. The patient was a young woman employed in a cigar factory, who had had three children. She complained of pain, weight, and discomfort in the right iliac region, and was supposed by the medical men who saw her to be suffering from salpingitis or an incipient uterine tumor. After a time, however, it was considered that she was pregnant, and she was delivered of a seven months child which lived a month. The pain in the right iliac region continued, and when Dr. Vargas saw her he found that, though the neck of the uterus had closed, there were unmistakable signs of a second living fœtus, and he hoped that it might be retained till its full time. The patient soon afterward sent for another medical attendant, who, detecting no signs of life, diagnosed a uterine fibroma, and proposed an operation, to which the woman would not consent. Her condition, however, becoming worse, she sent again for Dr. Vargas, who found her dying of peritonitis. At the necropsy a putrid fœtus of about seven months was found in the peritoneal cavity, the uterus being quite normal. There must, therefore, have been a fœtus both in the uterus and outside it, the former being born at about seven months, and the latter dying shortly afterward.—*The Lancet.*

Treatment of Soft Chancres by Heat.—According to Dr. Lorand, this mode of treatment is based on the observations of W. Boek and of Aubert, the latter of whom found that chancrous pus heated to 40° C. became non-inoculable. The method is as follows: Water is conducted by two pipes, one carrying hot and the other cold water, to a copper reservoir, and is there kept at a temperature of 50° C. by means of a gas-jet. From the reservoir the water is carried by a rubber pipe to a coil of lead tubing, through which it circulates, and then escapes by another rubber pipe. If the water in the reservoir is kept at 50° C. it is found that when it reaches the coil it has a temperature of about 41° C., below which it must not be allowed to fall. The ulcers are dressed with pledgets of cotton-wool soaked in warm water, any undermined edges being first snipped off. A layer of moist wool is then applied round the penis, and over this the lead-tubing through which the hot water is kept flowing. Another layer of wet wool covers the tubing, and the whole is covered with gutta-percha tissue. The dressing is changed three times a day. Lorand saw about twenty cases, in some of which the chancres were both numerous and large, treated in this way. In the majority it was found that after two days' treatment the ulcers were clean and healthy, and then the secretion was no longer inoculable. The patients were then allowed to go home, and were treated as out-patients. The sores usually healed quickly under the application of dermatol.—*Wiener medizinische Wochenschrift.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street.

New York, May 19, 1894.

THE LUNACY COMMISSION ADMIRES ITSELF.

IN the New York *Times* of May 13th the State Lunacy Commission receives a four-column exploitation of its "splendid work accomplished in five years." One-half of the article is devoted to eulogistic biographies and pictures of the modest members of the Commission, who have, as they admit, "paternal supervision" over the management of the insane asylums. We are told that the "able and disinterested men who make up the Commission" have "placed it on a plane that is the recognized model to-day for all the other States in the Union." Whether the plane or the Commission is the model is not quite clear from the context; but the general idea is most amusing to those who know the history of the Commission. The story of the Commission's work is simply a special plea and an apology, with those facts only given which would redound to the Commission's credit. Its mistakes, its arrogance, its stupid interference with the pettiest details of the asylum management, are of course not referred to, nor are any facts presented in their justification.

We are told that the Commission has won its victory in the last Legislature over the superintendents. It is true the bill to abolish the Commission did not pass, but the Commission has received a lesson which it already is taking to heart. Asylum managers and superintendents are now being treated with considerable courtesy; and the Commission is evidently carrying in mind both the experiences of the past winter and the possibilities of next November.

THE REVISION OF THE CODE OF ETHICS.

THE Committee on the Revision of the Code of Ethics of the American Medical Association has prepared a majority report, which shows how difficult it is to formulate definitely and satisfactorily rules of conduct for one hundred thousand men, pursuing, indeed, the same avocation, but living under vastly different social and economic conditions.

The Committee have taken the old Code as a basis, and have touched it up here and there to meet the demands of certain sections of the country. The Revision will no doubt be perfectly satisfactory to many, while others will say, and indeed already have said, that the Code is not revised but destroyed.

The three principal points of contention are those of advertising, of taking out patents, and of consulting with homœopaths. Regarding the first matter, the Section is amended so that it reads:

"It shall not be considered as a violation of the spirit of this section, however, for physicians engaged in the work of medical education, either singly or associated in colleges, *or for physicians practising in hospitals, whether private or public, general or special,* to announce the fact or allow it to be announced to the profession *in the advertising pages* of strictly medical journals, or for physicians devoting special attention to one of the recognized special departments of medical practice, to note the fact on *their signs or private cards.*"

Now, in many parts of the country, East, South, and West, it is considered in very bad taste for a physician to announce his specialty on his sign or his card. It is only quacks and irregulars who do it. Some will contend that it is in reality only a matter of taste whether such things be done or not; others that the custom is a good one, while many more condemn it as the entering wedge to a prospective system of promiscuous advertising. We belong to the last class, and we have tried, on many previous occasions, to show why, from the point of view of morals as well as business, the practice is unwise. We are very glad to know that it is a custom not gaining any foothold except in a comparatively small area of the country.

As to the question of taking out patents, the amended Code will read as follows, the italicized words being those which have been struck out by the committee:

"It is 'derogatory to professional character . . . for a physician to hold a patent for *any surgical instrument or medicine, or to dispense* a secret nostrum, *whether it be the composition of himself or of others.* . . . It is also reprehensible for physicians to give certificates attesting the efficacy of *patent or* secret medicines, *or in any way to promote the use of them.*'"

This practically permits the physician to take out a patent, and allows him, if he wishes, to attest the efficacy of patent medicines, which, be it remembered, are not secret, since their composition is known at the Patent Office.

The propriety of a physician or surgeon taking out a patent is still a much mooted question. It does not seem to us to be a very important one, for, practically, there are very few patents which bring much money to the inventor. And if physicians were allowed to take out patents there would probably be no difference in prices to the profession or the public. Still we appreciate the fact that many feel keenly that the practice would lessen the reputation of the profession for humanity and unselfishness.

As to the question of consultations, the Code, as revised, says:

"No intelligent practitioner who has a license to practise from some medical board of known and acknowledged legal authority, and who is in good moral and professional standing in the place in which he resides, should be refused consultation when it is requested by the patient."

This strikes us as most sensible and wise. We do not see how any objection can possibly be raised to it. If the committee would leave the other items unchanged and insert only the above paragraph, it would do a high service to American medicine.

former having greater strength and more persistent action. The gum over the inflamed root being dried, a piece of the leaf of suitable size is cut, and this is simply pressed into place, where, as a rule, it will remain as long as a capsicum plaster. Leaves may be kept moist in a tin box with a tight-fitting lid, in the interior of which is a damp sponge. In pyorrhœa alveolaris a common symptom is an intense itching, almost akin to pain and perhaps more intolerable, provoking a constant desire to rub the gums. This pruritus, probably the result of the chronic gingivitis, is homologous to eczema, and readily disappears with the employment of one of the essential oils, notably that of peppermint, used as a mouth-wash or tooth-brush tincture. Where pulps are acutely inflamed Mr. Nichol advocates the heroic treatment of drilling into them with the dental engine, and maintains that the relief obtained more than compensates for the pain of the operation. Perhaps it does; but it must surely be rare to find a patient willing a second time to submit to a similar proceeding without an anæsthetic.—*Lancet.*

The Lancet on an Income Tax.—Sir William Harcourt has, says *The Lancet*, like all his predecessors, failed to give that consideration to the professional classes in the matter of income tax for which they are always looking, and always looking in vain. He has failed to recognize the great difference, for taxing purposes, between the incomes of men which are earned by hard and exhausting labor, dependent on the continuance of their health while engaged in the pursuit of an arduous and risky profession, and the incomes of men derived from investments which do not cease even with life itself. It is, we think, surprising that Sir William Harcourt, the scope of whose sympathies we consider broad, did not venture to recognize a distinction so obvious and so just.

The Healthiest City in the World.—According to the *Glasgow Evening News* it appears that the latest statistics issued by the German Imperial Health Department give to Berlin the honor of being the healthiest city in the world. The death-rate is given as only 16.3 per 1,000. The unhealthiest city, states our contemporary, is Alexandria, which, despite its unvarying fine weather, its three hundred fountains, and its soft sea-breezes, has a death-rate of no less than 52.9 per 1,000. Immense London occupies a favorable position with a rate of 20.3; but Stockholm and Christiania are better off with rates of 16.9 and 19 respectively.

American Medical Association.—The coming meeting of the American Medical Association at San Francisco promises to be a most enjoyable and profitable one. The Committee of Arrangements has spared no effort to provide also for the social entertainment of the members, and the many points of interest in and near San Francisco are of a nature to satisfy the most sanguine expectations. Provisions have been made for a stop at Yellowstone Park, so that those wishing to spend some time in this paradise of nature may do so without any increase in railroad fare.

The New York State Board of Health.—It is announced that the secretary, Dr. Balch, has resigned, and that Dr. J. S. Barnes, of Watkins, has been elected to succeed him.

Epileptic Colonies.—At the last business meeting of the Allegheny County Medical Society a series of resolutions was passed strongly commending the so called colony system as the best-known plan of caring for the indigent epileptics of this State. Drs. C. C. Heisman, T. M. T. McKennan, and T. D. Diller were appointed a committee to urge the State Society at its coming meeting in Philadelphia to adopt the same resolutions, and take measures to bring the matter before the Legislature.

Infection and the Communion Cup.—A correspondent writes: "Your timely warning on 'Infection and the Communion Cup,' in your issue of May 5th, is of interest to both clergy and laity. There seems to be no reason (after the consecration of both elements) why the bread or wafer should not be moistened with the wine, dried, and reserved for future administration; or I would suggest for those who desired to communicate in two forms, that a small quantity of wine be inclosed in soft gelatine capsules fashioned in the form of grapes, or in gelatinized tablets of unleavened bread, which could be handed the communicant from the chalice at the proper time. The latter would be in better taste than 'the small individual tumblers' used at Rochester."

The Picture of Paré for the Academy.—The painter of the picture of Paré presented to the Academy of Medicine, was Martout, not "Marbout," as printed in the notice of the meeting. The card announcing the meeting was primarily faulty in this respect.

The Library of the Academy of Medicine will be closed during the summer months to give the contractors opportunity to put in the new stack-room. The growth of the library since the erection of the new building has been phenomenal.

The Bureau of Nurses of the Academy, recently organized, has already been placed upon a successful working basis. Through it a reliable nurse can be engaged at the small expense of two dollars to the family of the sick, a sum which the bureau has found it necessary to charge in order to defray its expenses.

Medicine and the Constitutional Convention.—Several of the medical societies have appointed committees to advise with the Constitutional Convention, at Albany, with regard to matters of interest to the public health, the medical profession, and medicine in general. This is further evidence that the profession is awakening to the importance of its position in the community.

A Medical Mayor.—Dr. Charles A. Wheaton, of St. Paul, has accepted the nomination for Mayor of the city on the Republican ticket.

Journalistic Enterprise. — Under this heading the *Journal of the American Medical Association* says: "We congratulate our esteemed contemporary, the New York MEDICAL RECORD, on its cable reports of the Eleventh International Medical Congress. The first instance of the kind, we believe, attempted in American medical journalism." While thanking our esteemed contemporary for these kind words of appreciation, we beg leave to say that this is not the first instance of the kind, for a reference to the files of the MEDICAL RECORD will show that cabled reports of the Copenhagen meeting in 1884, and of that in Berlin in 1890, were also presented to our readers.

Sand.—The latest popular therapeutic craze is the use of sand—common, every-day sand—for dyspepsia. It is simply swallowed, but might be much more effectual, if applied with the stomach-cleaning brush recently devised by an ingenious Chicago man for scrubbing the inside of this much-abused viscus.

The Omaha Medical College held its commencement April 2d, and graduated a class of seventeen.

Naval Surgeons Wanted.—A telegram from Washington says that no one seems anxious to enter the Naval Medical Corps. There are eight vacancies, and some difficulty is encountered in finding young physicians able to stand the severe examination of candidates. The Board of Examiners is in session at Brooklyn, and is anxious to have medical students and young physicians appear as candidates.

The Craig Colony for Epileptics.—The Board of Governors has elected Dr. Frederic Peterson, *President*, and G. S. Ewart, *Treasurer*. The Legislature appropriated $140,000, but only $12,000 will be available until July, 1895. The colony can hardly be organized, therefore, until another year. The appointment of Dr. Peterson as President is a just recognition of his persevering and faithful efforts in behalf of the scheme.

The Philadelphia County Medical Society and the American Medical Association.—At a meeting of the Philadelphia County Medical Society, held on April 18th, the following resolutions were adopted:

Whereas, The Code of Ethics of the American Medical Association declares it derogatory to professional character for a physician to dispense or in any way promote the use of a secret nostrum, and the American Medical Association, by a resolution unanimously adopted at its meeting in 1892, forbade the advertising of such nostrums in its *Journal*; and

Whereas, The *Journal* of the Association has continued to advertise such nostrums, and in defence of its course in this particular has published an anonymous personal attack on a member of the American Medical Association and of this Society;

Resolved, That the Philadelphia County Medical Society respectfully demands that the trustees of the *Journal* shall, in their public official acts, respect the spirit and letter of its Code of Ethics, and that the columns of its *Journal* shall not be used for the anonymous personal abuse of its members in good standing.

Resolved, That a copy of these resolutions be transmitted to the Medical Society of the State of Pennsylvania, to the American Medical Association, and to the weekly medical journals.

(Signed) T. B. Schneideman, *Secretary*.

The Brooklyn Naval Hospital.—It is announced, but not authoritatively, that this hospital is soon to be greatly enlarged and modernized, and it is said to be the Surgeon-General's conviction that he will be able to make it one of the finest naval hospitals in the world.

Lactophenin, a New Analgesic and Hypnotic.—M. Landowski has given a successful trial to this new product in the wards of Professor Proust. This substance differs from phenacetin in that lactic acid takes the place of acetic acid. It is a white powder, tasteless, and soluble in 330 parts of water. The ordinary dose is sixty centigrammes (nine grains), repeated thrice in the twenty-four hours; but each dose may be increased to (a maximum of) fifteen grains. In small doses it has shown itself effectual in calming the pain of neuralgia; in large doses it is hypnotic. It is perfectly tolerated by patients who cannot take antipyrin. In some instances it provokes diaphoresis.—*The Lancet.*

The National Association of Railway Surgeons.—The seventh annual meeting was held in Harmony Hall, Galveston, Tex., on May 8th, 9th, 10th, and 11th, under the presidency of Dr. W. J. Galbraith.

Death of Dr. Cusco.—The death is announced of Dr. Cusco, of Paris. His name, although perhaps unfamiliar to many, will long survive in connection with the bivalve vaginal speculum in common use in France, and invented by him.

A Scotchman's Modest Sanitary Expectations.—Dr. R. W. D. M. Cameron, of Lanarkshire, Scotland, expresses the following insular sentiments in *The Sanitary Journal*: "What, under favorable, but perfectly attainable, conditions, ought the general death rate to be? Dr. Richardson's ideal rate of 5 per 1,000 is one of the blessings that will perhaps come to us with the millennium. In our present imperfect state, according to Dr. Farr, we may certainly aim at a general death rate of 17 per 1,000 living, and consider all deaths above this number as being due to artificial, and, therefore, preventable causes. In many country districts, where agriculture, the healthiest of all occupations, is the prevailing industry of the people, the mortality is often as low as 15 or 16 per 1,000, and it is certainly no Utopian dream to fancy that a good time will come in the no-distant future when 14 deaths per 1,000 living will be taken as the standard for rural districts, and, say, 17 per 1,000 for towns."

Dr. Cameron could certainly never have heard of the St. Paul Minneapolis sanitary Utopia with its 9 per 1,000 death-rate.

The American Academy of Medicine, which is to meet at Jefferson, N. H., August 29th and 30th, proposes as the subject for its papers and discussions the dependent, defective, and delinquent classes. A perusal of the outlined programme forcibly recalls to mind the burden that society carries. Besides the delinquents, there are classified: The sick poor, or dependents; the blind, deaf-mute, insane, the epileptic, feeble-minded, the inebriate, the permanently disabled, all of whom are defectives. Besides these three groups, society will in time deal more effectively with a fourth, viz., the infected. The American Academy of Medicine has chosen a very large subject, and one of which comparatively few physicians are competent to speak authoritatively.

A Society that takes no Recess.—The Académie de Médecine at a recent meeting discussed the question of summer holidays. During the autumn the sittings continue, but evidently very few members are present. Nevertheless, the majority of the members decided that matters should remain as they are; and rejected the proposition that a permanent committee should be appointed to give advice on urgent cases occurring during the vacation.

Society Reports.

ELEVENTH INTERNATIONAL MEDICAL CONGRESS.

Held in Rome, Italy, March 29, 30, and 31, and April 1, 2, 3, 4, and 5, 1894.

SECTION IN SURGERY.

(Concluded from p. 571.)

Arthrectomy.—Dr. A. Merea, of Cagliari, said that up to the present time the best result of resection of the joints had been anchylosis, due to the fact of the joint being immobilized after the operation. In four cases recently operated upon in Professor Biondi's clinic in Cagliari no retentive bandage had been applied, and the result was that there was free movement in every normal direction. From a study of these cases, and from the results of experiments on animals, the author had arrived at the following conclusions: 1. In the after-treatment of arthrectomy it is advisable not to apply any immobilizing apparatus. 2. Active and passive movements ought to be made as soon as possible after the operation—even as early as the second day. 3. Immobilization of resected joints favors the transformation of the synovial membrane into granular tissue, and the denuded articular surfaces then become the seat of osteophytic new-growths favoring bony anchylosis.

Suture of the Heart.—Dr. Del Vecchio, of Naples, had made a number of experiments on animals to determine the feasibility of suture of the heart, and had come to the conclusion that such an operation was practicable notwithstanding the continuous and active movements of the organ. He presented to the section a living dog operated upon February 20th. He had made two wounds in the heart, one incised and the other lacerated, closing the first with a single silk suture and the second with two sutures, one silk and the other catgut. The wounds made were in the right ventricle. The operation on the dog was more difficult than it would be on man, since the anterior mediastinum is wanting in the former, and hence the operation is complicated by the necessity of opening one of the pleural cavities.

Ovarian Cyst.—Dr. Sacchi, of Genoa, reported a case of cystic tumor of the ovary occupying the retroepiploic cavity, and pushing forward the pancreas and gastrocolic omentum. The cyst, when small, had passed through the foramen of Winslow and had then developed in the cavity where found. The tumor was removed by operation, but the woman died a few months later from cancer of the liver.

Dermoid Cysts of the Ovary.—Dr. Pascale, of Naples, reported two cases of this nature operated upon in the surgical clinic of Naples, and presented a number of conclusions arrived at from the clinical and anatomical study of them.

Abdominal Surgery.—Dr. E. Micheli, of Bologna, reported four cases among those operated upon by him in the Portomaggiore Hospital during the past two years. The first was one of echinococcus cyst of the pelvis. Laparotomy was performed, and the entire cyst was extirpated. The patient made a perfect recovery. The second case was one of enormous cyst of the ovary. The weight of the sac alone, the walls of which were half an inch in thickness, was nearly three pounds. The cyst was adherent to the abdominal wall anteriorly, and to the intestines. Ovariotomy was performed, and the patient made a good recovery. The third case was one of rupture of the uterus during parturition, four pints of blood being poured into the peritoneal cavity. Laparotomy was performed eighteen hours after the accident. The woman died on the third day from exhaustion. The last case was one of interstitial fibroma of the uterus. Abdominal hysterectomy after Zweifel's method was performed. The patient had several convulsive attacks soon after the operation, but ultimately recovered.

An Ovariotomy Trocar.—Dr. Micheli also presented a trocar for use in ovariotomy. The instrument was a modification of one already in use for several years. It made traction on the sac, thus doing away with the forceps of Museaux, and effected evacuation of the cyst without the danger of leakage of the fluid into the peritoneal cavity.

Rupture of the Ligamentum Patellæ.—Dr. Ferraresi described an operation for the relief of this condition. He resected a strip four inches long, one inch broad, and one fifth of an inch thick, from the median tendon of the quadriceps muscle, leaving it attached by its upper extremity. He then divided and stripped back the periosteum of the patella, and cut out a groove in the bone to accommodate the tendon, attaching the lower end of this to the ruptured ligament and then suturing the periosteum over it. In case the ligament was torn from the tuberosity of the tibia, he sutured the dissected tendon directly to the tibial periosteum. The same procedure could be employed in the treatment of fracture of the patella, only in this case the fibres of the tendon ought to be spread out so as to cover the anterior surface of the patella, and be attached to the insertion of the ligament into the lower fragment of the fractured bone. A similar method might be used in cases of fracture of the olecranon process, the tendon of the triceps being dissected in the same way.

Radical Cure of Hernia.—Dr. Poullet, of Lyons, described a method devised by himself, which was applicable to either inguinal or femoral hernia. He removed a strip of periosteum from the pubic bone, leaving it attached on one side only. This strip was turned upward in case of inguinal hernia, and laterally and downward in femoral hernia, and sutured to the aponeurosis of the inguinal or femoral ring.

Castration in Painful Oöphoro salpingitis.—Dr. P. Postempski, of Rome, read a paper with this title in which he advocated the small abdominal incision recommended by Lawson Tait. He had performed the operation in seventy-seven cases with very good results, the pain having disappeared in almost every instance immediately after the operation.

Sarcoma of the Kidney.—Dr. T. Ferretti, of Rome, reported a case of this nature in which the growth of the tumor was exceedingly rapid. The morbid process began in the endothelial cells of Bowman's capsule and soon produced atrophy and destruction of the Malpighian bodies. The glomeruli increased in size, and when they had attained about four times their normal volume a mucous degeneration took place in their centre, having the appearance at times of a myxoma. Many of the glomeruli gradually became confluent. The straight and convoluted tubes resisted the longest the invasion of the round cells of the sarcoma. The simultaneous development of the tumor in a very large number of glomeruli would point to a common cause invading different points. A careful examination failed to reveal the presence of coccidia, which are, in the author's opinion, in any case only degenerative bodies, and in no sense the cause of the sarcomatous process.

Splenectomy.—Dr. Tricomi, of Padua, reported eight cases, with seven recoveries and one death. The fatal case was one operated upon for the relief of splenic leucæmia. The spleen weighed 2,530 grammes. The patient died from shock four hours after the operation. The other cases were operated upon for wandering spleen, 2, simple hyperplasia, 2, and malarial hyperplasia, 3. In the cases of simple hypertrophy the spleens weighed 1,080 and 1,300 grammes, and in the malarial cases, 968, 975, and 725 grammes, respectively. The first operation was performed in December, 1891, and the last in January, 1894. The patients had been recently examined and all were in good health, and most of them were seemingly well nourished. In two cases the removal of the spleen was accomplished by medial laparotomy, and in the others by a curvilinear incision extending from the lower border of the left rib to the anterior superior spine of the ilium on the same side.

Ligature of the Splenic Artery.—The author also reported a case of this nature which he had performed on a woman, aged thirty-three, suffering from leucocythæmia. The immediate effects of the operation seemed favorable, the temperature never rising above 100.5° F. The secretion from the wound was, however, very profuse, pieces of the spleen coming away constantly with the discharge, and the patient finally died, forty-five days after the operation. At the autopsy the spleen was found to be friable and disorganized, only the portion around the hilum having a normal appearance. The ligature was firm. The author had found but two other cases of ligature of the splenic artery reported, one by Küster, and one by Vyman. In both cases the patients had died shortly after the operation.

Surgery of the Stomach.—Dr. Carle, of Turin, reported fourteen cases of operation upon the stomach for non malignant affections. Eleven of these were pyloroplastic operations, one gastro-enterostomy for stenosis complicated with hemorrhage, one divulsion, and one resection of the pylorus. There was one death, the results in the other cases being excellent. The following were the conclusions arrived at by the author from his study of these cases: 1. In chronic gastric catarrh, rebellious to medical treatment, it is permissible to resort to an exploratory laparotomy. 2. When a condition is found to exist rendering evacuation of the stomach difficult or impossible, it is necessary to perform some operation to remedy the defect. 3. It is absolutely essential to provide for free evacuation of the stomach, for it is better that the organ should be incontinent than that stagnation of the gastric contents should exist. 4. The successful result in the case of gastro-enterostomy, proved to the speaker's satisfaction, that ulcer with hemorrhage can be treated in this way more satisfactorily than by resection.

Chondroma of the Bones.—Dr. N. Rossi, of Rome, reported three cases of osteoid chondroma with myxomatous and sarcomatous degeneration, two of them in rachitic persons, and formulated a number of conclusions concerning the origin of the growths and the causes leading to the sarcomatous and myxomatous degeneration.

Operative Treatment of Knock-knee.—Dr. G. Melloni, of Rome, read a paper on this subject. Section of the internal condyle of the femur for the correction of genu valgum was first performed by Ogston, of Aberdeen, in 1876, and was generally adopted by English and German surgeons. It afterward fell into disuse, being replaced by Macewen's method of linear osteotomy. While admitting certain advantages of the latter method, the author declared his preference for Ogston's operation, as modified by Reeves, in cases in which there was very marked increase in size of the internal condyle with but moderate curvature of the femur. The dangers of the operation may be averted by scrupulous attention to antiseptic details, and by making a very neat section of the condyle while sparing the articular cartilage. The deformity resulting from vicious union of the fragments, or from incomplete ossification, sometimes seen after Macewen's operation, is rendered impossible by the procedure advocated by the author. He presented a boy, aged sixteen, upon whom he had performed this operation for double knock-knee with perfect results.

Ether versus Chloroform.—Dr. E. Micheli, of Bologna, had made a careful study of ether narcosis in Bruns's clinic at Tübingen, and had been led to accept the views of those clinicians and physiologists who give the preference to this form of anæsthesia. He grouped the objections to the use of ether under four heads: 1. Imaginary inconveniences (intolerance of ether in infancy and old age). 2. Inconveniences which were once real, but which have now been done away with by improvements in the technique of administration; such were incomplete muscular relaxation and a prolonged stage of excitement. 3. Inconveniences possessed by ether in common with chloroform (temporary albuminuria, nephritis, vomiting). 4. Inconveniences proper to ether alone, occasionally present contra-indications to its employment; those contra-indications exist in lesions of the respiratory tract, compression of the trachea, by goître, for example, and when it is necessary to employ the actual cautery in operations upon the face or neck. The author would by no means banish chloroform altogether, but would employ both ether and chloroform according to the indications present in each individual case, giving the preference, where there was room for choice, to ether.

The Peritoneum as a Suture Material.—Dr. L. Avangino, of Cagliari, said that a perfectly satisfactory material for sutures and ligatures had not yet been found, neither catgut nor silk meeting the requirements of the surgeon in all respects. A good suture should be made of animal tissue, easily disinfected and readily absorbed. The fibres of the parietal peritoneum of the ox answered these requirements in a most satisfactory manner. The author obtained the membrane from a freshly killed ox, and after stretching it upon a plate of glass, removed the layer immediately beneath the endothelium, cutting it into strips of varying length and width; these strips are at once twisted into fine cords and dried for twenty-four hours. They are soaked for five days in a five per cent. solution of sublimate in ether, and then in a two per cent. solution of sublimate in alcohol of 97° for ten days. The material is now ready for use and is preserved in a mixture of four parts of linseed-oil and one part of the alcoholic sublimate solution. The peritoneal cords thus prepared had been used experimentally for the ligation of large vessels in animals and as a suture material in the clinic, and had always given great satisfaction. As compared with catgut it presented the advantages of being finer, stronger, more flexible, and more easily sterilized. Culture experiments with the prepared peritoneum had always given negative results, which was more than could be said for most specimens of catgut in the market.

Wounds of the Pericardium.—Dr. Amerio, of Cagliari, reported a case of wound of the pericardium, the heart having escaped. The most prominent symptoms presented by the patient were dyspnœa, small, rapid, and irregular pulse. From two of the seven wounds in the præcordial region pericardial fluid mixed with blood issued, and percussion showed an increased cardiac area and pneumo-pericardium. Treatment consisted in enlarging the wounds, disinfecting the pericardial cavity, and then closing the wounds with an antiseptic dressing. The author referred to the reports of similar cases in literature, and to instances of puncture or incision into the sac in certain forms of pericarditis, and endeavored to fill the gaps now existing in surgical literature concerning the symptomatology and curative processes in wounds of the pericardium not involving the heart. He had made numerous experiments to this end on rabbits, making in some cases a simple incision into the pericardium, in others practising a partial or total ablation of the sac. Except for two cases in which death occurred from infection independent of the operative procedure, all the animals survived the infliction of the trauma. The following were the conclusions derived by the author from the results of his experiments: 1. Animals may live in apparent health even after wounds which have resulted in complete pericardial adhesions. 2. Pericardial surgery should be further developed, so as to render certain the prevention of septic infection and of wounds of neighboring organs. 3. In cases in which it is certain that the pericardium has been wounded, especially if the lesion has been made with septic instruments, surgical intervention is justifiable; it should consist in enlarging the pericardial wound, washing out all blood and pus from the sac, and thoroughly disinfecting it. 4. In certain cases also of thoracic tumors which have invaded the pericardium, one may remove the affected portion of the sac without prejudicing the life of the patient.

Repair of the Bladder after Gunshot Wounds.—Dr. W. Stankiewicz, of Warsaw, reported a case of wound of the bladder from a pistol-ball $\frac{7}{25}$ inch in diameter. The fifth day after the injury the patient had retention of urine from obstruction of the urethra by the projectile,

which had been passed spontaneously from the bladder and had lodged in the fossa navicularis. The ball was extracted, and the patient was completely cured eight days after the accident.

Sarcoma of the Bladder Discovered by Means of the Cystoscope.—Dr. Stankiewicz also reported a case of sarcoma of the bladder the size of a cherry, the diagnosis of which could not have been made without the aid of the cystoscope. The only symptom of the condition was an intermittent hæmaturia. The tumor was extirpated, and no relapse had occurred a year after the operation.

Operative Treatment of Congenital Dislocation of the Hip.—Dr. A. Hoffa, of Würzburg, said he had now performed the operation devised by him for the correction of this deformity seven times, with perfect results. In patients over ten years of age, the head of the femur is often so deformed that this operation would offer little promise of a cure. In such cases he advised an operation for obtaining bony union between the femur and the iliac bone, the opposing surfaces being denuded and held in contact by a retentive splint. He had obtained very satisfactory results from this procedure.

Treatment of Congenital Dislocation of the Hip.—Dr. A. Paci, of Pisa, treated this condition by certain manipulations, consisting in, 1, flexion; 2, abduction; 3, external rotation; and 4, slow, graduated, and progressive extension of the thigh on the pelvis.

Infection Following Open Fractures.—Dr. D. Roncali, of Cagliari, read a paper with this title, in which he related a number of experiments made upon animals to determine what forms of infection follow open fracture. The following were the conclusions based upon these experiments: 1. Compound fractures left untreated not only never heal, but lead invariably to the death of the animal. 2. Blood-poisoning in these cases is caused by one of the following micro organisms: Bacillus œdematis maligni, bacterium coli commune, bacillus pseudo-œdematis, staphylococcus pyogenes aureus, and streptococcus septicus. 3. The pathological changes found in animals dying after compound fracture of the femur are the following, in the order of gravity and frequency: *a*, medulla of the fractured femur (myelitis, acute, chronic, and suppurative); *b*, liver (hepatitis, degeneration of the tissue, and limited necrotic areas in the viscus); *c*, kidneys (nephritis, necrosis of the epithelium of the straight tubes and of the loops of Henle, etc.); *d*, spleen (acute and chronic splenitis, destruction of the giant-cells of this organ); *e*, lymphatic glands and vessels (suppurative adenitis and angioitis, hypertrophy and hyperplasia of the glands); *f*, periosteum and joints (acute, suppurative, and chronic periostitis and synovitis); *g*, muscles (acute and chronic inflammation, degeneration, and necrosis of the muscular fibres); *h*, lungs, heart, and brain (inflammation and lesions resulting from embolism and thrombosis).

Hard on the Employees.—"The following notice is posted in the Pension Office at Washington: 'Members of the medical division are forbidden to have their hats or clothing on preparatory to leaving this office before four o'clock. Any one breaking this rule will be charged with a demerit of fifteen minutes.' It is perhaps not strictly our business, but we should think it would be rather uncomfortable for the clerks of the medical division to work all day without any clothing."—*New York Tribune.*

"Such an order would make one believe that the pension employees are decidedly 'in the swim.' It would be more appropriate on the door of a natatorium than on a pension bureau. This reminds us of Pat's reply when the Jew wanted to 'sell him a trunk to put his clothes in.' 'What,' said Pat, 'and go naked?'"—*Texas Medical Journal.*

"Or of Pat's wife, when her mistress asked her to serve the tomatoes 'undressed.' 'No,' said Bridget. 'I will lave the place before I will do it.'"—*National Medical Review.*

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

ROYAL MEDICO CHIRURGICAL SOCIETY—VESICAL HERNIA—INTRA- AND EXTRA-PERITONEAL CASES—CLEFT OF HAND AND SOFT PALATE—CLINICAL SOCIETY—MYOCARDITIS—SPLENIC ABSCESS—FRACTURES OF TIBIA AND FIBULA—MEDICAL DEFENCE UNION—CHELSEA HOSPITAL FOR WOMEN—STATUE TO SURGEON PARKE—NURSES' RIVALRIES—MEMORIAL TO LIVINGSTONE.

London, April 28, 1894.

The contents of a hernial sac are sometimes different from the anticipations of the surgeon, and since radical cures have been more frequently attempted accidents have occurred during operation. A number of cases are known in which the bladder has been perforated. On Tuesday last a case was brought before the Royal Medical and Chirurgical Society, in which what appeared to be an empty sac was tied and cut away, the stump being returned to the abdomen and the inguinal ring closed. Next day, hypogastric pain and bloody urine led to the abdomen being opened, and the wounded bladder sutured; for an extra-peritoneal diverticulum had been taken for the empty sac. I believe this is only the sixth case of this form of vesical hernia recorded, though there are many in which the intra-peritoneal form has been met with. This hernia seems to give rise to no special symptoms, and the structure is not easy to recognize, so that only the utmost vigilance on the part of the operator can prevent accident. In fact the bladder has in most cases been wounded.

The presence of the bladder in an inguinal hernia, as in this case, is rare enough, but still more uncommon is the complication in femoral hernia. Nevertheless a Fellow of the Society gave some account of a case in his practice. It occurred in a woman, aged sixty-seven, the subject of hernia for seventeen years. The bladder was injured, but the patient made a good recovery. It was suggested that the neck of every thick sac should be traced back to the point of origin of the thickening, and that if the finger be passed along the neck into the ring, the intra-peritoneal form of vesical hernia would probably not escape detection.

Another speaker said that in most cases he believed the hernia was neither intra- nor extra-peritoneal, but a mixture of both forms.

A paper was then read by Mr. Davies-Colley on a method of closing the hard and soft palate for clefts. The method is a modification of the plan published by the author more than three years ago, and the modifications have been in use for about a year. Some remarks were made on points of detail, and it was urged that in these cases operation should be done early.

Besides the subjects mentioned in my last as discussed at the Clinical Society's last meeting, Dr. Maclaren brought forward three cases of inflammation of the muscular tissue of the heart without affection of the endo- or peri-cardium. The cases occurred in acute rheumatism, and the absence of physical signs was dwelt upon, especially delirium, which is symptomatic of myocarditis in the absence of pneumonia or pericarditis. No doubt this complication has been recognized as one which may be met with, but it is so constantly accompanied by endo- or peri-cardial inflammation giving rise to physical signs, that in the absence of these it might be overlooked.

Dr. David W. Findlay then related a case of splenic abscess, with secondary abscesses in the liver, in a girl of twenty. Three months previously she had suffered from pleurisy, and on admission to hospital it was supposed that this had recurred. Pyæmia supervened and she died. There was no history of injury, and the origin of the affection could not be traced. At the autopsy

ulcerative endocarditis was found, and the spleen was one and a half time its normal size and fixed to the diaphragm by adhesions; there were also two small abscesses in its upper part and extensive pleuritic adhesions.

Mr. Arbuthnot Lane next read a paper on the operative treatment of simple fractures of the tibia and fibula in certain classes of laborers in whom he estimated that the depreciation of the workman's value by this injury sometimes amounted to seventy per cent., and often meant ruin to him. In consequence of the alteration in the lines of pressure through the joints, pain and insecurity are felt and progressive mechanical arthritis results. Mr. Lane therefore cuts down on the fracture, removes any soft parts or fragments of bone in the way, and brings the surfaces accurately together by traction on the foot, by elevators, and holds the parts in apposition with lion forceps, till holes have been drilled and the bones fixed by steel screws. This proceeding, he said, relieves the patient at once from pain and discomfort due to movement of the fragments or extravasation between them. It also shortens the duration of the man's incapacity to earn his living, as bony union is rapid and the mechanism of his skeleton restored to its state before his accident. He read notes of three cases operated on in the same week, and supplemented these by brief notes of forty cases collected by Mr. Stewart. In the discussion that followed attention was drawn to the risk incurred by converting a simple into a compound fracture, and some doubt was expressed as to whether the results in ordinary cases were as serious as Mr. Lane represented.

The Medical Defence Union seems to be in some danger of falling to pieces, unless the members take some vigorous steps to prevent this. Upward of a hundred have signed a requisition for convening a special meeting to consider the recent action of the council, and, if thought fit, to repeal some of the articles of association and substitute others preventing the council or governing body from acting as they have done in certain cases.

The Committee of Inquiry into the allegations against the Chelsea Hospital for Women is being reorganized, and although the consulting officers have declined to serve, there is a prospect that the inquiry will be satisfactory to the public and to the profession.

The memorial statue to Surgeon Parke, of the Emin Expedition, is to be of colossal dimensions, and will represent him in a costume suitable for African exploration. It will be supported on a pedestal having a bas-relief of Dr. Parke engaged in his professional work on some striking occasion during the expedition.

Nursing associations have their little rivalries and separate organs, which sometimes indulge in imprudent observations. At any rate, the *Nursing Record* seems to have done so and has been promptly sued by the Royal Pension Fund for Nurses, and has to pay forty shillings and costs.

Mr. H. M. Stanley on Saturday last laid the founda tion-stone of a Cottage Hospital at Dartford, dedicated to the memory of Dr. Livingstone.

THE LATE PROFESSOR BROWN-SÉQUARD.

To the Editor of the Medical Record.

Sir: I wish to say a few words concerning the late Dr. Brown-Séquard, and to point a moral. He occupied the Chair of Physiology in the Medical College of Virginia in 1854. At that time he was incapable of lecturing in English, but his most beautiful demonstrations were patent. Probably for the former reason he was retained only one session. The school of the French physiologists was then at its zenith, and we owe more physiological knowledge to them than to all the world besides. Bernard was first and Brown-Séquard second in fame.

Brown-Séquard's ardor for vivisection was unbounded, and many laughable scenes were the consequence. On one occasion his assistant for some reason let go the cat, which immediately vaulted to the devoted head of the professor, "snatching him bald-headed," and clawing his face, getting the first blood. But the man who would stand before the class and let down pieces of sponge into his stomach, like one fishing for crabs, could not be deterred by such a trivial matter. Accordingly, albeit his wig was off, he rushed around the room and over the benches after grimalkin, finally caught her, and most conclusively demonstrated to the convulsed class that a section of the cat close to the medulla oblongata produces, first, convulsions, and then death.

The basement of that graceful Egyptian pile, the college, presented the appearance of a bench show. The guinea pig, the favorite of the French physiologist, was not present.

The epileptic owes an everlasting debt of gratitude to this famous savant, for there is nothing so efficacious in epilepsy as the bromides; chloral is a superior remedy for exclusively nocturnal epilepsy. He taught that there is "a positive relation between the intensity of the bromide eruption and the efficacy of the remedy."

Brown-Séquard, with other physiologists, established the fact that the fibrine of the blood disappears while passing through the liver and kidneys. But for this fact the blood would coagulate in the vessels.

He gave a valuable point in hypodermic medication. The best time to give a hypodermic is when the patient is fasting; less medicine is required and the effect is greater.

His work regarding the spinal cord is known to every tyro in physiology.

These are but a few things which this honorable gentleman did. But, alas! some men live too long and impair their fame. His "elixir" was probably the outcome of senility, for he was seventy years of age when he announced the ignoble extract. He fancied that after he had received an injection of it into his loins he could run up and down stairs like a boy, that it also enabled him to do more and better mental work without fatigue.

Unfortunately, he gave the cue to younger men in our country, who should know better, and they have made extracts from nearly every organ in the body of the sheep or calf. But unlike the great and honest experimenter, they, presumably, follow in the wake of the alchemist; they would turn these baser elements into gold.

Their products are supposed to act upon the principle of the ancient doctrine of signatures, as lungwort and liverwort; or upon the principle that in order to learn to read a language it is only necessary to swallow the alphabet.

The humbuggery of such therapeutics was long since disproved by a paraplegic patient, who confided to me that he had been drinking his own urine in the hope that his system would reappropriate the mucus.

Thomas R. Evans, M.D.

Burlington, Ia.

MORPHIA PRE-NARCOTISM IN CHLOROFORM ANÆSTHESIA.

To the Editor of the Medical Record.

Sir: In a paper on "Depressed Fracture of the Skull," published in the Medical Record, April 28th, Dr. Dillon J. Spotswood says: "In administering chloroform it will be found that a hypodermic injection of morphia, gr. $\frac{1}{4}$, and atropia sulph. $\frac{1}{150}$, a half-hour before, *always* maintains the heart and respiration during chloroform anæsthesia." (The italics are mine.)

If such is the case, and if the heart and respiration never fail us after the above preliminary medication, we must then have in chloroform an ideal anæsthetic which should be used to the absolute exclusion of ether. I can hardly bring myself to believe that this is correct and should be very glad to have Dr. Spotswood furnish more detailed information on the subject.

Very truly,

Joseph Brown Cooke.

269 West 138th Street.

GOETHE'S REPORT OF A TOOTH IN THE NOSE.

To the Editor of the Medical Record.

Sir: Referring to the recent report[1] by Dr. Knapp of a case of tooth in the nose, I am reminded of having lately stumbled upon a report by Goethe of a similar case observed nearly a hundred years ago. It is well known that Goethe discovered, or first drew attention to, the presence in man of an intermaxillary bone. His passion for all sorts of scientific knowledge induced him, doubtless, to mention in his letters, written on a journey to Switzerland in 1797, the following case, a translation of which I take the liberty of sending you, as it may prove of interest to your rhinological readers. The letter is dated Stuttgart, September 6, 1797:

"After dinner I went with Dannecker to Rapp's, where I found a remarkable osteological preparation. A young woman whose brothers and sisters had been afflicted with diseases of the bones had herself suffered in chilhood severe pain when pressure was made on the upper jaw under the left eye. This tenderness gradually extended downward toward that half of the palate; a swelling occurred in that region and something hard could be felt in it. She lived for nineteen years and finally died of consumption. The part of the skull which they preserved after the autopsy presented the following points of interest:

"The left half of the intermaxillary bone contains two good incisor teeth. The canine tooth is lacking, and from the small alveolus one observes that it must have fallen out soon after the second dentition; then comes a molar tooth, then a small depression with a sharp border, but without an alveolus; then a large molar, and then a so-called wisdom tooth not quite fully developed. When the nasal cavity of the preparation is examined a very curious condition is noticed: a tooth is fixed under the edge of the orbit with its root fast to a little round rough mass of bone; it extends in its position directly downward and backward, and had apparently bored through the palatal part of the superior maxilla just behind the incisor canals, or rather the bone had become carious from the unnatural irritation of the parts and an opening is observed eaten out larger than the crown of the tooth. The crown remains only a little in front of the plane of the palate (sic).

"The tooth is not shaped exactly like the other molars; its root is single and long and its crown not so broad. It appeared, however, to be a sound tooth in active growth whose path toward its proper place was obstructed by the irregular and more rapid growth of the neighboring teeth, so that it had gone upward and backward and so caused the misfortune. Apparently it is the missing molar (?), of whose alveolus there is no trace to be seen. At first I was inclined to believe it was the canine tooth. If this condition had been suspected, I am convinced that the patient could easily have been operated on and the tooth removed; whether, with her unfortunate constitution, her life could have been lengthened by this is doubtful.

"It is to be regretted that only the interesting portion was removed, and that the other half of the maxilla, or, indeed, the whole skull, had not been preserved, so that the bony structure could have been observed in those parts which showed no striking irregularity."

Does anyone know of a better or an earlier report?

Yours, etc.,

Jonathan Wright, M.D.

Addison on Medical Advertising.—"Advertisements are of great use to the vulgar; first of all, they are instruments of ambition. A man that is by no means big enough for the *Gazette* may easily creep into the advertisements, by which means we often see an apothecary in the same paper of news with a plenipotentiary, or a running footman with an ambassador."—*The Spectator.*

[1] Archives of Otology, vol. xxiii., No. 1, 1894.

NITRATE OF SILVER IN GONORRHŒA.

To the Editor of the Medical Record.

Sir: The article of Dr. John McGrath, in the Medical Record of April 14th, on the subject of nitrate of silver injections in deep urethritis, has induced me to relate my own experience. For a number of years I treated all cases of deep urethritis and gonorrhœal cystitis with injections of nitrate of silver, varying from the customary deep injection of a solution of from one to five grains to the ounce to large injections of very weak solutions, about six ounces at a time, the strength usually but one-eighth grain to the ounce. I also allowed the patient to empty his bladder of the solution after withdrawing the catheter.

These weak injections I have used many times, and the conclusion that I have reached is that all nitrate of silver injections, even of these very weak solutions, are liable to be followed by a violent reaction, prolonged spasms of the bladder with constant desire to urinate, and finally gonorrhœal cystitis and orchitis.

My catheters have always been carefully disinfected, have been inserted with the utmost gentleness, the solutions as above stated have rarely exceeded one eighth grain to the ounce, and yet I have often enough seen unfortunate results to warrant me in saying that, where we use even the weakest nitrate of silver solutions, we may do harm.

I recall one case where several injections were borne well with steady improvement, until one precisely similar was followed by orchitis and cystitis, with prolonged fever.

The cystitis and orchitis never follow unless preceded by the reaction and bladder spasm I have described, and I think it is the traumatism resulting from this, and not the cauterizing effect of the silver nitrate, that causes trouble. One can never tell when one will have this reaction, though nervous, irritable urethræ predispose to it. In some cases I have controlled it by cocaine injections into the bladder and ice to the perineum. I will not deny that no remedy will compare with nitrate of silver injections for treating deep urethritis and gonorrhœal cystitis, but it is nevertheless a very uncertain and dangerous remedy.

Creosote internally is lately giving me good results.

O. T. Freer, M.D.

288 East Huron Street, Chicago.

CERTAINLY NOT!

To the Editor of the Medical Record.

Sir: Will you kindly inform me whether the new code, about which so much controversy waged, was intended to permit consultations with homœopaths, or to permit specialists to meet homœopaths for the purpose of getting their patients away from them? Permit me to relate the following incident, of which I was an eye-witness.

A family, attended by a regular physician in whom its members had entire confidence, had the whim of calling in a young homœopathic physician in the neighborhood in case of any ailment judged by them to be trifling. On one such occasion, after a day or two of illness in an old lady, the homœopath, Dr. A——, decided that there was a strangulated hernia, and called in, without much discussion or deliberation but with permission from the son, a homœopathic consulting surgeon, Dr. B——, who advised an operation. Upon that the family, terrified, decided that they wanted another consultant, a well-known specialist, regular, and undoubtedly skilful, and moreover somewhat famed for his obliging readiness to meet homœopaths in so called consultation. A friend of the family, quite irresponsible in the matter, went for the specialist, Dr. C——, begged him to come to meet the homœopathic gentlemen, and on his own responsibility added he wanted Dr. C—— to operate. Dr. C—— came, met the two homœopaths, listened to their

account of the case, agreed entirely with their diagnosis and plan of operation, which were in fact correct, but then, as Dr. B—— was making his preparations, Dr. C—— slipped out of the room, to hold a private conversation with the patient's son. No one knows what here transpired; but the result was that the son, with that delightful pliability under the moulding hand of the last comer which habitually characterizes the friends of patients, promptly dismissed Dr. B——, with scant courtesy, leaving Dr. C—— the field, the fees, and the operation. Now if a consultation means anything, it means that the consultant intends to meet a practitioner fairly and deal with him loyally; that he is to protect him from the officious meddling of outside friends, and only rupture with him if there arise an irreconcilable difference of opinion, upon which an appeal for choice may be made to the family. But to profess to meet them, to be compelled in a given case to agree, and then to so pull the wires of family fears and susceptibilities as to get the case into one's own hand, seems to me an utterly indefensible proceeding, and I should be glad to know how such cases are viewed by the RECORD.

FAIR PLAY.

MUST THE PARSON PAY?

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Your editorial in the issue of April 21st about the parson paying his medical bill no doubt struck a responsive chord in many a doctor's heart. Many of us, many times, have thought they should pay, but hardly knew how to start about it. In the days of Auld Lang Syne, when the preacher travelled many miles every week and preached many sermons, going on horseback probably, with his wardrobe and bookcase in his saddle-bags behind him, and having no earthly possessions, singing as he rode, "No foot of land do I possess," etc., it certainly would have been, and was, a great pleasure for doctors to give them all needful medical attention free of charge. Then they were objects of charity indeed, but the times have changed. In our cities and larger towns the parson is now quite a different man. He rides no longer on horseback. Now steam carries him when going to a distant place, and a coach when he travels close to his home. Many do their pastoral work easily by walking, and the majority of them command good salaries. My town (Durham, N. C.) has a population of about eight thousand. We have some fine churches here as well as large tobacco factories, cigarette factories, etc. Our preachers, generally speaking, are well-paid men. For years I have been a member of the church, and for years have done the practice of the ministers of every denomination free of charge, while, at the same time, I was assessed freely for the support of my ministers, both active and superannuated. For twenty years I have practised here, and for twenty years have never charged one cent for my services to ministers; but I have had compunctions of conscience about the matter. I argued thus: Our salaried men are the best-paid men in our community. How can a salaried man expect a non-salaried man to do his work for nothing, especially as the latter is taxed for his support? I determined to quit it.

This year we had a new minister sent to our church. I approached him and remarked: "Brother ——, you will get a handsome salary this year, the parsonage is fitted and furnished for your family without charge to you, and I advise you, whenever you call a physician, to pay your medical bill." Not long after this he came to my office and asked me to call and see his daughter. I then told him again that I should charge him for each and every visit made, and went to see his daughter.

At the beginning of each year our assessments are read out, and when objections were called for I arose and increased my assessment from $39 to $50 per year. At the next meeting of our medical society I told the Academy of my action, and asked that they would give me the privilege, if they did not indorse my action, to charge ministers of all denominations. They not only said they would give me the privilege, but we passed the following law in substance, viz.: That after this date ministers of all denominations would be charged as per the following: All ministers receiving as much as $500 per annum would have to pay one-half medical rates, fifty per cent. All ministers receiving $1,000 and above would have to pay full fare, or the regular medical charges. I suppose those receiving less than $500 will get their services free of charge. What will be done with the money received from such sources I cannot say, but rather believe the doctors will turn it over to some charitable organization here in Durham.

Now a few further remarks and I am done. The doctors (Israelites) have been in bondage to the ministers (Egyptians) more than four hundred years. The yoke, which was light at one time, has become burdensome now. Some of us (Durham doctors) have rebelled and rather like the change. We propose to continue our rebellion. Why, some of these very ministers for whom we have worked and labored for nothing, and for whose support we were assessed, have left us for other fields of labor, and never said even "Thank you"—yea, more than that, they have gone about while here doing pastoral work, and have recommended patent medicines and proprietary nostrums—yea, more than that, still, you can pick up the newspapers and see their names, standing out in bold relief, as the Rev. Mr. So and So, patronizes and indorses such and such patent medicine or humbug instrument. His wife was cured, he himself mightily helped, and his child never would have lived had it not been for one of these patent abominations. *O tempora, O mores!* Now, Mr. Editor, let the doctors kick themselves. They are more than half responsible for this state of affairs. Let there be a widespread uprising of medical men against this more than Egyptian bondage, and you may count on Durham, N. C., doctors as being always in front, as they have already raised the battle flag and intend to beat down all opposition, or fall with their faces to the enemy. They are battling for the right.

Yours with esteem,

A. G. CARR, M.D.

DURHAM, N. C.

PERMANGANATE OF POTASSIUM IN OPIUM POISONING.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the issue of April 14th of your esteemed journal Mr. L. A. Harding, B.Sc., Ph.D., of Fergus Falls, Minn., expresses grave fears that boiled starch might interfere with the antidotal power of permanganate of potassium, for in his opinion boiled starch in any form quickly demands its attention. I fail to understand how Mr. Harding could have made such a statement, for the most superficial test will show that the reaction between boiled starch and $Mn_2K_2O_8$ is much slower than the reaction between the latter and albuminous matter; consequently boiled starch cannot come in consideration at all as a rival of morphine in deoxidizing the new "supposed" antidote.

Mr. Harding furthermore claims that the decomposition of the permaganate in an alkaline fluid proceeds but very slowly.

Now I found that its decomposition in an alkaline solution of albumen is just as rapid as in a neutral solution of the latter. Will Mr. Harding kindly give me the satisfaction to state what kind of soluble organic substance he has used when "a test-tube full of water containing soluble organic substance which had been made alkaline, and to which had been added a few drops of a solution of potassium permanganate, did not begin to discharge its color for nearly an hour"?

Mr. Harding calls my advice "to give an acid of some kind in case of opium poisoning, or in case of any of the salts of morphia," erroneous beyond measure; for do not text books teach, and experience has proven, that acetic

acid especially decomposes permanganate? I have never advised to give an acid of some kind in case of poisoning with any of the salts of morphia, but have done so only with regard to poisoning by the alkaloid morphia itself (not its salts) or by opium and its preparations.

The fact that "text-books teach that acetic acid especially decomposes permanganate" is no argument against my advice. While we never should cease to be students, yet it would be puerile to be hampered in independent investigation by remaining slaves to "text-books!" In my first article on the subject in question,[1] I have said verbatim: "In cases of poisoning by the alkaloid itself or by tincture of opium, also by opium, it is advisable to acidulate the antidotal solution with diluted sulphuric acid, or in the absence of this with some white vinegar (not red vinegar), by which the insoluble morphia will be at once converted into the soluble sulphate or acetate."

How such an advice could be called "erroneous beyond measure" is to me incomprehensible beyond measure. Everybody can easily convince himself that diluted sulphuric acid does not deoxide permanganate at all, and that the latter is acted upon so feebly and slowly by diluted acetic acid that its antidotal power cannot be lessened through the addition of some white vinegar. The addition of fifteen drops of diluted acetic acid to one ounce of water imparts to the latter a distinct vinegar taste; one drop of a 1 to 15 $Mn_2K_2O_8$ solution is decolorized by this acidulated water only after prolonged stirring and shaking; two or three drops of the same solution impart to the ounce of acidulated water a purplish color without changing its vinegar taste. When we consider the fact that two drops of diluted sulphuric acid are sufficient to convert one grain of the insoluble alkaloid morphia into the soluble sulphate, it is evident that under ordinary circumstances in cases of poisoning by laudanum or opium it is sufficient to add one teaspoonful of diluted sulphuric acid or white vinegar to six or eight ounces of the antidotal solution. It is rather a peculiar coincidence that my first case of supposed morphine poisoning, which I treated successfully by potassium permanganate without using diluted sulphuric acid or diluted acetic acid proved to be a case of poisoning by sixty to seventy grains of powdered opium. While I am very well satisfied with the results obtained, yet I should not have hesitated to use one of the diluted acids above mentioned had I been aware of the exact nature of the case. I shall be happy to give the profession an account of the case referred to, together with a synopsis of other cases that were reported to me, and trust it will turn scepticism as to the efficacy of permanganate of potassium as an antidote for opium into faith in its usefulness for the purpose stated.

WILLIAM MOOR, M.D.

355 BOULEVARD, NEW YORK, April 26, 1894.

Alliteration was a favorite form of literary expression among the early Saxon poets, but its use in modern times has been very limited, perhaps because this special form of talent has not been encouraged and therefore has not developed. St. Louis, however, has a writer who exhibits a remarkable capacity for alliteration as well as for historical imagery. Of one eminent Louisville surgeon the editor of the *Medical Mirror* says, after half a page of deluging compliments: "Truly he is the prancing, princely, playful, peerless, popular, passionate, peace-loving, persuasive, picturesque, piquant, pushing, polished, puzzling, palm-taking Palmer, the superb." The doctor's capacity for alliterating with the initial "p" is not exhausted by the above; for he says, "I am sustained, and more than sustained, by the bright, bold, broad, and brainy Bauduy, the piquant, polished, persuasive, pungent, pink of perfection in the psychiatrical pasture." A gentleman is also described as "the eloquent, erudite, earnest, emphatic, energetic, Stephen A. Douglas of the St. Louis Medical Society."

[1] MEDICAL RECORD, February 17, 1894.

New Instruments.

DR. L. JANKAN'S ACOUSTICON.

BY A. ROSE, M.D.,

NEW YORK.

THIS contrivance is constructed on physiological principles to imitate the natural ear, whereby all the advantages found in instruments already in use, as the inventor claims, were considered and applied.



The instrument consists of a sound-bell (*S*) tapering into the processus (*a*), which is to be inserted into the ear. The sound-bell itself consists of the part (*r*) and a funnel-shaped insertion (*t*), the latter provided with a curved membrane (*m*). Part (*r*) corresponds with our antitragus (*at*), part *T* with our tragus; the membrane (*m*) with our tympanum; everything magnified, so to say, idealized. Part (*r*) is to collect sound waves and to throw them on the tympanum, at the same time to prevent the escape of sound-waves. Sounds enter thus the ear without echo, that is, without concomitant, disturbing noise.

Processus (*a*) is to be inserted, air-tight, into the ear of the patient. Dr. W. Vulpuy, who examined the instrument when I demonstrated it before the German Medical Society of this city at the February meeting, and who has tried it on some of his patients, suggested an additional rubber attachment to this processus, in order to secure a better fitting insertion. But this would interfere with the advantage so important in certain cases of an osseous conduct, which the unarmed processus inserted into the meatus offers, and which is the main feature of a number of hearing appliances.

To transform the instrument into a speaking-tube, by means of which a whisper may be understood, we notice at the processus (*a*) two openings (*b*, *b*), which otherwise are closed by means of stoppers, to which otoscopes (*c*) can be fastened. When the otoscopes are attached the opening (*e*) is to be closed air-tight. If only one otoscope is to be used, it is to be connected with the opening (*e*), while the openings (*b*, *b*) have to be closed.

In this form the instrument is of good service when patients apply it while in church, theatre, concert, etc. It can be turned toward the source of the sounds, and thus applied it is little noticeable.

In many cases of defective hearing the cone (*t*) with its membrane is to be removed, either for a while or for good.

I, as well as all the gentlemen to whom I gave the instrument for trial, had very gratifying results.

215 SECOND AVENUE.

PORTABLE OPERATING CABINET.[1]

BY R. HARCOURT ANDERSON, M.D.,

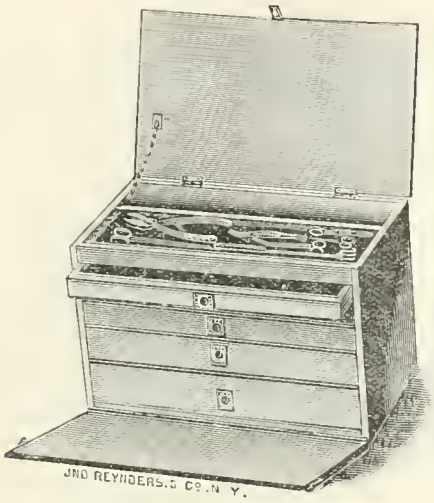
NEW YORK.

PHYSICIAN TO THE NEW YORK LYING-IN HOSPITAL, ETC.

WELL knowing the difficulties under which the ordinary surgeon labors in transporting instruments, and more especially the accessories appertaining to the proper performance of a surgical operation of any importance, and also being cognizant of the very inferior accommodation existing in the average private house for surgical work, I was led to devise the cabinet herewith presented. It is simply, to speak plainly, a cabinet of wood, adapted to the exigencies of surgical work of the extra hospital kind, and consists, anteriorly, of a row of drawers in which the

[1] Presented before the New York County Medical Association.

instruments are placed, while posteriorly is a chamber most useful, for in this can be placed almost all irregularly shaped articles, such as very large bottles, rubber sheets, Kelly pads, etc.—to be more comprehensive, all those surgical appliances which do not readily fit in a leather bag or case. (Vide illustration.)



Each drawer is lined with a soft material, which in this case is ordinary lint, which of course is "replaceable" and washable. The cabinet is practical, cheap, and will answer the twofold purpose of office or outside work. Members of the profession, especially the younger ones, and those residing in the rural and suburban districts, will undoubtedly find it more or less serviceable. The cabinet can be obtained from Messrs. Reynders & Co., of this city.

38 West Twenty-first Street.

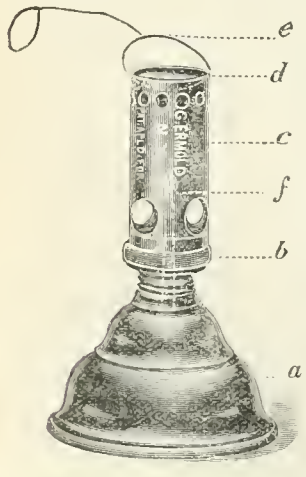
A NEW, SAFE, AND SIMPLE APPARATUS FOR SUBLIMING CALOMEL IN THE TREATMENT OF DIPHTHERIA AND SCARLET FEVER.

By DILLON BROWN, M.D.,

NEW YORK.

This calomel sublimer, made by George Ermold, 312 East Twenty-second Street, New York, has the advantages not only of being simple and convenient, but also of being absolutely safe from danger of fire or explosion, and of being economical in the use of alcohol, burning less than one-third as much as the ordinary lamp.

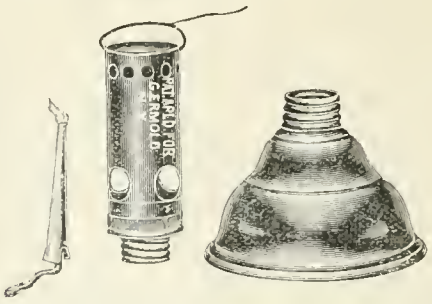
It consists of: 1. An alcohol cup (*a*) which is filled with asbestos to prevent any liquid from escaping should the lamp be upset; and its shape is such that no alcohol can run out, even should the asbestos be oversaturated with it.



2. A chimney (*c*) which protects the flame. It has air openings above and below; and at the top is a shallow pan (*d*) to contain the calomel which is to be sublimed. A flexible wire (*e*) is fastened to the upper end of the chimney, so that the whole apparatus can be suspended, if more convenient, under the croup tent.

3. An asbestos washer (*b*) which separates the alcohol cup from the flame and the chimney, thus preventing the heat from reaching the alcohol and causing it to run over and set fire to the surroundings.

4. The wick (*f*) which reaches high enough in the chimney above the lower air-openings to prevent any danger of fire from this source.



5. Each outfit contains one ounce of the purest calomel, divided up into compressed tablets of ten grains each.

Medical Items.

Contagious Diseases — Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 12, 1894.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	9	3
Scarlet fever	151	18
Cerebro-spinal meningitis	3	2
Measles	269	14
Diphtheria	219	56
Small-pox	20	3
Cholera	0	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0

Diphtheritic Paralysis.—Diphtheritic paralysis generally manifests itself from eight to fifteen days after recovery from the local symptoms, though it may be delayed to a later period; in very exceptional cases it has been observed during the first week. This paralysis exists in one-third of the grave cases, according to Rogers's statistics; it is not a rare sequel of benign diphtheria. The onset is generally slow and insidious. There is first only a little hesitation of the motor functions; deglutition, walking, and other movements become more and more difficult. The place of election of the paralysis is the velum pendulum, where it generally begins, and where it sometimes remains localized. A slight pallor, a little slowing of the pulse, are the only disturbances of the general state which are then noted. The reflux of liquid aliments by the nares indicates the impediment to deglutition. Extension of the paralysis to the pharynx generally supervenes, and the food can only be swallowed after repeated attempts, which soon fatigue the patient, and sometimes result in the refusal to take nourishment. Loss of voice testifies to paralysis of the larynx. The muscles of the eyes, of the neck, of the trunk, of the upper and lower extremities, of the rectum and bladder, even the special senses, are taken in the more complete forms of paralysis. More rarely the paralysis will attack the lower limbs before affecting the larynx and the tongue; and in a few cases it has been known to begin with the arms, then invade the soft palate and œsophagus, to attack finally the lower extremities. It is a common experience to see troubles of vision supervene which are attributed to a fault of accommodation. The sight is enfeebled in different degrees, which may vary from slight amblyopia to complete blindness; there is hypermetropia, mydriasis, and, if but one eye is affected, inequality of the pupils. Almost all of the eye-muscles may be affected in turn. The lower extremities generally begin to be paretic when

these ocular troubles exist. The paralysis of the legs generally assumes the form of an incomplete paraplegia. It is announced by formication and numbness in the legs. Walking becomes uncertain; the patient has an incomplete perception of the ground under his feet, and finds it especially difficult to go up and down stairs, or walk in the dark. A peculiarity of this form of paralysis is that the loss of motility in the feet and legs is never complete; the patients can move along by dragging or sliding their feet. When they are confined to their bed the lower limbs still preserve considerable power of movement, but without energy or much certainty. Jaccoud calls it an ataxy of movement, rather than paralysis. These ataxic symptoms, in conjunction with the abolition of the patellar reflex and the eye troubles, may give rise to a form of pseudo tabes. Contracture is very rare. The affected muscles present the ordinary reaction of degeneration; there is augmentation of the galvanic and diminution of the faradic contractility. With regard to the condition of the hands, these become awkward and clumsy; patients drop or upset objects which they attempt to handle; tremblings resembling the tremors of paralysis agitans are frequently present. The muscular enfeeblement may be so great that the patient cannot feed himself.

Paralysis of the face is a rare phenomenon. Bourges, who has written a very complete description of the diphtheritic paralysis, and from whom we have here borrowed, gives a graphic account of cases which he has witnessed, when the syndrome of labio-glosso-laryngeal paralysis was perfectly reproduced; the tongue, lips, cheeks, larynx being simultaneously affected. Troubles of the sensibility are very frequent in diphtheritic paralysis, and almost always have to do with the regions affected with akinesic troubles. The ordinary alteration of sensibility is anæsthesia; exceptionally there is hyperæsthesia, which manifests itself in the lower limbs by numbness and formication, and generally precedes the akinesis. Frequently the anæsthesia when it exists does not extend above the knees and elbows, but it may be general. It is sometimes accompanied with analgesia so complete that cutting operations have been performed without ether. The anæsthesia may affect the lips, tongue, and cheeks, and in rare cases the special senses, hearing, smell, and taste, have been abolished. The speech is often hesitating, stammering.

A capital fact in diphtheritic paralysis, says this same writer, and one that distinguishes it from all other paralyses by peripheral neuritis, is that there is no muscular atrophy; the paralyzed limbs always retain their normal aspect and volume. In very rare instances the velum pendulum is not affected, and the disease is located in one muscular group or region without affecting other groups or other parts. Such are the cases where the paralysis has taken the paraplegic or hemiplegic form, where it is limited to the eye-muscles, to an arm, a leg, a hand, etc. Cases complicated with diaphragmatic paralysis are especially dangerous. In the localized and partial form the paralytic accidents may be transient, and disappear in a few days. When the paralysis is general, its course is slow, lasting sometimes weeks and even months. Diphtheritic paralysis generally terminates in recovery (eight times out of ten, according to Bourges). In favorable cases, the power of movement reappears first in the lower limbs, then in the throat, then in the arms and hands, the trunk, the viscera, and the eyes. Generally the organs to be first paralyzed are the first to get well, but there is no fixed rule even here, and it often happens that the velum pendulum is the first part to be affected, and the last to resume its functions. We have said nothing about those forms of infectious paralysis in which the heart and respiratory muscles are affected. These varieties are much more grave, for death then occurs often from syncope or asphyxia. These paralytic results of diphtheria have been reproduced in animals in the experiments of Roux and Yersin.—*The Boston Medical and Surgical Journal*

Motion of Human Spermatozoa.—Various authorities state that the spermatozoa may continue to move during twenty-four to eighty-four hours after death in the fluids of the seminal tract. Outside the body the movement of spermatozoa has been observed for seventy-two hours by Hofmann and Mantegazza for four days at a suitable temperature. Mr. Piersoll now states that at a temperature of 8.5° C. a few of the elements showed movement, after being kept for nine days. These facts show that spermatozoa may long retain their vitality in the female generative tract and must receive in future due consideration in connection with certain medico-legal questions.

Turnip as a Substitute for Decalcified Bone in Intestinal Surgery.—Dr. Baraçz, seeking a substitute for decalcified bone plates, which take too long to prepare, examined various vegetable substances and came to the conclusion that turnip is the best material for the purpose. (*The Medical Age.*) He performed a series of experimental operations on dogs, and among six gastro-enterostomies there were five recoveries, one dying of peritonitis caused by the escape of the contents of the stomach into the peritoneal cavity at the time of the operation. Among three cases of resection of the intestine there was one death due to intestinal occlusion consequent on the anastomosis being made too far from the sutured end. He considers the failures had nothing to do with the turnip plates. In a case of gastro-enterostomy which proved fatal, the seat of anastomosis was examined two days after the operation, and the plates found at the points where they had been applied, fixed by sutures around the fistula; the stomach-plate was soft like boiled carrot, the intestinal plate somewhat harder. Two dogs were killed fifteen to twenty days after gastro-enterostomy, and the plates found neither at the seat of anastomosis nor in the intestinal canal; the sutures had also disappeared. Neither was any trace of plates found in cases where the dogs were sacrificed at a later period—namely, thirty-eight to fifty days after the operation.

Recent Progress of Cremation.—The carefully prepared address of Bishop Lawrence before the Massachusetts Cremation Society, favoring urn burial, will do much to promote that reform, the advocacy of which has, unfortunately for its progress, been largely by persons of no religious faith or heavily charged with eccentricities. Not all men are scrupulous as to their lives, but most of us are strangely insistent that our death and burial shall be according to approved forms. The indorsement of the burning of the dead by a respected bishop will incline many more kindly to that sensible method. Very few persons actively oppose cremation. Most men are attracted to it, though not sufficiently interested to lend active aid. What the movement just now needs is its deliberate choice as a method of burial for themselves of persons so specifying in their wills. A few thousand men and women of commanding position in all lines of life who should publicly agree to such disposition of their remains after death would set a mighty precedent and pave the way for general acceptance of the practice. The objections to the early burnings—the escape of noxious exhalations and the defilement of the ashes with foreign substances—have been obviated through the combined inventive skill of Siemens and Sir Henry Thompson. Every consideration of sanitary science, economy, and a refined sentiment favors the reform; tradition alone blocks the way. The burying-ground is unquestionably a source of peril in every closely populated community, and the financial burden imposed upon the poor by the modern funeral is a grievous one. The task of the cremationists is to hammer away, until the absurdity of objections is manifest and the practice becomes so common that no moral courage is required to publicly approve it or engage in it. And the reform is making headway. Whereas in 1881 there was but one cremation society in the United States, there are now thirty five; and crematories are in useful operation in all the larger cities of Europe.

Indiscriminate Use of Prescriptions: An Encouragement to Quackery.—A correspondent sends the following communication to the *British Medical Journal:* "There can be no question of the fact that the medical men who give prescriptions to their patients do an enormous amount of financial injury to themselves and the profession, and by that means encourage quackery. The chemist who makes up the prescription easily finds out the symptoms, and applies the same treatment to patients of his own. He often repeats the medicine, saving the expense of a second visit to the consultant. Many patients are very fond of experimenting on others, and obligingly hand their prescriptions to their friends who have similar diseases as rheumatism, neuralgia, etc., thus causing a considerable loss to the profession. The obvious remedy for this is either to dispense one's own medicines or employ a reliable dispenser, and on no account give a prescription to any patient. These should be guarded as 'professional secrets,' which the public have no right to know, as often in the hands of ignorant people they do an incalculable amount of harm. Considering the present overcrowded state of the medical profession, and the abominable manner in which the public 'are swindled by prescribing herbalists' and advertising quacks, it is absolutely necessary that a special Board should be formed called the Society for the Suppression of Illegal Practice, whose sole duty should be the prosecution of all quacks with the utmost rigor of the existing law; that it is a paramount duty of every 'qualified man' to subscribe to such a fund, not only for his own interest but for the protection of the public. All newspapers should contain notices warning the people against the evils of quackery; and leaflets to this effect should be printed and distributed among the people at the expense of the society."

The Bacteria of Peritonitis.—The interesting subject of the bacteria associated with peritonitis has received a new and important contribution in a monograph by Drs. Tavel and Lanz. The authors have given in this report the results of their study of seventy odd cases of inflammation within and about the peritoneum or neighboring organs. But only a part of this number fall within the usual acceptation of the term peritonitis. The material for this study, with the exception of a very few cases, has been obtained at operations in the clinic of Professor Kocher, and has, therefore, the great merit of having been secured intra vitam, thus excluding the possibility of a post-mortem migration of intestinal bacteria into the peritoneum, a possibility which has been brought forward as an objection to the results of E. Fränkel and Predöhl in their work on peritonitis. The cases have been of the most varied character and diverse etiology; but if considered analytically they may be fairly well divided into several groups. In considering the bacteria met with in their examinations we shall only mention those which are recognized as having pathogenic significance, and shall neglect the less important forms, of which as many as a half-dozen or more species have been observed occurring together in some cases. Perhaps the most important class of cases are those in which there is inflammation in or about the vermiform appendix. Of these, nineteen cases were studied. The results may be given as follows: Of seven cases of purulent formation within the appendix, the bacillus coli communis was found in six, the streptococcus in two, and the pneumococcus in one case. None of the cases were sterile. In fifteen cases of peri-appendicitis, the examination of the exudate or abscess showed the presence of the bacillus coli communis in eight; the streptococcus in five; the staphylococcus citreus in one; the pneumococcus in one, and actinomyces in three cases. Two cases were sterile. The number of species found varied in the different cases from one to nine in number. It is interesting to note that the examination in seven cases of the interior of the appendix, where the contents were to be considered as normal or not affected with the inflammatory process in the neighborhood, showed no bacteria in two cases. This result is surprising in view of the enormous number of bacteria always present in the large intestine. Of three cases of peritonitis diffusa, secondary to appendicitis or peri-appendicitis, the bacillus coli communis was found in two, the bacillus pyocyaneus in one, and one case was sterile. In this group of peritonitis diffusa are also three cases which had their origin in the gall bladder, one being secondary to a choledochotomy. In two of the cases the bacillus coli communis was found, and in the third the staphyloccus albus. In this connection it may be mentioned that of three cases of gall-stones the bile contained staphylococcus albus in one case, bacillus coli communis in one case, and the remaining case was sterile. Of six cases of peritonitis from various causes, in two bacillus coli communis, in two streptococcus, in one bacillus pyocyaneus were observed. In a single case no bacteria were present. Four cases of intestinal obstruction formed another group of cases, in three of which there was a fibrinous exudation in the peritoneum. Of the four cases but one yielded an organism of any significance, namely, the staphylococcus albus. Two were apparently sterile. The last group of cases are those in which the fluid of hernial sacs was examined for bacteria. Of seventeen cases all were sterile except two, and these positive cases were from four of beginning or advanced gangrenes of the gut. The absence of bacteria in the other two cases of gangrene, where the conditions for their migration through the wall of the gut were apparently favorable, is surprising. On the other hand, in the sac fluid of two out of three epiploic herniæ, where bacteria from the intestine were scarcely to be expected, bacteria could be demonstrated. In two hernial hydroceles the fluid was sterile. The results are of interest as showing that we are as yet ignorant of all the causes which determine the migration of bacteria through the intestinal wall. It is also interesting to note that the examination of the contents of a hernial loop of the small intestine, accidentally opened at operation, showed few bacteria. This is another proof of the relatively small number of organisms in the small intestine as compared with those in the larger gut.

In addition to the foregoing cases the authors have included in their list of examinations a number of other cases more or less germane to the subject of peritonitis, but which have no special interest. Among these, however, should be mentioned a case of sub-peritoneal abscess and a case designated as empyema of a hernial sac, in both of which tuberculosis originating in the vertebræ has not been sufficiently excluded. The latter case especially serves to emphasize how desirable it is, for the bacteriologist who works with pathological processes, to have some knowledge of pathology. The technique employed in the work is, on the whole, satisfactory. The study of the biology of the different bacteria is perhaps, in general, as thorough as is necessary. A feature of their investigation which is of special interest from a bacteriological point of view is the study of thirty representatives of the bacillus coli communis, with reference to their various cultural peculiarities, number of locomotor organs, and other characteristics. The results would seem to show that scarcely any two of them are exactly alike. The differences, however, in many cases, are only such as one would encounter in studying parallel cultures of almost any organism, and we do not think that the writers are justified in considering many of such differences as constant. It is well known that different varieties of the bacterium coli exist, but the division of these thirty representatives of that group into as many as twenty varieties does not seem warranted from the observations. Of the thirty, two at least are clearly not to be classed within this group of the bacterium coli, as would appear from a consideration of their cultural peculiarities as given by the writers. In several cases bacilli somewhat resembling the Klebs-Löffler organism have been observed. To these, however, no pathogenic significance is ascribed. We cannot agree with the writers that this

is probably the pseudo diphtheria bacillus of Löffler. The cultural peculiarities of that organism are too little known for it to be identified, and our own experience has seemed to show that there may be nearly as many pseudo diphtheria bacilli as there are observers. In addition to the results of their own experimental work, the speculative and historical aspects of various questions connected with the subject of peritonitis have been well considered by these investigators. As to prognosis, they state that no conclusion can be drawn from the species of bacteria present. In those cases, however, where no bacteria are to be demonstrated, it would seem that the result is, in general, more favorable than in those where bacterial forms are present.—*The Boston Medical and Surgical Journal.*

Trichinosis.—Dr. P. Cerfontaine has recently made a study of trichinosis during an epidemic of this disease in Belgium. His researches showed that during the first two periods the cysts are destroyed in the stomach, in which the larval trichinæ either live for some time or they pass at once to the small intestines. Here they grow, and fecundation is effected on and after the second day of infection; the males of a slag of varying length in the intestine are expelled with the fæces. In the female the development of larvæ commences immediately after fecundation. The embryos begin to be set free about the sixth day of infection. Dr. Cerfontaine then states a fact which we believe to be new, that a certain number of the females penetrate into the wall of the intestines, and even into the mesentery; these have more chance of infecting the organism than those which remain in the intestinal canal, since their embyros cannot be expelled with the fæces. It is probably by means of the lymphatic systems that the parasites first make their way into the tissues of their host. We have not before noticed any observations showing that adult trichinæ penetrate the tissues of their host, and if confirmed, will explain some phenomena relating to trichinæ for which we have hitherto found no explanation. It certainly explains the violence of the gastro-intestinal troubles which often characterize the beginning of the malady.

In continuation of this subject, we notice also that Dr. J. Sawtschenko has made a study of the propagation of disease by flies, and found that when fed on cholera corpses that the cholera bacteria were found in their excrement and that they lost none of their virulence during the transit through the fly's intestines. The doctor concluded from these experiments that flies not only serve to spread disease infection directly, but that each patch of excrement must be reckoned as a further centre for the extension of disease.

Winter Climate of Rome and Florence.—According to the *Lancet*, Rome, which was a favorite winter resort for *poitrinaires* in the times of our grandfathers, has lost its reputation in this particular, and with justice. Its climate has neither the mildness nor the equability which the pulmonary patient usually craves. In the winter months the *tramontana* often sweeps down from the spurs of the Apennines with destructive bitterness. The streets —at least those of the mediæval city, now largely disappearing before the relentless march of modern "improvements"—do not well admit the sun's rays, and the alternations from sun to shade temperature are sudden and extreme. Nevertheless, as compared with northern lands, the climate has much charm, and can be safely recommended to many patients, excluding those who are the subjects of grave pulmonary disease. The same remarks apply with even greater force to Florence. The mountains are there nearer the city, and the *tramontana* blows with greater severity. Again, Rome, which is distant only about fourteen miles from the sea in a straight line, possesses a climate that is partly marine, whereas Florence, distant about fifty miles from the sea, has a distinctly continental climate. Neither of these cities, unparalleled as are their claims from the æsthetic, literary, and antiquarian point of view, possesses the requisites for a really good winter or spring resort. They yield their maximum of attraction and advantage not to the serious invalid, but to the jaded and overworked individual to whom variety of interest is more important than ideal meteorological conditions. Further south, on the Bay of Naples, at Sorrento, Castellamare, or Capri, spring comes early, and winter often departs with the month of February. On the other hand, the traveller in Lombardy must be prepared for severe cold prolonging itself well into the spring.

The Microbes of Scorbutic Gingivitis.—Dr. Babès's latest experiments in this direction were made in three typical cases of scorbutus. Small portions of tissue from the gums, also specimens of blood, were submitted to microscopical and histological examination. (*New York Medical Journal*). There was a diminution of the red globules, with marked leucocytosis. The microscope revealed a characteristic bacillus, elongated, thin, undulating, and forming thick masses. In the tissue the same colonies existed to such an extent as almost to form a false membrane. In connection with the peculiar bacillus numerous other bacteria were present, particularly a streptococcus. Inoculations of animals with the culture substance produced death with typical lesions of scorbutus. Autopsies and microscopical examinations disclosed the characteristic bacillus in great numbers in certain localities, such as the lungs and their capillaries, the tissue of the gums, and the viscera. They were not found in the hæmorrhagic effusions. The cultivation of the bacteria presented great difficulties on account of the presence of the streptococcus. It was found that an injection of the cultivation of streptococcus alone did not produce the typical disease, but with the suspected material from the scorbutic gingivitis death resulted from hæmorrhagic disease. Babès has not yet finished his experiments, but he is under the impression that the bacillus is one peculiar to the buccal region, and that in consequence of a depression in the general health these bacteria take on active changes producing the typical lesions. Again, it might be possible that the gingivitis was due to the presence of the streptococcus, and the general scorbutic symptoms to an invasion of the suspected bacillus through the mucous membrane.

Hotel Hygiene.—At a recent meeting of the Société Normande d'Hygiène Pratique, M. Percepied read a paper on the transmission of infectious diseases in hotels, where the bedrooms are occupied in turn by invalids and healthy persons. (*New York Medical Journal.*) It is principally in reference to the watering-places or the winter resorts that the attention of physicians and of the public has been aroused, he says, and in a number of resorts the suggestions mentioned in his paper have been adopted and have given rise to reforms, still in their infancy, but destined to extend rapidly. It is a great mistake, in his opinion, to limit hygienic precautions to health resorts only; all hotels, whatever they may be, should have the same rigorous care. The condition of health of the people received at these hotels is not known, and, granting that acute infectious diseases are relatively rare, it is certain that invalids with chronic diseases, such as tuberculosis, are frequent patrons, and the fact that the majority of the travellers remain only a short time cannot be brought forward as an argument. They have the right to remain as long as they please, and they also have the right to demand that all sanitary precautions shall have been taken in the rooms that they occupy. The subject under discussion applies only to travellers, although there is much to be said with regard to hotel kitchens and lavatories, and, above all, to the condition of health of the cooks and the other employees who live there. M. Percepied confined himself to saying that kitchens should be provided with draught flues, and be sufficiently well ventilated for the odors not to pervade the hotel. Infectious diseases are due to germs that are very unyielding and retain their virulence for a long time, and these germs may be in every part of a

room that has been occupied by an invalid; in the bedding, as well as on the walls or on the floor. Knowledge of these facts imposes the necessity of modifications in order to render the rooms habitable and free from danger to those occupying them. First of all the room should afford air in proportion to the number of persons occupying it, and should be well ventilated and sunny, for the importance of sunlight and air as hygienic factors is well known. The walls should be hard-finished or coated with an impermeable paint which can be washed, and, so far as possible, all corners should be rounded to make them accessible to washing. Mouldings, unless rounded, should be discarded. Carpets should be rigorously prohibited, and a parquet floor which can be washed, substituted, or a covering of linoleum of an artistic and pleasing design used. An advantage to be gained by this is the abolishing of the spaces which always exist between the boards of an ordinary wooden floor. If the traveller desires to be more comfortable, he can have a movable carpet or rug, on condition that after his departure it is beaten and passed through a disinfecting bath before it is used again. The same precautions should be taken with regard to carpets. In rooms that are not very much used a heavy linen covering can be substituted for carpets, which can be sent to the wash like clothing. For the same reason curtains should not be tolerated, except those that can be washed. White ones are preferred, as the monotony can be relieved with a border of embroidery in bright colors. Heavy materials, like plush and velvet, should never be used. The furniture should be very simple in design, so that it can be cleaned easily. Wooden furniture, wardrobes, bureaus, and toilet-tables should be varnished or waxed, or, if preferred, lacquered. Chairs should have caned bottoms. Thus it is possible to conform strictly to hygienic laws, and at the same time preserve an artistic appearance. Everywhere, where it is possible, brass or iron bedsteads should replace those of wood. Toilet articles, especially the glasses, should be washed every day with the greatest care. After the departure of a patron they should be washed in an antiseptic solution, such as a half per cent. solution of corrosive sublimate, and the bedding, towels, etc., boiled in alkalinized water. With regard to the means of lighting hotels, electricity is to be preferred, although that is a question of secondary importance. The heating should be with wood, coal, or coke. After a room has been occupied by an invalid, all the bedding and other linen should be sent to the disinfecting bath, and the walls, boards, and furniture submitted to antiseptic washing and antiseptic spraying. These precautions should not only apply to the bedrooms, but extend to the different rooms that the patrons have used, although with less strictness. The curtains of the parlors, where they remain but a short time, do not require such rigorous treatment. Nevertheless, draperies should be avoided and carpets prohibited. The same precautions should be observed in the dining-room. Here particular care should be given to the washing of the glasses, the forks, and the spoons. The former, after each meal, should be washed in an antiseptic liquid, and afterward well rinsed in clean water, and the latter in boiling water. The vestibules, halls, and stairways should be without carpets and should be wiped every morning with a cloth wet with an antiseptic liquid. The closets should be large and well ventilated, and have proper appliances for flushing. These precautions should extend to the rooms of the employees, where the sanitary conditions should be under the strictest surveillance. As soon as a case of sickness is discovered isolation should be practised in order to take the necessary precautions as regards disinfection. These are the measures, the author says, which should be resorted to at the present time, and failure to do so shows a culpable indifference. At first it may seem that these precautions would be a source of expense to the hotel-keepers, but the abolishing of curtains, carpets, and furniture covered with rich silks and velvets will prove economical for them in the end, and, if they are properly carried out, any danger of infection will nearly always be averted.

Treatment of Morphinomania.—Dr. Berillon, of Paris, read a paper before the Neurological Section of the Rome Congress on the treatment of the morphine habit by hypnotic suggestion. The author was not a partisan of rapid suppression, which he thought was exceedingly dangerous to the patient. Yet gradual suppression, he said, is not without its inconveniences. As a patient, upon whom he was trying this last named method, once said, "This is like cutting off a dog's tail an inch at a time." This is not true when hypnotism is employed, for then the inch is cut off each day without pain or inconvenience of any kind. The period of convalescence is very short, and there is no fear of relapse. The author concluded that gradual reduction, each time effected under the influence of hypnotic suggestion, is the only rational and safe method of cure of the morphine habit. Dr. Berillon is the editor of the *Revue de l'Hypnotisme*, of Paris. Dr. Tanzi, of Palermo, said that he had obtained a complete cure by this method, but other men who discussed the paper had not had such good results, their patients having relapsed into the habit after the hypnotic séances had been discontinued.

The Mammillary Body in Man.—Dr. De Sanctis, of Rome, presented a communication at the recent Congress of which the following were the conclusions: 1. The corpus mammillare of man is developed from two ganglia, the median and the lateral. The lateral ganglia has no connection with the *pedunculus corporis mammillaris* (fascia tegmentalis of Meynert), but is in relation with the *columna fornicis*, which arises in great part from it, and, to a lesser degree, from the median ganglia. 2. The median ganglia of the corpus mammillare is in relation with the complexus of the fascia of Vicq d'Azyr and of the fascia tegmentalis of Gudden. 3. The medullary capsule (Gudden) of the corpus mammillare is in relation, by its *ventral* portion exclusively, with the columna fornicis, and by the median portion in great part with the fascia of Vicq d'Azyr—fascia tegmentalis—in less part with the columna. 4. The rete endomammillare is formed almost wholly from the columna, while the two ganglia are given off from the fascia of Vicq d'Azyr. 5. The fascia of Mahaim has no relation with the fasciæ of the columna fornicis.

Surgical Operations and the Daily Papers.—Not long ago an operation was performed on a young girl suffering from exophthalmic goître in the Salpêtrière Hospital, at Paris. The patient died, and a few days later an evening paper appeared with the sensational heading, "Un Meurtre Médical." The writer made out that the surgeon incriminated had been actuated by vivisectional sentiments in performing an unnecessary and cruel operation on the poor unwilling victim. The said scribbler had evinced his ignorance of the hospital of which this barbarous proceeding had been the scene, and he had even applied at the wrong establishment for information. The cry was, however, taken up by other journals, and "*l'incident de la Salpêtrière*" became town talk. From a letter addressed by Dr. Brissaud to Professor Brouardel, Dean of the Faculty—a letter in which the dean is asked to lay the case before the Director of the Assistance Publique—it transpires that Professor Poucet, of Lyons, the inventor of the operation, was the operator. Dr. Brissaud had in his wards two young women with exophthalmic goître, unamenable to ordinary medical treatment. One was, at her own request, operated on with complete success. The other, the deceased, was a minor, and the consent both of herself and of her parents was obtained before operative measures were taken. The affair came in due course before the Municipal Council, and a resolution was carried urging the authorities to exercise more vigilance, and discouraging operations in Paris hospitals by provincial surgeons.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 45, No. 21.
Whole No. 1229.

NEW YORK, MAY 26, 1894.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

MANAGEMENT OF THE BREASTS AND NIPPLES BEFORE AND DURING THE PUERPERAL PERIOD.

By ERVIN A. TUCKER, M.D.,

NEW YORK.

RESIDENT PHYSICIAN, SLOANE MATERNITY HOSPITAL. INSTRUCTOR IN PRACTICAL OBSTETRICS, COLLEGE OF PHYSICIANS AND SURGEONS.

If I had had the wording of the subject allotted to me by our secretary, I would have put the word "nipples" in the place of emphasis, before "breasts," for it is my experience that, if the nipples are taken care of, the breasts will take care of themselves. The subject is trite, and yet, if the physician has no prompt radical remedy for sore nipples and breasts at his disposal, these troubles, small at first, may soon become serious. Every physician soon settles down upon some plan of treatment which he of course thinks is the best, but many of these plans are far from satisfactory, if I am to judge from remarks that I have heard. Almost every treatment that the mind can conceive has been tried at some time or other, and yet pain and discomfort for mother and child and worry for the physician seem to be as frequent as ever. The plan of treatment I shall offer you is not new, except in its arrangement of detail, and my only excuse in presenting it that this line of treatment has proved itself successful in an experience limited to a few thousand patients. Most of the cases I have seen had made during pregnancy no preparation for lactation, and yet the number of nipple and breast troubles has been amazingly small. After such an experience you cannot expect me to have much faith in the efficacy of remedies said by many authorities to be essential in preparing these organs for their functions.

The only breast troubles liable to occur during pregnancy are a feeling of heaviness at times, which can easily be relieved by a firm binder or a properly fitting corset, and the slight aches and pain which may shoot through these developing organs. Gentle massage of the breast best relieves these pains.

I was taught, as no doubt most of you have been, that the use of astringents is beneficial in preparing the nipples for later use, but I have abandoned, with benefit, I think, this practice of using astringents during pregnancy. I would limit manipulation of the nipple to those cases in which it is imperfectly developed—the slightly inverted, or flat, or protruding with a depression on top ("crater-nipples")—in such cases patiently practised manipulation will do much to perfect the nipple. If true inversion of the nipple exists, the woman is debarred from nursing. For a perfect nipple the only treatment necessary during pregnancy is cleanliness, and this cannot be insisted upon too strongly. If there is reason to believe that the patient will not pay proper attention to cleanliness, then direct her in plain language to wash the nipples daily with soap and water. I saw a case about two years ago in which the nipples were said to have fallen off—a most remarkable event—but investigation proved that a crust, composed of dirt and dried secretion, had fallen from small nipples. I mention this case simply to illustrate to what an extent dirt may accumulate upon this organ, if it is neglected.

During lactation the proper treatment of sound nipples and breasts, in order to keep them sound, includes care of the child's mouth—it must be clean before as well as after nursing; it includes a clean nipple for the child's clean mouth to nurse from; and it includes regularity in nursing. My routine method is to have the child's mouth washed out, just before nursing, with a saturated solution of boric acid, and the nipple, with surrounding part of breast, is washed with the same solution. After nursing twenty minutes the child is removed and its mouth again washed with boric acid to prevent sprue; the nipple is also washed with boric acid, dried with clean lint, then a clean dry powder applied (*e.g.*, subnitrate of bismuth and salicylic acid, equal parts by volume), a little square of clean dry lint is placed upon the nipple, then the breast-binder or nursing corset put back in place. The child should never be allowed to macerate the nipple by holding it in the mouth when not nursing. Nothing will make a nipple sore so quickly as maceration in the child's mouth or in the milk from a "weeping breast." The nipple must be kept dry all the time except during the twenty minutes' nursing.

A custom, which I would especially recommend to you, is not to allow the child to nurse at night from the time the mother retires (say 10 or 11 P.M.) till she rises (say 7 or 8 A.M.) To those who have been in the habit of allowing the child to nurse at intervals of three or four hours during the night this may seem to be a scheme to starve the child for the sake of the mother's comfort, but, I assure you the child will not starve, on the contrary, it will thrive, provided of course it is healthy. To sickly or premature children this rule does not apply. If this plan is pursued from birth to weaning, it is pleasant to know what a calm settles down upon the household at night—the child will sleep just as long as the mother does and will have an appetite for breakfast that would shock a night-nursing child, while the mother (not to mention the father) will be so refreshed by the uninterrupted sleep that she will be in better health and better able to supply good milk.

When this ideal state of sound nipples and breasts does not exist, we must try to discover the cause of the trouble. Sometimes the nipples are simply tender—a little silver nitrate, eight per cent., or alcohol, fifty per cent., applied after nursing will soon cure ordinary cases. If the nipple is exquisitely tender, cocaine applied just before nursing will relieve until the nipple becomes tougher. Care must be taken to remove the excess of cocaine, or the child will refuse to nurse. Nipples quickly toughen during the process of nursing and often require no treatment. So many nipples never become sore at all that I do not consider a preparation during pregnancy necessary. Cleanliness is the only prophylaxis that I would advise.

In worse cases the nipple skin cracks on top or at the base or both. The cracks at the base heal more slowly, but the following treatment will cure even these deep cracks at the base almost as well as it will the superficial cracks and erosions. After each nursing apply a drop of eight per cent. silver nitrate solution to the raw surface, then dry and powder the nipple as usual. The theory upon which this treatment is based is that the nitrate, by coagulation of the raw surface, forms an artificial pellicle or scab under which the wound heals. I know of nothing that acts as well as the nitrate does for this purpose. To make it effective the nitrate must be applied after every nursing, until a scab thick and strong enough is

formed to withstand the child's suction. To protect this scab from being pulled off at every nursing, a nipple-shield must be used. After repeated trials of many kinds of shields I have come to consider this the best (modified Barclay shield). Applications of the nitrate for one or perhaps two days will suffice, provided the nitrate is applied directly to the raw surface from the start. A frequent cause of failure to make this method work is that the nitrate is simply dropped upon the nipple and does not touch the raw surface. If the application is too painful, as it may be in some sensitive women, a little cocaine may be used. To sum up—the whole treatment is to apply silver nitrate for one or two days, and to use a shield until the nipple is sound. By this plan the child never loses a meal, the breasts do not cake while the nipple is healing, and the chances of infection of the breast through the denuded nipple are reduced to a minimum.

Caked breasts must often be treated. When milk is secreted faster than it is withdrawn and this secretion takes place unevenly, the breast becomes tense or lumpy —a condition which is painful just in proportion to the unequal distention existing between different parts of the breast. If the whole breast is uniformly distended with milk, the caking may be quite or nearly painless, but if one part of the breast is hard and other soft, the hard parts are more or less painful. If the woman is nursing, massage is the only treatment. Ten or fifteen minutes spent in gently stroking the breast from periphery toward the nipple, which is the only way that mammary massage ought to be done, will relieve the pain, no matter how badly the breast is caked, without expressing a drop of milk. Extracting milk from the breast by a pump or the hand or the child's mouth will also produce some relief, but it is not as effective as massage. In a hospital extra nursing by two or more children does very well, but in private practice massage is preferable. The relief gained by massage will last several hours. The temporary caking, which often appears three or four days after delivery, can always be relieved by nursing and massage. But if the woman is for any reason not to nurse or has to stop nursing, a free catharsis, caused by mild salines, and the use of a tight breast-binder, with massage three or four times a day, will relieve the worst possible case of caking.

Should mastitis occur at any time, whether complicated by caking or not, we have a much more serious condition to combat; but, if the proper treatment is begun when the initial chill and fever and pain in breast occur, every case can be cured. My opinion is that mastitis, whether mild or severe, partial or general, is always caused by infection through the nipple. The treatment of sore nipples is therefore really a prophylactic treatment of mastitis and should always be so regarded, then a sore nipple will not be considered a trifle, but will be treated promptly and thoroughly. The best treatment for mastitis, and this aborts a threatening mammary abscess at the same time, is drainage and cold. Drainage of the breast is obtained in two ways—nursing from the affected breast and free catharsis caused by liberal exhibition of salines. The breast can be kept well drained, if you use these two measures thoroughly. All the time that the child is not nursing cold can be applied by means of an ice bag or coil. Massage I avoid in mastitis cases, if possible, relying upon the drainage and cold. Whether you cure these cases or not will depend upon when the treatment is begun. If you begin treatment late, or do not treat them at all, many cases will end in abscess. The method just described is so simple and has given such satisfactory results that I would recommend it to the exclusion of all other methods.

When the abscess is inevitable, heat should be applied to the breast. Hot poultices often renewed will give great comfort till it is time for incision.

To dry up the milk the only essential is to stop nursing. A tight breast-binder may be applied for the sake of comfort. These simple measures suffice in most cases, but catharsis and massage for the caking may be necessary if the breast was in full activity when nursing ceased. Twenty-four hours of discomfort must be expected in every case, beginning about a day after nursing stops. The use of belladonna, etc., I consider superfluous. The milk will dry up, no matter what you do, if the child ceases to nurse.

In applying a tight breast-binder the nurse should see that the breasts are brought well up together in front and that firm pressure is so applied that no parts of the breast are left uncompressed. A little cotton, properly packed in, often aids in securing even pressure. The comfort given to the patient by a properly applied breast-binder can hardly be over estimated. If not properly applied, it may become a source of great discomfort because of unequal distribution of the pressure.

In this short paper I have tried to give what I think are the essentials of the subject under discussion. I have purposely refrained from mentioning any methods which have not stood a good test in actual practice. I will only add that I hope you will find them as satisfactory as they have been to me.

Sloane Maternity Hospital, May 10, 1894.

INTESTINAL APPROXIMATION: ITS PATHOLOGICAL HISTOLOGY OF REUNION, AND STATISTICAL ANALYSIS.[1]

By J. B. MURPHY, M.D.,

PROFESSOR OF SURGERY AND CLINICAL SURGERY, COLLEGE OF PHYSICIANS AND SURGEONS, CHICAGO; PROFESSOR OF SURGERY, POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL; ATTENDING SURGEON TO, AND PRESIDENT OF, THE MEDICAL STAFF OF COOK COUNTY HOSPITAL; ATTENDING SURGEON TO ALEXANDER BROTHERS' HOSPITAL; CONSULTING SURGEON TO HOSPITAL FOR CRIPPLED CHILDREN; FELLOW OF ACADEMY OF MEDICINE, CHICAGO, ETC.

Mr. President, Fellows of the Academy: In accepting the invitation of your worthy Chairman, Dr. Bryant, to read a paper before this great scientific body, I appreciated the honor conferred upon me, and realized the fact that in this audience would be gathered many men who had spent the better days of their professional life laboring in this special field, and whose achievements are an ornament to surgery, a heritage to the profession, and of incalculable value to humanity.

I am greatly relieved by the knowledge that I will be assisted in the presentation of the various aspects of the subject by the gentlemen who are to participate in the discussion. If some phases of the subject of intestinal approximation appear to be treated cursorily, it is because the gentlemen who follow have had a greater experience in certain procedures, and are therefore better able to present the subject from a practical stand-point. I realize that I have no novel propositions to make, nor have I a new device or method to present for your consideration. It is my desire to discuss the pathological histology of reunion, and to give an impartial retrospection of the clinical achievements by the different methods under the same favorable circumstances. Therefore I will not enter into antiquities, nor even into the mediæval history of intestinal anastomosis, but will confine myself to the records of the last five years. The reason for this is apparent, as no method of approximation, however perfect in the pre-antiseptic period, could give the favorable results which are attainable at the present day. With a slight reservation, the same may be said of the methods in the antiseptic epoch. In the first period I include all before the advent of Listerism, in the second, the methods employed from 1872 to 1888. In this period the knowledge of physiology and histology upon which the technique of intestinal surgery was based, as well as the technique itself, were imperfect, which was very detrimental to the success of operative procedures. In the third epoch, from 1888 to the present time, all methods have had equal opportunities to produce the same results, as the principles governing intestinal anastomosis have been well established.

[1] Read by special invitation before the New York Academy of Medicine, December 7, 1893.

In order to attain good results in intestinal approximation we must consider the means of: 1. Securing accurate contact of surfaces. 2. Producing speedy and permanent adhesion of the approximated portions. 3. Maintaining an opening sufficiently large for immediate purposes. 4. Producing a cicatrix that will not contract to a deleterious degree. 5. Accomplishing all of these in the most simple and rapid manner.

The means that have been employed to attain these ends are well classified as follows: 1. Suture. 2. Suture with mechanical aid. 3. Mechanical means.

Before considering the special application of the various methods, let us devote a few minutes to the anatomy of the organs to be approximated. For purposes of approximation, the points which concern the surgeon most are: 1. The strength of the wall of the viscus. 2. Its histological power of agglutination and regeneration.

I have determined experimentally the strength of the walls of the various hollow viscera of the digestive tract against diastaltic pressure, with the following results: The wall of the stomach in large, living, adult dogs withstood an average pressure of 8 pounds before the peritoneum ruptured; it required 9 pounds to rupture the entire wall of stomach. The peritoneal coat of duodenum gave way opposite mesentery under a pressure of 10 pounds. The lower portion of ileum withstood a pressure of 8 pounds, when it ruptured on the convex side: the peritoneal and muscular coats gave way under 6½ pounds. The ileum, two yards above the ileo cæcal valve, ruptured under 7 pounds. In the middle portion of the jejunum the peritoneal coat ruptured at 7 pounds, and the entire wall at 11 pounds on the convex side. The lower four inches of ileum, cæcum, and four inches of colon ruptured at 7½ pounds for the peritoneal coat, and at 8½ pounds for complete rupture. The rupture invariably occurred on the convex side of the ileum, one-half to three-fourths inch from the attachment to the colon. The colon ruptured at 15 pounds, the muscular, serous, and mucous coats giving way before the tunica propria.

With tube inserted in the papilla of the ductus communis choledochus, the pancreatic duct withstood 11 pounds pressure before rupture. The gall-bladder and cystic duct resisted a pressure of 13 pounds before the gall-bladder ruptured.

In only one of the experiments on the alimentary canal, including the gall-bladder, did air escape into the mesentery, showing that the walls of these hollow viscera in the dog possess a greater resistance at the seat of the mesenteric attachment, where there is no peritoneum, than in the portion covered by peritoneum. It was noted that under 3 to 4½ pounds pressure, small bubbles of air could be seen passing through the mesenteric veins. The order of rupture of the coats was: 1, peritoneal and muscular coats, in an irregular line, in the long axis of the bowel: 2, mucous coat, which was torn in shreds, parallel to the axis of the bowel; and finally the tunica propria, which always ruptured parallel to the long axis of the bowel. When the mucous and submucous coats were divided before the distention, the other coats ruptured under 1½ pound pressure.

The following were the average results obtained on cadavers four days after death: Peritoneal and muscular coats of stomach lacerated extensively under 3½ pounds pressure, and ruptured always on the anterior surface of the lesser curvature close to the mesenteric attachment, under 4¾ pounds pressure. Jejunum ruptured under a pressure of 4½ pounds, always on the mesenteric side, the peritoneal and muscular coats on the convex side giving way before complete rupture. The colon, to within four inches of the ileo-cæcal valve, ruptured under 4½ pounds pressure. The lower four inches of ileum, cæcum, and eight inches of ascending colon included in the same ligatures, ruptured under a pressure of 7½ pounds, the rupture occurring on the mesenteric side of the colon. The peritoneal coat of the sigmoid flexure ruptured under a pressure of 2¾ pounds, and the tunica propria under a pressure of 4¾ pounds. With the tube inserted in the papilla of the ductus communis choledochus, rupture of the pancreatic duct occurred under a pressure of 5¾ pounds; with the tube inserted in the cystic duct, the gall-bladder ruptured on the peritoneal side under a pressure of 12 to 22 pounds.

These experiments show that the resistance of the wall of the gastro-intestinal tract against diastaltic pressure is sustained, (1) by the mucous, muscular, and serous coverings, and (2) after a rupture of these by the submucous coat (tunica propria). The mucous membrane offered but very little support to the wall of the bowel, as it tore into parallel shreds over the entire circumference during the process of distention.

To maintain the strength of the bowel it is necessary to have the submucous and serous coats of the wall united at the seat of approximation. The tunica propria is used as a mechanical support, but its regenerative power is slow and very limited, while the peritoneal coat has great and rapid power of adhesion and proliferation. Therefore the serous coat is the one upon which the surgeon must depend most for primary agglutination and adhesion, on account of these two properties of the peritoneum, and it must always receive the greatest attention in all methods for producing intestinal anastomosis. It has been repeatedly observed that moderately firm adhesions between two approximated, abraded, or injured peritoneal surfaces, form in six hours when the surfaces are aseptic. After isolation of the layers, the mucous membrane, muscular layer, and serous coat tear in all directions with equal and moderate force; the submucosa cannot be torn transversely, but with great force it ruptures. It can be torn longitudinally with considerably less pressure. As we must depend upon the submucosa for retention of the coaptation, the Lembert suture should therefore be inserted, when we desire to give the union its greatest strength, transverse to the longitudinal axis of the bowel, and should embrace the submucosa, as by Cushing's right-angle suture. If the surfaces are septic, union will not take place, but should they temporarily adhere, the exudate will rapidly disintegrate and the surfaces separate. Sepsis is therefore a factor of great moment in securing permanent union after intestinal approximation. No matter what means are employed to produce the approximation, the surfaces will not unite if they are septic, for the same reason that we have an absence of primary union in septic incised wounds in other parts of the body.

In reporting autopsies following non-union in intestinal approximations, it is important to state whether a septic peritonitis existed at the time of operation.

Histology.—From the articles on the pathological histology of the union of the bowel with the Czerny-Lembert suture, by Ritschl and Walter Rindfleisch, we take the following: It is important to know from many standpoints how the reunion of a divided intestine takes place, how rapid the adhesion, how soon definitive union occurs, and what disposition is made of the suture material. Up to the present time the greatest attention has been paid to the pathology of perforations, the causes of death following, and the new methods of approximation, and little attention has been given to the pathology of the reparative process itself.

An examination of an end-to-end approximation of the intestine (Czerny-Lembert suture), forty-eight hours after the operation, shows the mucous membrane very much contracted and an exposed free submucosa. This submucosa is covered with lymph and pus corpuscles: the seat of approximation is recognized by a striated, infiltrated tissue. The muscular coat has undergone no perceptible change. The serosa and omentum are notably thickened and congested. The stitch holes can be observed, the surrounding tissue is densely infiltrated, and an intensely dark ring around the stitch canal. Coils of intestine are adherent to each other at site of suture, and bent at short curves.

Fourth Day.—Firm adhesion: suture does not appear on surface; around many of the sutures stitch abscesses

have formed. Knuckles of intestine firmly adherent to wall at seat of suture, bent at sharp curves, but still admit the passage of water.

Microscopically the union of the ends is not produced by a juxtaposition of separated coats of the incised surfaces, but the connection is made by a zone of inflammatory infiltration with a substratum of the remains of the serosa and muscularis. The mucous membrane has healed over the formerly exposed submucosa, its base protrudes and rests upon the cicatricial tissue, so that many of its glands are deposited thereon. In the mucous membrane, especially in the tunica propria, there exists, for three or four centimetres, a catarrhal condition not infrequently accompanied by wandering leucocytes above and below the union. The submucosa is almost approximated from either side, and but very little changed from its normal condition. A very slight cell-proliferation and enlargement of the vessels exists, so small that it can scarcely be distinguished from its normal condition. The muscular coat shows a marked cell proliferation and vascularization, and takes part in the formation of the scar. The border of the serosa is obliterated in its union with the omentum, and is thickened at the seat of the suture from five to ten times its normal size. One stitch abscess is formed where the stitch drew in a portion of the mucous membrane.

Eighth day —At the seat of suture coils of intestine are adherent to the sutured surface and also to each other, forming a bunch. The descending portions of the intestine are grouped around the site of the suture in short curves. The adhesions are broad and firm; they cannot be torn, but must be cut with scissors. Notwithstanding the short curves, there is no angle produced sufficient to obstruct, the lumen being free throughout.

The approximation projects above the level of the surface of the mucous membrane, and there is an ectropion of the mucosa from the scar.

Microscopical Examination.—At the muscularis the tissue is retracted; there is a disarrangement of the direction of the fibres, with a small multiplication and infiltration of cells recognizable. The serous surfaces are united to each other and to the omentum without much change of their structure, although there is a thickening of the zone by inflammatory exudate.

Twenty-first Day —Omentum adherent over one-third of line of suture: the bowel contracted at the seat of suture to the size of a dime, while above and below the intestinal lumina were of equal size, or about the size of a nickel. On the mucous side is found a small furrow with sharp edges, showing the seat of cicatrization. There is a small light-gray scar on the furrow.

Microscopical Examination.—The mucous membrane is united without interruption. The muscularis mucosa is separated by a distance of from 1 to 2 mm. The greatest irregularity prevails in the union of the muscularis, the muscular fibres being distributed in all directions. The serosa is somewhat thickened. The silk can be seen unchanged, and surrounding it is a cell infiltration. The tunica propria does not differ in the least from its normal condition. There is a spindle-shaped termination of the muscular coat in the scar. The new formation of muscle cells is inconsiderable.

Eighty-sixth Day.—Omentum adherent at site of suture. Intestines adherent in very short curves, but no angle produced. No obstruction. There exists a circular contraction; the lumen at the seat of suture is about the size of a nickel. This circular contraction is formed by an elevation 2 to 3 mm. in thickness above the surface of the mucous membrane, which is always produced by a Czerny-Lembert suture.

Microscopical Examination.—There is an elevation upon the mucous surface, in the centre of which is a depression where the mucous membrane rests upon the submucosa. The submucosa is unchanged except on its extreme outer limits, where its fasciculi extend into those of the cicatricial tissue. The muscular wall is not perceptibly changed. The serosa in the scar has lost its identity entirely, while on the surface it is united to the omentum, passes continuously over the scar, and has not changed its structure. The suture material is unchanged. It is surrounded by an area of infiltrated tissue of numerous large cells with dark nuclei.

One Hundred and Sixth Day.—Omentum adherent. The calibre at the line of suture, compared with the intestine above and below, is relatively as a dime is to a nickel.

Microscopical Examination.—The mucous membrane shows no evidence of a previous separation. The muscular layers are connected by fibrous bands through the scar-tissue. The muscular tissue up to the line of approximation is absolutely unchanged. The serosa gradually thickens as it approximates the scar, is very vascular, and its tissue becomes more dense, which is caused in particular by an increase in the number of spindle-celled elements. Silk unchanged.

One Hundred and Thirtieth Day —The intestine above and below the scar is of equal calibre.

Microscopical Examination.—The mucous membrane united perfectly, showing no evidence of line of union. The circular muscular fibres held together by a thin band of connective tissue. The longitudinal muscular fibres are much more firmly united, the fibres from one side to the other being continuous.

Conclusions. — From the above description of the pathological conditions, the following deductions may be drawn: The ectropion of the mucous membrane after an incision is passive, and is due to the elastic retraction of the underlying submucosa and muscularis. For this reason, by the Czerny-Lembert suture there is an almost uniform coaptation of the edges of the mucous membrane without the aid of a special suture, which protects by its intimate approximation the underlying tissue from exposure and infection. This would not occur with a Lembert suture alone, as there would be an overlapping or separation without the Czerny. When there is a defect in coaptation of the mucous layer, union must take place by secondary intention, and the tissue is exposed to all of the dangers of infection, viz., non-union, fistula, circumscribed abscess, the same as secondary union upon the cutaneous surface. Glandular tissue is not regenerated over this area.

The submucosa plays an important rôle in intestinal approximation from the moment of coaptation. While it takes but very little part in the regenerative process, we depend principally upon it for support given the suture in retaining the bowel in position. The more transversely the stitch is inserted, the greater its support. Later, a short distance back of the line of suture, there is a pronounced vascularization of the submucosa.

Muscularis.—When an exudate intervenes between the opposing muscular layers, the muscle fibres terminate in spindle shaped processes. When the apposition is perfect, the fibres from the opposing sides unite so accurately that the line of union cannot be discerned.

Serosa.—The serosa plays the most important rôle in the inflammatory or regenerative reaction. By it we have produced the first adhesive exudate, which process commences immediately after approximation, and in a few hours cements the recently united surface, as supported by Jobert's principles. The vascularization and thickening of the serous coat commences and reaches about ½ ctm. in thickness, 3 to 4 ctm. away from the line of union, and becomes more dense as it approaches the line of suture. The omentum that becomes adherent is also greatly thickened by cell-infiltration and increased vascularization, and on the eighth day the adhesions are so firm that they cannot be separated without lacerating the subjacent tissues. Frequently the neighboring coils of intestine become adherent at the line of union; the danger of this is that the loop may be so short as to produce an acute angle in the coil, and thereby cause obstruction. The resistance of the bowel against diastaltic pressure is offered almost entirely by the submucosa and

muscularis; they resume their normal function after a perfect union. From this it will be seen that, in order to procure a perfect result in intestinal approximation a primary union, not necessarily of all the coats but of some, is imperative. It is not necessary that they should adhere to each other, but that the various coats should approximate as closely as possible. In the great majority of cases following suture of the bowel, there are adhesions of coils of the intestines, mesentery, and omentum; as a rule, they do no harm and, I believe, aid in retaining the bowel in the proper direction at the site of union, as well as supporting and protecting the line of suture. *There occurs of necessity, with the Czerny Lembert suture, a degree of stenosis;* this is produced by a protrusion of the Czerny portion of the approximation into the lumen of the bowel through the approximation of the serosa with a Lembert suture. F. Byron Robinson found this produced a complete occlusion of the bowel in three weeks, in the dog.

The following is a report of the pathological changes after operation with button, furnished me by Dr. E. H. Lee. Of specimen four days after operation: Button had been voided twelve hours previous, the shortest time in which a button had liberated itself. Omentum firmly adherent one-half inch above and below the line of union. Thickness of wall of bowel the same at the cicatrix as on either side. Microscopical appearance of transverse section of cicatrix:

1. Serosa, thickened about seven times its normal size by infiltration within, and exudation upon its surface. The line of adhesion between it and omentum cannot be discerned. 2. The longitudinal muscular coat is not united at seat of approximation, though the ends stand in direct opposition to each other. 3. The circular muscular coat is in the same relation and shows granulations. 4. The mucosa is entirely separated over cicatrix; the edges atrophied and overlap underlying layer.

Regeneration of the tissues across the line of union has not yet commenced, except in peritoneum.

Professor Ludwig Hektoen gave the following report:

Longitudinal Section through Line of Union in the Small Intestine of a Dog Thirty Days after End-to-end Approximation with Button: 1. *The Serosa.*—This layer appears but very slightly thickened; it is closely applied to the longitudinal muscular coat over the precise line of union, but beyond this there is some subserous areolar tissue in which are a few small blood-vessels, as well as lymphatics.

2. *The Longitudinal Muscular Coat.*—Quite large parts of this coat are continuous across the union line; but there are masses and bands of cicatricial tissue distributed between these different continuous muscle layers. On each side of the line of union the muscular tissue of this coat appears absolutely normal.

3. *The Circular Muscular Coat.*—This part of the wall is completely interrupted along the line of union by interlacing narrow bands of fibrous tissue that enclose small masses of transversely cut muscle fibres and extend through to the mucous coat. Immediately to one side of this point the circular coat is replaced by a district of loose areolar tissue, containing large blood-vessels with very thick walls and irregular quantities of transversely divided muscle fibre; beyond this district the muscular layer appears normal. To the other side of the union line appears a mass of transversely divided muscle, traversed by bands of fibrous tissue; and then comes an area of loosely meshed tissue, containing very thick blood-vessels, and next the normal muscular layer.

4. *The Submucous Coat.*—As already stated, interlacing bands of fibrous tissue extend through this layer from the muscular coat. On each side of the line of union the submucous coat appears normal, except that on one side the tissue seems rather dense. There are no lymphatic structures in this part of the intestine.

5. *The Mucous Membrane.*—The muscularis mucosæ is completely interrupted, the glands resting upon the cicatricial tissue traced upward from the serosa on a line even with the ends of the muscularis mucosæ, which appears otherwise normal.

The villi are largely absent, not only over the line of union, but elsewhere, and this is most likely due to the rough and extensive handling the specimen has met with since its removal. The mucosa is continuous across the line of union, but much thinner here than elsewhere, and made up of somewhat irregularly arranged glandular tubules lined with short columnar cells; some of these tubules are cut transversely, others longitudinally or obliquely; between the tubules is some small celled infiltration, and projecting from the free surface are irregularly shaped, large and small, villous projections without the usual columnar-celled lining. On each side of the line of union the mucosa appears quite normal, with perhaps a few more small round cells between the tubules than usual.

Recapitulation.—The line of union, which is almost linear in thickness, can be traced by the cicatricial tissue, which, though very small in amount, is distinct. The various layers appear to be in perfect juxtaposition. The longitudinal muscular coat can be said to be almost restored; the transverse muscular, submucous, and the muscularis mucosæ, are almost completely united by connective tissue at the line of union, while the mucosa proper has undergone partial regeneration.

Longitudinal Section through Line of Union in Small Intestine Sixty Days after End-to-end Approximation by Same Means.—In this specimen the restoration of the various layers in the intestinal wall is much farther advanced than in the thirty-days specimen; in some respects the restorative changes are complete. The various layers have been held in complete juxtaposition, and are continuous. There is no thickening of the serous coat, except just across the line of union. The longitudinal and circular muscular layers are continuous and not distinguishable from those in the normal intestine, except for this, that they contain some small spaces (blood-vessels) and occasional traces of fibrous tissue. The greatest change is seen in the submucosa, which has been converted into a thick cicatricial tissue containing vessels with very thick walls. Corresponding to this point of submucous cicatricial thickening, the muscularis mucosæ shows considerable increase in thickness also, due largely to fibrous tissue between the muscle layers, which are now continuous. The mucosa proper over this district does not in any way differ from the mucosa elsewhere, and were it not for the thickening described in the submucosa and the muscularis mucosæ, it would be difficult, if not impossible, to recognize the line of union.

I believe the pathologists have furnished the solution of the slight contraction following this method of union, viz.: 1, The juxtaposition of coats, *i.e.*, apposition of homologous histological elements, with re-establishment of their continuity; 2, the very small amount of connective tissue intervening between the ends of tissue that regenerate slowly, if at all.

In making a comparison of the results obtained by the various methods employed in producing intestinal approximation, there are certain conditions which cannot be accurately estimated, and which must always cause an element of doubt as to the reliability of the deductions drawn from statistics alone. The first of these conditions is the frequency with which unfavorable cases are omitted from the reports, contrasted with favorable ones; second, the condition of the patient at the time of operation, as some surgeons will undertake a serious operation when the patient is moribund, while others will operate only under favorable circumstances; third, the anatomico-pathological conditions for which the operation is performed; fourth, the ease with which a means of producing approximation can be applied increases the frequency of its use, as it is resorted to in desperate cases where more complicated measures would not be attempted, thereby increasing the chances for a greater percentage of unfavorable results; fifth, the dexterity of the operator. A striking example of this is shown in the results obtained

by Riedel in his operation of cholecystostomy in two sittings. He performed this operation 34 times with 34 consecutive recoveries, while in 25 operations of the same kind performed by all other operators there were 6 deaths, a mortality of nearly twenty-five per cent. Another example, is the rapidity with which Abbe can insert thirty-four inches of continuous suturing in his lateral approximation operation, and the good results obtained—5 recoveries in 6 cases. With these facts in view we will proceed with our analysis of the results, beginning with gastro-enterostomy.

Gastro-enterostomy.—The pathological lesions for which this operation is performed are divided into two classes: 1. Neoplasms involving the pylorus or duodenum, producing obstruction; and, 2, cicatricial contractions occluding the pylorus or duodenum. The most common cause of obstruction is carcinoma of the pylorus. In some cases of this disease the obstruction is the first marked symptom of its presence, while in others it does not appear until the disease is very far advanced and the patient greatly emaciated and cachectic. The disease which produces the obstruction in the first class of cases, without excision, necessarily terminates fatally, and the operation of gastro-enterostomy in these cases is only for temporary relief. The patient should not be operated upon unless there is a reasonable chance of considerably prolonging life. While the patients may withstand the immediate effects of the operation, after four or five days they become weaker and weaker, until they finally succumb to the general depression, to which has been added the depressing effect of the operation. The number of cases of this variety operated upon by various methods and the results, are as follows:

Gastro-enterostomy for Malignant Disease.

	Cases.	Recoveries.	Deaths.	Mortality per cent.
Method by suture	28	16	12	42.8
Mechanical means	49	36	13	26.5
Suture with mechanical aid	8	1	7	87.5
Total number operated	85	53	32	37.6
Of these the position was, side to side, in	76	47	29	38.2
End to side	4	3	1	25.0
Unknown	5	4	1	20.0
Of the mechanical means employed, bone plates were used:				
Swedish turnip plates	2	1	1	50.0
Robinson's segmented rubber plate	2	1	1	50.0
Mayo Robson, bone bobbin	2	1	1	50.0
Murphy button	7	6	1	14.3
Suture with mechanical aid. Means employed. Abbe catgut rings	5	0	5	100
Brokaw's segmented rubber rings	2	1	1	50.0
Elastic ligatures	1	0	1	100

Causes of Death by Gastro-enterostomy.

Operation with Suture.

Shock	4	Hemorrhage	2
Exhaustion	13	Complication	2
Peritonitis	4	Unknown	4
Ileus	1		

It has been observed that with all other methods except the button, cicatricial contraction occurred in a greater degree in gastro-enterostomy by lateral approximation than in any other operation. To avoid the stenosis that might possibly occur, I have devised an oblong button for this class of cases, Fig. 1. An opening from two to three inches long can be made with this button, and still its greatest diameter is only 5/8 inch, or the same as the diameter of the small button, and can be passed as readily.

Contraction.—In the post-mortem records we find reports of complete closure of opening from cicatricial contraction in 5 cases. These were all performed by Senn's method with bone plates, that is, of the 28 cases that survived the immediate effects of the operation, 5 of the number on whom autopsies were subsequently made showed a complete closure of the opening. To this must be added, Mr. Larkin's case, in which stenosis occurred requiring a secondary jejunostomy, making 6 closures in all, and representing 20.7 per cent. of the 28 patients recovering from the immediate effects of operation; as many of them have not had autopsies, it is fair to presume that the percentage of stenosis by this method is very much greater than this. Of these 28 cases, the total number in which autopsies were reported is 8; 3 of the patients on whom the autopsies were made died before the end of four weeks, and the opening was patent. In the remaining 5 the opening was closed; the time between operation and death was as follows: 3 weeks, 6 weeks, 4 months, 6 months, and 7½ months; making eighty-three per cent. of stenosis in autopsies where the patients survived three weeks. This would appear to be a very forcible objection to the use of this method in gastro-enterostomy and should exclude its application, except possibly in advanced malignant cases where the disease would terminate fatally before stenosis could ensue.

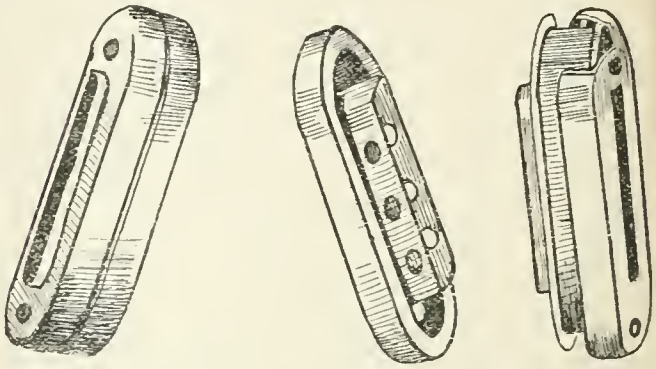


Fig. 1.

The cases of stenosis of pylorus from other causes than malignant diseases are of rare occurrence, and are the ones in which it is important to have an approximation made where the element of contraction will not be of moment for an indefinite period of time. Number of this class:

	Cases.	Recoveries.	Deaths.	Mortality per cent.
Suture	22	18	4	18.2
Mechanical means	11	10	1	9.09
Total	37	32	5	13.5
Of these there were bone plates	10	10	0	0
Swedish turnip	1	0	1	100
Suture aided by mechanical means	4	4	0	0

The last four were all by Abbe's catgut rings. Cause of death: Exhaustion, 1; ligature of hepatic artery, 1; perforation at seat of suture, 1; diarrhœa, 1; obstruction, 1. The operation that should be performed in this class of cases is a complete separation of the end of the duodenum and stomach at the site of constriction. The end of the stomach or duodenum should be closed with a Czerny-Lembert suture, and the distal end of duodenum sutured or buttoned to the side of the stomach, thereby avoiding all of the disagreeable and dangerous symptoms that accompany gastro enterostomy by lateral approximation.

End of duodenum to side of stomach, 4; recovered, 2; deaths, 2. Cause of death, shock, 3; exhaustion, 2; peritonitis, 5; unknown 1.

To Rydygier belongs the honor of being the first to perform this operation. Billroth advanced the operation to great prominence. The *modus operandi* of the various operators is practically the same up to the stage of sutur-

GASTRO-ENTEROSTOMY.—I.

No.	Date.	Publication.	Operator.	Diagnosis.	Operation.	Method.	Position.	Result. Recov.	Result. Death	Cause.	Remarks.
1	Feb. 14, '88	N.Y. Med. Jour., June 30, 1888.	Lange.	Carcinoma pylorus.	Gastro-enterostomy	Suture.	Lat.	..	1	After 31 ds., perforation at site of ulcer.	
2	Mar. 13, '88	Med. Cher. Trans., '89	Lauenstein.	" "	" "	"	"	..	1	After 11 ds., exhaustion.	
3	Dec. 21, '88	" " " '89	Rydygier Jaworski.	" " and stomach.	" "	" Wölfler & Barker.	"	1	..		
4	Dec. 31, '88	N.Y. Med. Joor., June 22, 1889.	Meyer.	Carcinoma stomach.	" "	Suture continuous catgut.	"	..	1	After 6 hrs., ileus	Delirium. Wound torn open.
5		'88 Med. Chir. Trans., '89.	Fritzsche.	Carcinoma pylorus stenosis.	" "	Suture.	"	1	..		
6		'88 " " " '89.	"	Cicatricial stenosis pylorus.	" "	"	"	1	..		
7	June 25, '89	Arch. f. klin. Chir. xxxix.	v. Eiselsberg.	Tumor pylorus, adherent liver & pancreas.	" "	"	"	1	..		
8	July 7, '89	" " " "	Salzer.	Tumor involving transverse colon.	" "	"	"	1	..		
9	July 13, '89	" " " "	"	Tumor pylorus, without stenosis.	" "	"	"	..	1	After 7 hrs., ligation hepatic artery.	
10	Aug. 22, '89	" " " "	"	Tumor pylorus.	" "	"	"	1	..		
11	Sept. 10, '89	" " " "	v. Eiselsberg.	" "	" "	"	"	..	1	After 3 days, perforation of ulcer at point of suture.	
12		'89 Deut. med. Woch., May 23, 1889.	Lauenstein.	Cicatricial stenosis pylorus, ulcer.	" "	" Wölfler.	"	1	..		
13		'89 Brit. Med. Jour., April 22, 1893.	Moullin.	Growth in duodenum.	" "	"	"	1	..		
14	Mar. 22, '90	Wien. klin. Woch., Nov. 3, 1892.	v. Hacker.	Stenosis pylorus.	" "	" triplantation.	E. S.	1	..		
15	Aug. 18, '90	Hygeia, Sept., 1891.	Borelius.	Cancer pylorus	" "	Suture Wölfler	Lat.	..	1	After 5 hrs.	
16	Oct. 24, '90	Lancet, Jan. 3, 1891.	Barrow.	Gastric ulcer.	" "	"	"	..	..	After 2 ds., ileus.	
17	May 23, '91	Wien. med. Presse. Nov. 20, 1892.	Schramm.	Tumor pylorus.	" "	"	"	1	..		
18	June 17, '91	Wien. klin. Woch., Nov. 26, 1892.	Brenner.	Cancer pylorus.	" "	" Brenner	"	1	..	....	Death 4 mos. later
19	July 15, '91	Wien. med. Presse, Nov. 20, 1892.	Schramm.	Adeno-carcinoma pylorus.	" "	"	"	1	..		
20	Dec. 7, '91	Med. Rec., April 2, '92.	Abbe.	Carcinoma pylorus and stomach.	" "	"	"	..	1	Few hrs., exhaustion.	
21	Dec. 8, '91	Wien. med. Woch., Nov. 19, 1892.	Maydl.	Carcinoma pylorus.	" "	" Maydl.	E. S.	1	..		
22		'91 Berl. klin. Woch., Jan. 25, 1892.	Hadra.	" "	" "	" v. Hacker.	Lat.	1	..		
23		'91 Wien. med. Presse. Nov. 20, 1892.	Schramm.	Tumor pyloros.	" "	Suture Wölfler-Lembert.	"	1	..	....	Death 4 mos. later. Marasmus.
24		'91 Deut. med. Woch., Dec. 8, 1892.	Mikulicz.	Carcinoma pylorus.	" "	[1] SutureCzerny-Lembert.	"	1	..		
25	Jan. 15, '92	Wien. klin. Woch., Nov. 26, 1892.	Brenner.	" "	" "	" Brenner	"	1	..	.....	Death 2 mos. later.
26	Jan. 16, '92	Wien. klin. Woch., Nov. 26, 1892.	"	" "	" "	" "	"	..	1	20 hrs., shock.	
27	Jan. 25, '92	Hygeia, Jan., 1893.	Sandberg.	Cicatricial stenosis pylorus.	" "	" Wölfler.	"	1	.		
28	Jan. 31, '92	Wien. klin. Woch., Nov. 24, 1892.	v. Hacker.	Carcinoma pylorus.	" "	" triplantation.	E. S.	..	1	6 days, catarrhal pneumonia, gangrene.	
29	Feb. 10, '92	Lo Sperimentale, 1892.	Colzi.	Cicatricial stenosis pylorus ulcer.	" "	Suture.	Lat.	1	..		
30	Mar. 1, '92	Wien. klin. Woch., Nov. 24, 1892.	v. Hacker.	Carcinoma pylorus.	" "	" Wölfler.	"	1	..	....	Temporary improvement.
31	Mar. 21, '92	Lo Sperimentale, 1892.	Colzi.	Stenosis pylorus.	" "	"	"	1	..		
32	Mar. 31, '92	Wien. klin. Woch., Nov. 10, 1792.	v. Hacker.	Lymphosarcoma, stomach.	" "	"	"	1	..		
33	April 28, '92	Gaz. d. Hôp., June 30, 1892.	Michaux.	Cancer stomach.	" "	" v. Hacker.	"	1	..		
34	April 29, '92	Lo Sperimentale, 1892.	Colzi.	Cicatricial stenosis pylorus. Sulphuric acid.	" "	Suture.	"	1	..		
35	May 8, '92	Wien med. Woch., Nov. 1, 1893.	Albert.	Stenosis pylorus. Atrophy muscularis of stomach.	" "	" Lembert.	"	1	..		
36	May 17, '92	Wien. klin. Woch., Nov. 24, 1892.	v. Hacker.	.....	" "	. .....	"	..	.		
37	May 27, '92	Lo Sperimentale, 1892.	Colzi.	Carcinoma pylorus.	" "	Suture.	"	..	1	4 ds., exhaustion	
38	May 31, '92	Unpublished.	Beck.	" "	" "	" Maydl.	"	..	1	4 days, hæmorrhage pancreas	
39	June 30, '92	Chic. Med. Rec., Oct., 1892.	"	Cicatricial stenosis pylorus.	" "	"	"	1	..	....	Death 2 wks. later. Embolism pulmonary artery.
40	July 5, '92	Mercredi, Méd., No. 44, 1892.	Terrier.	Tumor pylorus.	" "	"	"	1	..		
41	July 12, '92	Bull. et Mém. d. l. soc. de Chir., Nov., 1892.	Delaganière.	Cancer pylorus diffuse.	" "	"	"	..	1	5 ds., cachexia.	
42	July 23, '92	Bull. et Mém. d. l. soc. de Chir., Nov., 1892.	Reclus.	Stenosis pylorus dilatation.	" "	"	"	1	..		
43	Aug. 26, '92	Johns Hopkins Hosp. Bull., May, 1893.	Finney.	Cicatrizing ulcer pylorus.	" "	[2] " Halsted	"	..	1	15 ds., diarrhœa	
44		'92 Med. Review, July 8, 1893.	Keen.	....	" "	"	"	1	.		
45		'92 Verh. d. Deut. Ges. f. Chir., 1892.	v. Bramann.	... ...	" "	" Wölfler.	"		.		
46		'92 Verh. d. Deut. Ges. f. Chir., 1892.	"	..... .	" "	" Cournoisier.	"	.	..		
47		'92 Verh. d. Deut. Ges. f. Chir., 1892.	"	....	" "	Suture Cournoisier.	"	.			
48		'92 Bull. et Mém. d. l. soc. de Chir., Nov., 1892.	Schwartz.	Carcinoma pylorus stenosis.	" "	Suture Wölfler	"	.	1	4 days.	
49	Feb. 24, '93	Gaz. d. Hôp., Aug. 1, 1893.	Le Bec.	Carcinoma pylorus.	" "	" Terrier.	"	1	.		
50	Mar. 14, '93	Gaz. d. Hôp., Aug. 1, 1893.	"	Carcinoma stomach.	" "	" "	"	1	.		
51		Brit. Med. Jour., April 22, 1893.	Barker.	Carcinoma pylorus.	" "	....		1			
52		Brit. Med. Jour., April 22, 1893.	"	" "	" "	....		1	..		
53		Brit. Med. Jour., April 22, 1893.	"	"	"	....		1	8	on after operation.	

[1] v. Hacker. [2] Loreta, op.

GASTRO-ENTEROSTOMY.—II.

No.	Date.	Publication.	Operator.	Diagnosis.	Operation.	Method.	Position.	Result. Recov.	Result. Death.	Result. Cause.	Remarks.
1	Dec. 16, '88	Med. Rec., Nov. 14, 1891.	Senn.	Carcinoma pylorus & head of pancreas.	Gastro-enterostomy	Bone-plates.	Lat.	..	1	6 ds. perforative peritonitis.	
2	'88	Med. Chir. Trans., '89.	Ransohoff.	Carcinoma pylorus.	" "	" "	"	1	..		
3	'88	Med. Rec., Nov. 14, 1891.	Senn.	" "	" "	" "	"	..	1	5 ds. marasmus.	
4	'88	Med. Rec., Nov. 14, 1891.	"	" "	" "	" "	"	1	..	.....	Death 14 weeks later. Marasmus.
5	'88	Med. Rec., Nov. 14, 1891.	"	" "	" "	" "	"	1	..	....	Death 3 weeks later. Marasmus.
6	'88	Med. Rec., Nov. 14, 1891.	"	" "	" "	" "	"	1	..	....	Death 4 months later. Marasmus.
7	Mar. 31, '89	Med. Rec., Nov. 14, 1891.	"	Carcinoma pylorus & head of pancreas.	" "	" "	"	..	1	2 hrs. shock.	
8	April 10, '89	Med. Rec., Nov. 14, 1891.	"	Carcinoma pylorus.	" "	" "	"	1	..	.....	Death 2 wks. later. Hemorrhage (carcinoma).
9	Aug. 22, '89	Med. News, Feb. 1, 1890.	Stamm.	" "	" "	" "	"	1	..	.....	Death 43 days later. Marasmus.
10	Sept. 20, '89	Brit. Med. Jour., Nov. 16, 1889.	Clarke.	" "	" "	" "	"	1	.	.	
11	Dec. 16, '89	Brit. Med. Jour., Feb. 8, 1890.	Stansfield.	Stenosis pylorus, malignant. (?)	" "	" "	"	1	..	....	Death 4 mo. later. Marasmus opening entirely closed.
12	Jan. 31, '90	Med. Rec., Nov. 14, 1891.	Senn.	Carcinoma pylorus.	" "	" "	"	1	..	....	Death 20 months later. Marasmus.
13	Feb. 23, '90	Lancet, July 12, 1890.	Jessett.	" "	" "	" "	"	..	1	5 days' exhaustion.	Autopsy. Opening patent.
14	Mar. 22, '90	Med. Rec., Nov. 14, 1891.	Senn.	" "	" "	" "	"	1	..	.....	Death 11 days later. Croupous pneumonia.
15	April 30, '90	Lancet, May 23, 1891.	Robson.	" "	" "	" "	"	1	..	... .	Death 95 days later. Exhaustion. No autopsy.
16	" " '90	" " 2, 1891.	Jessett.	" "	" "	" "	"	1	..		
17	May 13, '90	" Dec. 6, 1890.	Clarke.	"Gastric troubles." Hæmatemesis.	" "	" "	"	1	..	....	Death 30 days later. No autopsy.
18	" 18, '90	Brit. Med. Jour., April 11, 1891.	"	Tumor pylorus.	" "	" "	"	1	..	.....	Death 3 wks. later. Opening entirely closed.
19	" 31, '90	Lancet, Oct. 11, 1890.	Beatson.	Carcinoma pylorus.	" "	" "	"	..	1	3 days' asthenia.	Opening admitting forefinger.
20	" '90	Brit. Med. Jour., May 17, 1890.	Robson.	" " (?)	" "	" "	"	1	..		
21	June 4, '90	Lancet, Oct. 11, 1890.	Beatson.	" "	" "	" "	"	1	..	.....	Death 4 weeks later. Pneumonia. Opening admitting forefinger.
22	'90	Med. Rec., Nov. 14, 1891.	Senn.	" "	" "	" "	"	..	1	5 hours' shock.	
23	'90	Brit. Med. Jour., Feb. 8, 1891.	Rawdon.	" "	" "	" "	"	1	.		
24	'90	Lancet, July 12, 1891.	Jessett.	" "	" "	" "	"	1	..		
25	Jan. 22, '91	Med. Rec., Nov. 14, 1891.	Senn.	Stenosis pylorus, dilatation.	" "	" "	"	1	..	... .	Death 18 days later. Exhaustion.
26	Feb. 27, '91	Lancet, May 2, 1891.	Bennett.	Stenosis pylorus, probably malignant.	" "	" "	"	1	..		
27	Mar. 30, '91	Med. Rec., Nov. 14, 1891.	Senn.	Carcinoma pylorus.	" "	" "	"	1	.	....	Death 3 months later. Marasmus.
28	Mar. 30, '91	Northw. Lancet, May 15, 1893.	Ramsay.	" "	" "	" "	"	1	.		
29	April 25, '91	Northw. Lancet, May 15, 1893.	"	Stenosis pylorus, nonmalignant.	" "	" "	"	1	..		
30	May 22, '91	Lancet, June 11, 1892.	Larkin.	Malignant disease of stomach.	" "	" "	"	1	.	... .	Cicatricial closure of opening requiring subsequent jejunostomy.
31	July 1, '91	Austral. Med. Gaz., July, 1892.	Hankins.	Cancer pylorus.	" "	" "	"	1	..	....	Death 7½ months later. Opening entirely closed.
32	" 10, '91	Brit. Med. Jour., Jan. 9, 1892.	Barker.	" stomach.	" "	" "	"	1	..	....	Death 46 days later. Pneumonia.
33	" 10, '91	Med. News, Oct. 1, 1892.	Ruth.	" pylorus.	" "	" "	"	..	1	12 hours' exhaustion.	
34	Aug. 21, '91	Med. Rec., Nov. 14, 1891.	" "	" "	" "	" "	"	..	1	8 hours' shock.	
35	Sept. 8, '91	Brit. Med. Jour., April 22, 1893.	Hume.	" "	" "	" "	"	1	..	.....	Death 9 weeks later. Extension of carcinoma.
36	Sept. 10, '91	Med. Chir. Trans., '92.	Robson.	" " stenosis.	" "	" "	"	..	1	3 days' exhaustion.	
37	Oct. 26, '91	Lancet, Mar. 28, 1892.	Taylor.	Cancer "	" "	" "	"	1	..		
38	Nov. 11, '91	Liverpool Med-Chir. Jour., Jan. 1892.	Paul.	" " and stomach.	" "	" "	"	1	..		
39	Nov. 16, '91	Brit. Med. Jour., Jan. 9, 1892.	Renton.	Tumor pylorus malignant.	" "	" "	"	1	..	....	Tumor disappeared.
40	Dec., '92	Canada Practit., Feb., 1893.	McFarlane.	Malignant disease, pylorus.	" "	" "	"	1	..	.....	Death 6 mo. later. Opening entirely closed.
41	Dec., '91	Lancet, May 2, 1892.	Brown.	"Dyspepsia trouble," malignant. (?)	" "	" "	"	1	..	....	Death 4 months later.
42	Feb. 6, '92	Glasg. Med. Jour., Dec., 1892.	Renton.	Chronic dyspepsia, dilatation.	" "	" "	"	1	..		
43	Feb. 25, '92	Wien. klin. Woch., Nov. 3, 1892.	v. Hacker.	Carcinoma pylorus.	Gastro-enterostomy Implantation.	Suture & bone-plates.	E. S.	1	.		
44	Mar. 19, '92	Lancet, June 4, 1892.	Purcell.	Carcinoma pylorus & stomach.	Gastro-enterostomy	Bone-plates.	Lat.	1	..		
45	Dec., '92	" Aug. 19, 1893.	Moullin.	Chronic gastritis, nonmalignant.	" "	" "	"	1	..	....	Death 6 wks. later. Exhaustion. Pinhole opening.
46	'93	Brit. Med. Jour., April 22, 1893.	Allingham.	Carcinoma pylorus.	" "	" "	"	1	..	.....	Death 4 mo. later. Extension of disease.
1	May 7, '92	Cblbl. f. Chir., June 11, 1892.	v. Baracz.	" "	" "	Swedish turnip plates.	"	1	..		
2	Nov. 12, '92	St. Petersburg. med. Woch., May 15, 1893	Butz.	Stenosis "	" "	Swedish turnip plates.	"	..	1	46 ds. exhaustion.	
3	Dec. 4, '92	St. Petersburg. med. Woch., May 15, 1893	"	Cancer "	" "	Swedish turnip plates.	"	..	1	72 hours' exhaustion.	
4	'92	Lancet, Aug. 19, 1893.	Moullin.	" "	" "	Mayo Robson's bone bobbin.	"	..	1	6 ds. exhaustion.	
5	'92	Brit. Med. Jour., April 1, 1893.	Robson.	Cancer pylorus, stenosis.	" "	Mayo Robson's bone bobbin.	"	1	..		

GASTRO-ENTEROSTOMY.—III.

No.	Date.	Publication.	Operation.	Diagnosis.	Operation.	Method.	Position	Results: Recovered	Results: Death. Cause.	Remarks.
1	Aug. 9, '92	Unpublished.	Murphy.	Cancer pylorus.	Gastro-enterostomy.	Murphy button.	Lat.	1		Time, 7 minutes.
2	Sept., '92	"	"	" "	" "	" "	"	1		
3	Dec. 26, '92	Pacific Med. Jnl. Apl., 1893.	Barbat.	" "	" "	" "	"	1		Autopsy. 46 ds. Perfect union. No contraction
4	May. , '93	Unpublished.	Wiener.	" "	" "	" "	"		14 ds. continued hemorrhage from cancer.	Perfect union.
5	June 7, '93	"	Logan.	" "	" "	" "	"	1		Time 16 min. Patient subsequently died of exhaustion. Autopsy. Perfect union.
6	Oct., '93	"	Buecking	" "	" "	" "	"	1		
1	'93	"	Goldspohn.	" "	" "	Robinson — sequented rubber plates.	"	1		
2	'93	"	Lloyd.	" "	" "	Robinson — sequented rubber plates.	"		1 Progressive peritonitis.	
1	Apl., '89	Med. News, June 1, 1889	McBurney.	Carcinoma pylorus, stenosis.	" "	Abbe—catgut rings.	"		1 After 12 hrs. inaction.	
2	Dec. 3, '89	Med. News, Dec. 14, 1889.	Weir.	Constriction pylorus — probably accidental.	" "	" " " "	"	1		Probable recovery.
3	Jan., '90	Med. Rec., Feb. 22, '90	"	Stenosis pylorus.	" "	" " " "	"	1		
4	Apl. 16, '90	" " Aug. 23, '90	Polk.	Carcinoma pylorus, stenosis.	" "	" " " "	"		15 ds. exhaust.	
5	Aug. 10, '90	" " Jan. 10, '91	Bull.	Carcinoma stomach.	" "	" " " "	"		17 ds. faulty suture.	
6	Oct. 7, '90	" " Jan. 10, '91	"	Carcinoma.	" "	" " " "	"		15 hrs. peritonitis.	Sponge left in peritoneal cavity.
7	Oct. 7, '90	" " Jan. 10, '91	Weir.	Supposed fibrous structure, pylorus	" "	" " " "	"	1		
8	Sept. 9, '91	Cleveland Med. Gaz., Feb., 1892.	Scott.	Inflammatory stenosis pylorus.	" "	" " " "	"	1		
9	Mch. 5, '92	Montreal Med. Jnl., May, 1892.	Bell.	Carcinoma stomach	" "	" " " "	"		20 ds. peritonitis	
1	Sept. 18, '89	Internat. Jnl. Surg., Nov., 1889.	Carson.	Carcinoma pylorus.	" "	Brokaw — sequented rubber rings.	"	1		
2	Mch. 29, '90	Med. News, May 10, 1890.	Tukolske.	Stenosis pylorus, epithelioma.	" "	Brokaw — sequented rubber rings.	"		36 hrs. exhaustion.	
1	Jan. 12, '91	Jnl. Am. Med. Assoc., May 16, 1891.	McGraw.	Carcinoma pylorus.	" "	Elastic ligature and Lembert sut.	"		16 ds. exhaustion.	

ing the end of stomach. In Billroth's operation the stomach was sutured from the lesser curvature down until only sufficient opening remained to admit of the insertion of the end of the duodenum. The end of the duodenum was then united by a Czerny-Lembert suture to the opening in the end of the stomach. The time occupied for the operation averaged two and a half hours (von Baracz), the greater portion of that time being consumed in uniting the duodenum.

PYLORECTOMY WITH GASTRO-ENTEROSTOMY.

	Cases.	Recoveries.	Deaths.	Mortality per cent.
Suture	24	13	11	45.8
Mechanical means	2	2	0	.0
Suture with mechanical aid	1	1	0	.0
Total	27	16	11	40.7

Rawdon's operation was practically the same, except that bone plates were used to approximate the end of the duodenum to end of stomach. The time consumed in the operation by the Billroth method was so great that all of the patients were collapsed before it was completed; some of them rallied. There was another danger: it was found that at the junction of the line of suture at the end of stomach with the circle of suture approximating the duodenum, gangrene occurred from the strangulation produced by the suture, and a failure of union resulted, increasing the mortality, already great from shock. To avoid these calamities, it was suggested to close the end of stomach and end of duodenum entirely by suture, and make a lateral approximation of the stomach to the duodenum, or jejunum. This has been performed twenty-four times with 13 recoveries, 11 deaths; 45.8 per cent. It is safer and more rapid than any means used for the approximation of the end of the duodenum to the end of the stomach. A still better method is the approximation of the end of the duodenum to the posterior wall of stomach through an incision made for that purpose. Number of this class operated on by mechanical means (anastomosis button), 1; recovery. The procedure by this method should be as follows: place a double clamp on stomach and incise the stomach between; also a double clamp on duodenum with incision between. Transfix the mesentery attached to the pyloric portion with a double-threaded needle; ligate as you would a broad pedicle; excise; continuous Czerny suture of end of stomach; remove clamp and insert continuous Lembert suture, entirely closing the end of stomach. Insert female half of button in posterior wall of stomach as usual; with male half in end of duodenum, press the button together. The operation can be performed in from thirty to forty minutes. It leaves the end of stomach securely closed and the end of duodenum, firmly approximated to a peritoneal surface of stomach, conditions which are favorable for immediate union. This operation has the following advantages: 1. The danger of shock is very materially lessened by the great reduction of time, *i.e.*, from two and a half hours to thirty to forty minutes. 2. The end of stomach is securely closed. 3. There is a uniform pressure in approximation of duodenum to stomach. 4. The danger of peritonitis is lessened because the peritoneal surface has not been exposed to the atmosphere nor manipulated sufficiently to abrade the endothelial layer on its surface; consequently the likelihood of infection is lessened.

Case I. was one of Dr. Alexander Hugh Ferguson's, Winnipeg, Manitoba, who writes as follows: "I wish simply to congratulate you upon your invention of the 'Anastomosis Button,' and to say I used it four days ago in a gastro duodenostomy (end to side) after pylorectomy for cancer. The time from taking the knife to complete closure of abdomen, one hour and twenty minutes. Since the operation there has been no vomiting, no tympanites, restlessness, nor pyrexia. The pulse at its highest was 108. The largest size button suited admirably, and I am sure shortened the time one-half."

August 14th.—"My case of pylorectomy has made an uninterrupted recovery. The button was voided sixteen days and ten hours after operation. He is now eating meat, potatoes, etc., which he has not done for five years."

September 1st.—Patient discharged from the hospital on the twentieth day, apparently in perfect health. He has gained five pounds since the operation.

December 28th.—Patient has gained fifty pounds since operation."

Cholecystenterostomy.—Probably the most difficult of all approximations to make by the suture is that of uniting the gall-bladder to the intestinal tract. The results from experimental research by that method were very unsatisfactory, and the verdict of Gaston, Harley, Colzi, De Paige, and others who pursued these experiments industriously, was that it was a hazardous operation and one very difficult of execution. This opinion was verified by the difficulties and dangers experienced by the pioneers of this operation. It took von Winiwarter sixteen months, with six operations, to perform a successful cholecystocolostomy.

In commenting on cholecystenterostomy by means of suture, Kappeler, Fritzsche, Robson, Courvoisier, Socin, Bardenheuer, and others, say it is an operation very difficult of performance. The number of operations performed by means of suture, up to the present time, is 23, with 8 deaths, 34.8 per cent.; number of operations performed by mechanical means for cholelithiasis, 18, 18 recoveries. Of these 1 bone plate, recovery; 17 Murphy button, 17 recoveries. Number of operations for cancer involving pancreas, duodenum, gall-ducts, and liver, 2, with two deaths. The death in one case reported by Dr. Weir was due to the disease, and not to the method, and occurred two hours after operation; in the other, a case of my own, to a twisting of the bowel upon itself before the approximation was made, as shown in autopsy.

A comparison of these results shows that the operation by mechanical means produces most excellent results; in fact, all that could be desired. It needs no other comment. The explanation of this favorable showing is: 1. That the operation can be performed in an extremely short time (seven to twenty minutes) compared to that by suture, thereby lessening the danger from shock, and also of peritoneal infection from prolonged manipulation and exposure. 2. There is a uniform coaptation of gall-bladder to duodenum which is very favorable to or, better still, insures a union; as there has not been in the human subject nor in the animals experimented on by this method, a single failure of union. The pressure also prevents hemorrhage, which is one of the dangers of suture, as two patients died from that cause. 2. There is an immediate restoration of bile to the alimentary canal, and an assurance that none of it will escape into the peritoneal cavity at the line of approximation.

I believe that the operation of cholecystenterostomy by mechanical means will supersede all other operations on the gall-bladder, in suitable cases. Detailed reports of these will appear in the MEDICAL RECORD shortly.

PYLORECTOMY WITH GASTRO-ENTEROSTOMY.

No.	Date.	Publication.	Operator.	Diagnosis.	Operation.	Method.	Position.	Result. Recov.	Result. Death.	Result. Cause.	Remarks.
1	Jan. 24, '88	Arch. f. klin. Chir. xxxix.	Billroth.	Sarcoma pylorus, adherent pancreas.	Pylorectomy.	Suture.	.....	..	1	5 hrs. Collapse.	Ligation vena colica.
2	Apr. 2, '88	" " " "	Eiselsberg.	Carcinoma pylorus	" & gastro-enterostomy.	"	.....	..	1	48 hrs. Perforative peritonitis	
3	" 26, '88	" " " "	Billroth.	Sarcoma pylorus, and stomach.	Pylorectomy.	"	.....	..	1	4 ds. Peritonitis.	
4	July 4, '88	" " " "	"	Cicatricial stenosis pylorus.	"	"	.....	..	1	48 hrs. Perforative peritonitis	
5	Sept. 7, '88	Wien. klin. Woch., Jan. 31, '89.	Obalinski.	Carcinoma pylorous.	"	"	.....	1	..	.....	Death 18 wks. later.
6	Dec. 4, '88	Arch. f. klin. Chir. xxxix.	Billroth.	Sarcoma abdominal wall, adherent stomach.	" partial.	"	.....	1	..	.....	Ventral hernia.
7	" 16, '88	" " " "	"	Cicatricial stenosis pylorus.	" "	"	.....	..	1	14 ds. Perforative peritonitis	
8	Jan. 13, '89	" " " "	Eiselsberg.	Sarcoma pylorus.	"	"	.....	1	..		
9	Apr. 8, '89	" " " "	"	Cicatricial stenosis pylorus.	"	"	.....	1	..		
10	" 12, '89	" " " "	"	Sarcoma pylorus and pancreas.	"	"	.....	1	..	.....	Death 5 mo. later. Chronic pyæmia.
11	May 22, '89	" " " "	Billroth.	Sarcoma pylorus and pancreas.	"	"	.....	..	1	33 hrs. Collapse.	
12	June 26, '89	Brit. Med. Jour., May 3, '90.	Stokes.	Cancer pylorus, dilatation stomach.	" & gastro-enterostomy.	"	.....	..	1	11½ hrs. Collapse	
13	Oct. 16, '90	Brit. Med. Jul. Mch. 12, '92.	McCormick.	Cancer pylorus, scirrhus.	Pylorectomy.	"	End.	1	..		
14	" 28, '90	Daniels Tex. Med. Jour., Jan., '91.	Hadra.	Cancer stomach.	"	" Czerny-Lambert.	.....	1	..		
15	Nov. 21, '90	Münch. Med. Woch., May 24, '92.	Schönborn.	" pylorus, Dilatation.	"	Suture.	"	..	1	7 ds. Exhaustion	
16	Dec. 10, '90	Münch. med. Woch., May 24, '92.	"	Cancer pylorus.	"	"	"	1	..		
17	Feb. 13, '91	Münch. med. Woch., May 24, '92.	"	" "	"	"	"	..	1	5 ds. Suppurative peritonitis.	
18	Mch. 9, '91	Wien. klin. Woch., Nov. 17, '92.	Maydl.	" stomach.	"	" Maydl.	E. S.	1	..		
19	Apl. 11, '91	Hygeia, Sept., '91.	Borelius.	" "	"	" Czerny-Lembert.	.....	..	1	8 days.	
20	May 9, '91	Deut. med. Woch., Dec. 8, '92.	Mikulicz	" pylorus.	" & cholecystotomy.	Suture.	.....	1	..		
21	July 7, '91	Med. Chir. Trans., '92.	Robson.	" pylorus, stenosis.	Pylorectomy.	"	.....	..	1	5 ds. Exhaustion	
22	Sept. 17, '91	Wien. klin. Woch., Nov. 3, '92.	v. Hacker.	Cancer pylorus.	"	"	.....	1	..		
23	'91	Deut. med. Woch., Dec. 8, '92.	Mikulicz.	" "	"	"	....	1	..		
24	Mch. 1, 93	Ann. Surg. July, '93.	Lange.	"	"	"	. . .	1	..		
1	Aug. 4, '91	Lancet, Oct. 24, '91.	Jassett.	Carcinoma pylorus	Pylorectomy and gastro-enterostomy.	Bone plates.	Lat.	1	..		
1	July 25, '93	Unpublished.	Ferguson.	" "	Pylorectomy and gastro-enterostomy.	Murphy button.	E. S.	1	..	.....	Time, 80 min., Sept. 3, 1893. Patient in good health. Dec. 15. patient gained 50 lbs.
1	Apl. 10, '90	Med. Record, Apr. 19, '90.	Bull.	Carcinoma stomach and pylorus	Pylorectomy and gastro-enterostomy.	Abbe — catgut ring.	Lat.	1	..	.....	"1st successful American operation for cancer of stomach."

Cholecystenterostomy.

No.	Date.	Publication.	Operator.	Diagnosis.	Operation.	Method.	Position.	Result. Recov.	Result. Death.	Result. Cause.	Remarks.
1	May 4, '87	Med. News, June 11, 1892.	Monastyrski.	Carcinoma head of pancreas.	Cholecysto-jejunostomy.	Suture.	.....	1	..	.....	Death 4 mos. later.
2	July 6, '87	Gaillard's Med. Jour., Aug., 1892.	Kappeler.	Tumor pancreas.	Cholecysto-ileostomy.	Suture, Wölfler.	.....	1	..	.....	Death 15 mos. later.
3	Nov. 19, '87	Corresp. bl. f. Schw., Aerzt., 4, 1889.	Socin.	Carcinoma pancreas.	Cholecysto-enterostomy.	"	.....	1	..		
4	April 24, '88	Corresp. bl. f. Schw., Aerzt., 6, 1890.	Fritzsche.	Carcinoma common duct.	Cholecysto-jejunostomy.	Elastic ligature.	.....	..	1		
5	.....	Centbl. f. Chir., 12, 1889.	Bardenheuer.	.....	Cholecysto-enterostomy.	" "	.....	..	1		
6	.....	Centbl. f. Chir., 12, 1889.	"	.....	Cholecysto-enterostomy.	" "	.....	..	1		
7	Mch. 2, '89	Med. Chir. Trans., 1890.	Robson.	Closure biliary fistula. Cholelithiasis.	Cholecysto-colostomy.	Suture.	.....	1	..		
8	Aug. 13, '89	Rev. de Chir., 1892.	Terrier.	Occlusion common duct.	Cholecysto-duodenostomy.	" & drainage tube.	.....	1	..	....	Death 1 yr. later. Influenza.
9	Mch. 28, '90	Path. u. Chir. d. Gallenwege, 1890.	Courvisier.	Complications following cholecystotomy.	Cholecysto-enterostomy.	Suture.	.....	1	..		
10	Sept. 29, '90	Samml. klin. Vorträge, 40, 1892.	Körte.	Cholelithiasis. Obstruction.	Cholecysto-duodenostomy.	"	.....	..	1	7 ds. Collapse.	2d operation, Oct. 3.
11	Jan. 14, '91	Berl. klin. Woch., 12, 1892.	Lindner.	Closure biliary fistula. Cholelithiasis.	Cholecysto-enterostomy.	"	.....	1	..		
12	" 16, '91	Deut. med. Woch., Sept. 3, 1891.	Sprengel.	Cholelithiasis.	Choledocho-duodenostomy.	"	.....	1	..		
13	May 21, '91	Samml. klin. Vorträg., 40, 1892.	Körte.	Cholelithiasis. Obstruction.	Cholecysto-duodenostomy.	"	....	1	..		
14	Nov. 2, '91	Berl. klin. Woch., 12, 1892.	Lindner.	Closure biliary fistula. Cholelithiasis.	Cholecysto-enterostomy.	"	.....	1	..		
15	" 16, '91	Deut. med. Woch., Feb. 25, 1892.	Helferich.	Closure biliary fistula. Cholelithiasis.	Cholecysto-jejunostomy.	"	.....	1	..		
16	Aug. 13, '92	Bull. et Mém. d. l. Soc. de Chir., Jan., 1893.	Reclus.	Cancer of pancreas (probable).	Cholecysto enterostomy.	"	.....	1	..	.....	Reclus suggests "enterostomie biliaire."
17	" 28, '92	Wien. klin. Woch., Jan. 19, 1893.	Fränkel.	Closure biliary fistula. Cholelithiasis.	Cholecysto-enterostomy.	"	.....	1	1	10 hours. Collapse.	
18	Sept. 21, '92	Wien. klin. Woch., May 11, 1893.	Gersuny.	Cholelithiasis. Obstruction.	Cholecysto-gastrostomy.	"					
19	'92	Beitr. z. klin. Chir., ix., h. 2, 1892.	Czerny.	Closure biliary fistula. Cholelithiasis.	Cholecysto-enterostomy.	"	Lat.	.	1	Exhaustion.	
20	'92	Beitr. z. klin. Chir., ix., h. 2, 1892.	"	Occlusion common duct. Cholelithiasis.	Cholecysto-colostomy.	"	"	..	1	2 weeks. Hemorrhage.	
21	'92	Beitr. z. klin. Chir., ix., h. 2, 1892.	"	Occlusion common duct. Tumor.	Cholecysto-duodenostomy.	"	"	1	..	....	Temporary.
22	Jan., '93	Boston M. & S. Jour., March 23, 1893.	Jones.	Closure biliary fistula. Cholelithiasis.	Cholecysto-enterostomy.	"	.....	1	..		
23	Feb. 1, '93	Am. Gynecol. Jour., June, 1893.	Ross.	Obstruction common duct.	Cholecysto-duodenostomy.	Elastic ligature.	.....	..	1	37 days' continuous hemorrhage.	
1	Oct. 24, '91	Lancet, March 12, 1892.	Chavasse.	Closure biliary fistula. Cholelithiasis.	Cholecysto-colostomy.	Bone-plates.	Lat.	1	..		
2	June 11, '92	Unpublished.	Murphy.	Cholelithiasis.	Cholecysto-enterostomy.	Murphy button.	"	1	..		
3	Oct. 19, '92	"	"	"	Cholecysto-enterostomy.	" "	"	1	..		
4	Nov. 23, '92	"	"	"	Cholecysto-enterostomy.	" "	"	1	..		
5	Dec. 18, '92	"	"	"	Cholecysto-enterostomy.	" "	"	1	..		
6	Jan. 31, '93	"	Lee.	"	Cholecysto enterostomy.	" "	"	1	..		
7	Feb. 20, '93	"	Murphy.	"	Cholecysto-duodenostomy.	" "	"	1	..		
8	Mch., '93	"	Weir.	Cancer, pancreas, liver, omentum, gall-duct.	Cholecysto-enterostomy.	" "	"	..	1	Exhaustion.	"Death two hours after operation, not due to button but to disease." Perfect approximation.
9	April 6, '93	Jnl. Am. Med. Assoc., Aug. 26, 1893.	Mays.	Obstruction common duct. Cholelithiasis.	Cholecysto-duodenostomy.	" "	"	1	.	....	Patient 71 years old.
10	" 28, '93	Medical Arena, Kansas City.	Foster, Wm. D.	Gall-bladder fistula. Obstruction of choledochus.	Cholecysto-duodenostomy.	" "	"	1	..		
11	May 6, '93	Unpublished.	Murphy.	Occlusion common duct. Cholelithiasis.	Cholecysto-enterostomy.	" "	"	1	..		
12	" 22, '93	"	"	Cholecystitis. Impaction.	Cholecysto-enterostomy.	" "	"	1	..		
13	" '93	"	"	Cancer, pancreas, duodenum, gall-ducts and liver.	Cholecysto-jejunostomy.	" "	"		1	Ileus from volvulus 4 days. Loop of jejunum twisted upon itself before approximation to gall-bladder.	
14	June 1, '93	"	Fabrique.	Hepatic colic. Cholelithiasis.	Cholecysto enterostomy.	" "	"	1	..		
15	" 1, '93	"	Rogers.	Closure biliary fistula. Cholelithiasis.	Cholecysto-enterostomy.	" "	"	1	..	.....	10th day removed button through fistula.
16	July 18, '93	"	Hartmann.	Cholelithiasis.	Cholecysto-enterostomy.	" "	"	1	..		
17	Aug. 3, '93	"	Ferguson.	Dropsy, gall-bladder. Cholelithiasis.	Cholecysto-duodenostomy.	" "	"	1	..		
18	Oct. 20, '93	"	Hartmann.	Cholelithiasis. Obstruction cystic duct.	Cholecysto-enterostomy.	" "	"	1			
19	Nov. 6, '93	"	Murphy.	Cholelithiasis.	Cholecysto enterostomy.	" "	"	1	.		
20	.....	"	Luken.	"	Cholecysto-enterostomy.	" "	"	1	..		
21	Oct. '93	"	Laine.	"	Cholecysto-enterostomy.	" "	"	1	.	.... .	Button passed 12th day.
22	Jan. 6, '94	"	Dunn, J. H.	Cholelithiasis. Obs. of common duct.	Cholecysto-duodenostomy.	" "	"	1			
23	Feb. 13, '94	"	Murphy.	Cholelithiasis.	Cholecysto-duodenostomy.	" "	"	1	.		

ENTERO-ENTEROSTOMY.—I.

No.	Date.	Publication.	Operator.	Diagnosis.	Operation.	Method.	Position.	Result. Recov.	Result. Death.	Result. Cause.	Remarks.
1	Feb. 15, '88	Arch. f. klin. Chir., 42, 1891.	v. Baraez.	Closure artificial anus.	Resection ileum.	Suture. Czerny-Lembert.	End.	1	..		
2	June 5, '88	N. Y. Medical Jour., March 16, 1889.	McCosh.	Strangulated hernia, gangrene.	Entero-enterostomy.	Suture.	Lat.	1	..		
3	Oct. 30, '88	Brit. Med. Jour., Mar. 2, 1889.	Franks.	Carcinoma transverse colon.	Colo-colostomy.	" Gély.	End.	..	1	2 days. Ileus.	
4		'88 Med. & Surg. Reporter, 59, 1888.	Agnew.	.....	Ileo-ileostomy.	" Czerny-Lembert.	Lat.	..	1	1 day. Sutures gave way.	
5		'88 Med. Chir. Trans., '89	Inverson.	Tumor sigmoid flexure.	Colo-colostomy.	Suture.	"	1	..	.....	Intestino-vesical fistula
6		'88 Deut. Chir. (Sachs), 32, 1891.	Chwat.	.....	Resection jejunum.	.....	.....	1	..		
7		'88 Deut. Chir. (Sachs), 32, 1891.	Barton.	Epithelioma ileo-cæcal valve.	" "	.....	.....	1	..		
8		'88 Deut. Chir. (Sachs), 32, 1891.	Hofmokl.	Carcinoma ascending colon.	" "	.....	.....	1	..		
9		'88 Deut. Chir. (Sachs), 32, 1891.	"	Strangulated umbilical hernia.	" "	.....	.....	..	1	Gangrene.	
10		'88 Wien. med. Blatt., 12, 1889.	Obtusowicz.	Prolapse intestine.	" "	.....	.....	1	..		
11		'88 Deut. Chir. (Sachs), 32, 1891.	Lumniczer.	Strangulated inguinal hernia, gangrene.	" "	.....	.....	1	..		
12		'88 Deut. Chir. (Sachs), 32, 1891.	Kaufman.	Closure artificial anus.	" "	.....	.....	1	..		
13		'88 Deut. Chir. (Sachs), 32, 1891.	Park.	" " " fistula.	" "	.....	.....	1	..		
14		'88 Deut. Chir. (Sachs), 32, 1891.	Bouilly.	Hernia.	" "	.....	.....	1	..		
15		'88 Deut. Chir. (Sachs), 32, 1891.	Frey.	Inguinal hernia, gangrene.	" "	.....	.....	1	..		
16		'88 Deut. Chir. (Sachs), 32, 1891.	Martino.	Inguinal hernia, gangrene.	" "	.....	.....	1	..		
17		'88 Deut. Chir. (Sachs), 32, 1891.	"	Inguinal hernia, gangrene.	" "	.....	.....	..	1		
18	Feb. 12, '89	St. Peter's Medical Woch., 24, 1889.	Wahl.	Carcinoma colon.	Colo-sigmoidostomy.	Suture and rubber tubes.	Lat	1	..	....	Koeberle clamp.
19	Mar. 17, '89	Gaz. Med. di Torino, 1889.	Caponatti.	Closure artificial anus, hernia.	Entero-enterostomy.		"	..	..	....	Enterotome.
20	May 19, '89	Arch. Gén. de Médicine, May, 1891.	Chaput.	Closure artificial anus, stricture.	Entero-colostomy.	Suture.	"	1	..		
21	July 2. '89	MED. REC., Nov. 29, 1889.	Meyer.	Carcinoma colon.	Colo-colostomy.	" Lembert.	"	1	..		
22	" 25, '89	Rev. Méd. d. l. Suisse Romeande, 6, 1890.	Comte.	Carcinoma small intestine.	Jejuno-jejunostomy.	"	"	..	1	.....	Death 7½ mo. Extension of carcinoma.
23	" 28, '89	Arch. f. klin. Chir., 42, 1891.	v. Baraez.	Closure artificial anus, hernia.	Resection ileum.	" Czerny-Lembert.	End.	1	..	1 d. Peritonitis.	
24	Aug. 3, '89	Lancet, Feb. 14, 1891.	Jassett.	Organic disease cæcum, obstruction.	Ileo-colostomy.	Suture.	E. S.	..	1	13 days. Exhaustion.	
25	" 9, '89	Rev. Méd. de la Suisse Rom.	Comte.	Pyo-uretero cæcal fistula.	" "	"	Lat.	1	..	....	Failure. Artificial anus re established.
26	Sept. 18, '89	Arch. f. klin. Chir., 42, 1891.	v. Baraez.	Sarcoma cæcum.	Resection ileum & cæcum.	" Czerny-Lembert.	End.	..	1	1 day. Shock.	
27	Nov. 8, '89	Tr. Roy. Acad. Med., Ireland, 1891.	Hayes.	Carcinoma transverse colon.	Colectomy.	Suture, Lembert.	"	1	..	.....	Death 9 mos. Exhaustion.
28	" 14, '89	Arch. f. klin. Chir., 41, 1891.	Helferich.	Strangulated hernia.	Entero-enterostomy.	Suture.	Lat.	..	1	Immediate Shock.	
29		'89 Brit. Med. Jour., Nov. 16, 1889.	Sinclair.	Closure artificial anus, hernia.	Ileo-ileostomy.	"	"	1	..		
30	Jan. 4. '90	Dubl. Jour. Med. Sci., June, 1893.	Franks.	Valvulus small intestine, gangrene.	Entero-enterostomy.	" Gély.	"	..	1	2 days. Obstruction.	
31	" 23, '90	Deut. Zeit. f. Chir., 34, 1891.	König.	Stricture, tuberculous.	Enterectomy.	"	End.	1	..		
32	Feb. 7, '90	Gaz. Hebd. de Méd., 27, 1890.	Murier.	Closure artificial anus.	"	" Gussenbauer.	"	1	..		
33	" 24. '90	Dan., Tex. Med. Jour., Jan., 1891.	Hadra.	Gunshot wound ileum.	"	Suture. Czerny-Lembert.	"	..	1	Few hours. Peritonitis.	
34	Mar. 28, '90	Soc. de Chir., Paris, 1891.	Boiffin.	Stricture ascending colon.	Entero-colostomy.	Suture.	Lat.	1	..		
35	April 14, '90	Ctbl. f. Chir., 31, 1890.	Kredel.	Strangulated hernia.	Entero-enterostomy.	"	"	1	..		
36	" 23, '90	Arch. f. klin. Chir., 40, 1890.	König.	Sarcoma small intestine.	Enterectomy.	"	.....	..	1	24 hours. Rupture intestine.	
37	June 17. '90	Am. Jour. Med. Sci., May, 1893.	McIntosh.	Closure artificial anus, adeno sarcoma.	Colo-colostomy.	" Gély.	End.	1	..		
38	" 21, '90	Arch. Gén. de Méd., June, 1891.	Chaput.	Closure artificial anus, adeno sarcoma.	Entero-sigmoidostomy.	.....	Lat.	1	..	.....	? Forceps.
39	July 25, '90	Daniels, Tex., Med. Jour., Jan., 1891.	Hadra.	Ulceration ileum.	Enterectomy.	"	End.	1	..		
40	Sept. 22, '90	Deut. Zeits. f. Chir., 34. 1891.	König.	Stricture, tuberculous.	"	.....	.....	..	1	3 days. Shock.	
41	Oct. 8, '90	Lancet, Mar. 21, 1891.	Greig-Smith.	Closure artificial anus.	Enterorrhaphy.	"	End.	1	..		
42	Nov. 5, '90	Hosp. Tidende, April 15, 1891.	Hauser.	Strangulated hernia.	Enterectomy.	"	.....	1	..		
43	Dec. 11, '90	Deut. Zeits. f. Chir., 34. 1891.	König.	Stricture, tuberculous.	"	"	.....	..	1	3 days. Shock.	
44	" 12, '90	Verh. d. deut. Ges. f. Chir., 1892.	Braun.	Closure fæcal fistula, hernia.	Entero-eoterosto my.	"	Lat.	1	..		
45	" 17, '90	Verh. d. deut. Ges. f. Chir., 1892.	"	Carcinoma small intestine, obstruction.	Entero-enterostomy.	"	End.	..	1	3 hours. Shock.	
46	" 27, '90	Revue de Chirurg.	Llobet.	Sarcoma mesentery.	Resection small intestine.	"	"	1	..		
47		'90 Daniels, Tex. Med. Jour., Jan., 1891.	Hadra.	Strangulated hernia.	Entero-enterostomy.	" Czerny-Lembert.	Lat.	..	1	6 hours. Sepsis.	
48		'90 Ctbl. f. Chir., 33, 1890.	Salzwedel.	" "	Entero-enterostomy.	Suture.	Lat.	1	..	.....	Failure. Closure of opening. Artificial anus established.
49	Dec. 18, '90	....	v. Lukowicz.	Gangrene.	Resection, 5½ in.	" Czerny-Lembert.	End.	1	..	.....	Time, 3 hours.
50	Jan. 15, '91	Verh. d. deut. Ges. f. Chir., 1892.	Braun.	Closure fæcal fistula, hernia.	Entero-enterostomy.	Suture.	Lat.	..	1	2 ds. Gangrene, peritonitis.	
51	" 19. '91	Arch. Gén. de Méd., June, 1891.	Reclus-Chaput.	Closure artificial anus, tuberculous cæcum.	Enterorrhaphy.	"	Lat.	..	1	2 days. Tuberculosis.	
52	Feb. 2, '91	Wien. med. Woch., 39, 1892.	Schramm.	Gangrene mesentery.	Enterectomy.	" Czerny.	....	1	..		
53	" 18, '91	Verh. d. deut. Ges. f. Chir., 1892.	Braun.	Closure fæcal fistula, hernia.	Entero-enterostomy.	"	Lat.	..	1	4 ds. Peritonitis.	
54	" 20, '91	Lancet, Feb. 6, 1892.	MacCormac.	Closure artificial anus, carcinoma.	Enterectomy.	" Czerny-Lembert.	End.	1	..	.....	Subsequent operation necessary. Tried Gennis rings.
55	Mar. 6, '91	Nord. Med. Arkiv., 23, 1891.	Studsgaard.	Traumatic stricture ileum.	Resection small intestine.	Suture, Lembert.	"	1	..		
56	May 5, '91	Verh. d. deuts. Gesell. f. Chir., 1892.	Braun.	Ileus.	Entero-enterostomy.	Suture.	Lat.	..	1	Immediate. Collapse.	

ENTERO-ENTEROSTOMY.—II.

No.	Date.	Publication.	Operator.	Diagnosis.	Operation.	Method.	Position.	Result. Recov.	Death.	Cause.	Remarks.
57	May 13, '91	Med. Record, April 2, 1892.	Abbe.	Carcinoma sigmoid flexure.	Entero-enterostomy.	Suture.	Lat	1	..		
58	" 28, '91	Wien. klin. Woch., 53, 1891.	Frank.	Carcinoma cæcum.	Ileo-colostomy.	"	End.	1	..		
59	" 29, '91	Med. Record, April 2, 1892.	Abbe.	Closure fæcal fistula.	Entero-enterostomy.	"	Lat.	1	..		
60	June 18, '91	Wien. Med. Woch., 39, 1892.	Schramm.	Gangrene mesentery.	Enterectomy.	"	.....	1	..		
61	July 16, '91	Bull. et Mèm. d. l. Soc. de Chir., Nov., 1891.	Le Wentu.	Fibromyoma of colon.	Colectomy.	" Lembert.	End.	1			
62	" 23, '91	Wien. klin. Woch., 27, 1892.	Frank.	Tuberculosis cæcum.	Resection.	Suture.	.....	1	..		
63	" 31, '91	Lancet, Jan. 9, 1892.	Barker.	Intussusception.	Entero-enterostomy.	" Barker.	Lat.	..	1	10 hrs.	Gangrenous infection.
64	Aug. 11, '91	Deut. med. Woch., June 8, 1892.	Bier.	Closure artificial anus.	Entero-enterostomy.	Suture, Lembert.	"		1	6 ds.	Perforative peritonitis.
65	" 15, '91	Lancet, Jan 9, 1892.	Barker.	Intussusception.	Entero-enterostomy.	Suture, Barker.	"		1	14 hours.	
66	" 15, '91	St. Louis Com. Med., April, 1892.	Young.	Trauma colon.	Colectomy.	Suture.	End.	1	..		
67	" 22, '91	Wein. Med. Presse, 12, 1892.	Rosenthal.	Strangulated hernia.	Resection.	" Lembert.	.....	1	..		
68	Sept. 6, '91	Deut. Zeits. f. Chir., 34.	König.	Structure tuberculosis.	Colectomy.	Suture.	.....	..	1	5 ds.	Collapse.
69	" 23, '91	Dublin Jour. Med. Sci.	Frank.	Hernia gangrene.	Entero-enterostomy and enterorrhaphy.	" Gely.	End	1	..		
70	Oct. 1, '91	Boston M. & S. Jour., March 3, 1892.	Richardson.	Closure artificial anus. hernia.	Enterectomy.	" Lembert.	"	1	..		
71	" 8, '91	Verh. d. deut. Gesell. f. Chir., 1892.	Braun.	Closure fæcal fistula.	Entero-enterostomy.	Suture.	Lat.	1	..		
72	Nov. 3, '91	Gac. Med. di Mexico, Dec. 15, 1892.	Zarraga.	Closure artificial anus. Penetrating wound.	Entero-enterostomy.	"	End.	1	..		
73	" 14, '91	Med. Record, Apr. 9, 1892.	Weir.	Strangulated hernia.	Ileo-colostomy.	" Lembert.	Lat.	1	..		
74	Dec. 1, '91	Tr. Am. Surg. Assoc., 1892.	McCann.	Sarcoma mesentery.	Enterectomy.	Suture.	End.	1	..		
75	" 12, '91	Verh. d. deut. Gesell. f. Chir., 1892.	Braun.	Tumor "	Entero-enterostomy.	"	Lat.		1	Few hours.	Collapse.
76	" 14, '91	Deut. Zeits. f. Chir. B. 34.	König.	Structure tuberculosis.	Enterectomy.	"	.....	1	..		
77	" 28, '91	Med. Record April 2, 1892.	Abbe.	Strangulated hernia.	"	"	"	1	..		
78	'91	Internat. Clinics, 3, '91.	Carmalt.	Cancer cæcum.	"	" Lembert	End.	1	..		
79	Jan. 9, '92	Bull. et Mèm. d. l. Soc. de Chir., March, '92.	Berger.	Closure artificial anus.	Enterorrhaphy.	" "	"	1	..		
80	" 13, '92	Verh. d. deut. Gesell. f. Chir., 1892.	Braun.	Ileo-colic invagination.	Ileo-colostomy.	"	"	1	..		
81	Feb. 13, '92	Verh. d. deut. Gesell. f. Chir., 1892.	"	Ileus.	Entero-enterostomy.	"	"	1	..		
82	M'ch 20, '92	Wien. klin. Woch., 27, 1892.	Frank.	Tuberculosis cæcum.	Resection.	"	"	1	..		
83	" 27, '92	N. Y. Med. Jour., Sept. 10, 1892.	Hartley.	Carcinoma: intussusception.	"	Suture selle. Maun-	End.	1	..		
84	June 8, '92	Va. Med. Monthly, Nov., 1892.	Earle.	Closure artificial anus.	Colectomy.	Suture, Halsted.	.....	1	.....	.....	Death 4 mos. later. No contraction of opening.
85		N. Y. Med. Jour., Sept. 3, 1892.	Kammerer.	.....	.....	"	Abbe. Lat.	1	..	.....	Artificial anus.
86		Lyon Médical.	Jaboulay.	... .	.....	Suture	Gur- End.	1	..		
87		" "	"	.....	.....	renbauer. Suture.	"	1	..		
88		" "	"	.....	.....	"	"	1	..		
89		Semaine Méd., June 16, 1892.	Larabrie.	.....	.....	Suture, bert.	Lem- Lat.	1	..	.....	(No resection.)
90		Gaz. d. Osp., 89, 1890.	Mazzucchelli.	.....	.....	Suture, ny.	Czer- End.	1	..		
91		Intern. klin. Rundschan, May 29, 1892.	Hofemokl.	Intussusception.	Colo-colostomy.	Suture.	"	..	1		

Entero enterostomy.—In treating this subject we will not take up the various methods of approximation that are now only of historic interest, but will consider the methods that have been employed and reported in operations in the last five years, as will be seen in tabulated statement. These methods we will arrange as in the previous classification: 1, Simple suture; 2, mechanical means; and 3, suture with mechanical aid. The pathological conditions which create the necessity for a resection of a portion of the bowel are of three classes: the order of frequency in which they occur is, 1, strangulated hernia; 2, ileus (intestinal obstruction); (a) strangulation, (b) obturation; 3, intestinal perforations, (a) traumatic, (b) pathological. There will always be a considerable percentage of mortality from the intrinsic dangers of the pathological conditions, aside from the defects of the means employed for their relief. Therefore the problems to be solved are: 1, How can we reduce the intrinsic dangers of the disease? and, 2, How can we minimize the difficulty of the operative procedure *per se*?

In order to decide the first problem, that is, the intrinsic danger, the subject of diagnosis must be exhaustively considered, as the dangers of the disease depend in a large measure upon the failure of early diagnosis. This is particularly true of ileus, and I feel constrained to further emphasize, in connection with this subject, the imperative importance of early and accurate diagnosis, as the result in operations of this class depends more than in any other upon an early recognition of the pathological condition. The difficulty of making a positive diagnosis of the pathological lesion producing the obstruction has been materially diminished by our modern advancements, but is not generally understood nor practised. This necessarily increases the danger to the patient, as the operation is postponed until extreme symptoms manifest themselves. With exploratory laparotomy for ileus, but little difficulty is encountered, although it is occasionally impossible to locate the seat of obstruction. In 190 laparotomies for ileus collected by Schramm, the operators failed in 8 cases to locate the obstruction.

Diagnosis.—There is only one way to obtain good results in ileus—that is, by early diagnosis and operation. In this we must consider every case of ileus as we would an acute strangulated hernia; we know that an early operation for strangulated hernia admits of a much more favorable prognosis than one which is delayed until the intestine is gangrenous. How much more important is it that the early operation should be performed in internal strangulation where gangrene would take place within

ENTERO-ENTEROSTOMY.—III.

No.	Date.	Publication.	Operator.	Diagnosis.	Operation.	Method.	Position.	Result. Recov.	Result. Death.	Result. Cause.	Remarks.
1	Nov. 14, '88	N.Y. Med. Jour., Mar. 28, 1889.	Abbe.	Closure artificial anus.	Colo-colostomy.	Bone plates.	Lat.	1	..		
2	Aug. 17, '89	N.Y. Med. Jour., Dec. 20, 1890.	Russell.	Stenosis small intestine.	Jejuno-ileostomy.	" "	"	1	..		
3	Oct. 9, '89	Jour. Am. Med. As., June 14, 1889.	Senn.	Carcinoma cæcum.	Ileo-colostomy.	" "	"	1	..		
4	Nov. 14, '89	Jour. Am. Med. As., June 14, 1890.	"	Carcinoma ileo-cæcal valve.	" "	" "	"	..	1	6 days Peritonitis.	
5	Dec. 27, '90	Boston M. & S. Jour., Nov. 5, 1891.	Homans.	Obstruction, invagination.	Entero - enterostomy.	" "	"	1	..		
6	July 18, '91	Northw. Lancet, May 15, 1893.	Graff.	Strangulated femoral hernia.	Entero - enterostomy.	" "	"	1	..		
7	Aug. 7, '91	Brit. Med. Jour., April 22, 1893.	Morison.	Malignant stricture ileo-cæcal valve.	Ileo-colostomy.	" "	"	1	..	.....	Death 10 weeks later. Bronchitis.
8	" 24, '91	Lancet, April 16, 1892.	Littlewood.	Carcinoma, hepatic flexure, colon.	Ileo sigmoidostomy	" "	"	1	..		
9	" 26, '91	Northw. Lancet, May 15, 1893.	Graff.	Strangulated femoral hernia.	Entero- enterostomy.	" "	"	..	..	.....	Necrotic belt fastened in lumen of bowel.
10	Sept. 14, '91	Northw. Lancet, May 15, 1893.	"	Strangulated femoral hernia.	Entero - enterostomy.	" "	"	..	1	4 days Faulty operation.	
11	Nov. 26, '91	Lancet, May 7, 1892.	Atkinson.	Acute intestinal obstruction.	Entero-colostomy.	" "	"	1	..	.....	Short circuit.
12	Feb. 21, '92	Brit. Med. Jour., April 30, 1892.	Wright.	Closure artificial anus, hernia.	Entero - enterostomy.	" "	"	1	..		
13		Brit. Med. Jour., April 30, 1892.	Barling.			" "	"	..	1	6 ds. Gangrene.	
14	Jan. 24, '93	Lancet, Mar. 25, 1893.	Lowson.	Malignant disease ascending colon.	Ileo-colostomy.	" "	"	1	..		
1		'92 Brit. Med. Jour., April 1, 1893.	Robson.	Closure artificial anus.	Ileo-colostomy.	Robson's bone bobbin.	"	1	..		
2		'92 Ann. Surg., Feb., 1893.	Currier.	Injury ileum during ovariotomy.	Ileo-ileostomy.	Potato-plates.	"	..	1	Few hours. Shock.	
3		'93 Unpublished.	Martin.	Stricture intestine.	Ileo-colostomy.	Robinson, segmented rubber plates.	"	..	1	10 hrs. Peritonitis.	
1	Dec. 8, '92	Report of Cases.	Walker.	Strangulated hernia.	Resection intestine, 4 in.	Murphy button	End.	1	..	.....	First end-to end approximation by button. Oct. 21, 1893, patient in perfect health.
2	Jan. 30, '93	Ann. Surg., June, 1893.	Keen.	Carcinoma. hepatic flexure, colon.	Ileo-colostomy.	" "	E. S.	1	..	.....	Death 47 ds. later. Ulcer ascending colon.
3	Mar. 25, '93	Med. & Surg. Report., Sept. 9, 1893.	Sullon.	Closure artificial anus without resection.	Lateral anastomosis.	" "	Lat.	1	..	.....	August 20, excellent health.
4	April 3, '93	Unpublished.	E. Wyllys Andrews.	Femoral hernia, gangrene.	Resection intestine, 18 in.	" "	End.	1	..	.....	November 21, excellent health.
5	June 5, '93	"	Murphy.	Intestinal strangulation, band from dermoid.	Resection intestine, 2 in.	" "	"	1	..	.....	Time for approximation, 5½ minutes.
6	July 8, '93	"	Bacon.	Stricture rectum.	Bacon's operation on rectum.	" "	Lat.	1	..	.....	Nov. 25, good calibre. Neither pain nor discharge. Rectum soft and pliable.
7	" 10, '93	"	Murphy.	Umbilical hernia, gangrene, peritonitis.	Resection intestine, 5 in.	" "	End.	..	1	48 hrs. Continued peritonitis	Perfect approximation. Time, 7 minutes.
8	" '93	"	McCall.	Fæcal fistula, gangrene.	Lateral anastomosis.	" "	Lat.	1	..		
9	Sept. 10, '93	"	Murphy.	Fæcal fistula.	Lateral anastomosis without resection.	" "	Lat.	1	..	.....	Time, 6 min. Oct. 24, well: fistula closed.
10	" 23, '93	"	"	" "	Lateral anastomosis without resection.	" "	"	1	..	.....	Time, 7 minutes.
11	Oct. 17, '95	"	Ruth.	Tumor cæcum.	Resection cæcum and colon, 2 in.	" "	End.	1	..	.....	Obstruction 6 mos.; child 6 yrs. Nov. 15, excellent health.
12	" '93	"	Marcy.	Cancer rectum.	Kraske resection rectum, 4 in.	" "	"	1	..	.....	Discharged 20th day.
13	Nov. 12, '93	"	Bouffleur.	Femoral hernia, 5 days' obstruction.	Resection intestine, 4 in.	" "	"	1	..	.....	Time, 4½ minutes.
14	" 16, '93	"	Cordier.	Ileus, cicatricial band.	Entero - enterostomy.	" "	Lat.	1	..		
15	'93	"	Rogers.	Inguinal hernia, gangrene.	Resection intestine, 10 in.	" "	End.	1	..	.....	Button passed 7th day.
16	Jan. 14, '93	"	Murphy.	Annular stricture rectum.	Application of button.	" "	"	1	..		
17	Dec. 11, '93	"	Ferguson.	Cancer cæcum.	Resection of cæcum.	" "	"	1	..	.....	Report 8 days after operation.
18	Sept., '93	"	Beck.	Carcinoma stomach pylorus.	Maydl's operation with lateral approximation.	" "	E. S.	1	..		
19	Dec. 12, '93	"	Murphy.	Fæcal fistula.		" "	S. S.	1	..	.....	Button passed 9th day through fistula.
20	Jan. 15, '94	"	Ferguson.	" "	Resection end of ileum, side of colon.	" "	E. S.	1	..	.....	Button passed 16th day through fistula.
21	Feb. 3, '94	"	Jos. Price.	Adherent to malignant cyst.	Enterectomy, 6 in.	" "	E. E.	1	..	.....	Button passed 9th day through fistula.
1	Mar. 22, '89	Med. News, June 1, 1889.	Abbe.	Closure fæcal fistula.	Enterectomy.	Abbe — catgut rings.	Lat.	1	..		
2	Dec. 22, '89	Med. Record, April 2, 1893.	"	Malignant stenosis ileum.	Ileo-ileostomy.	Abbe — catgut rings.	"	..	1	6 hrs. Exhaustion.	
3	Sept. 11, '90	N.Y. Med. Jour., Dec. 20, 1890.	Richmond.	Closure artificial anus.	Ileo-colostomy.	Abbe — catgut rings.	"	..	1	40 hrs. Shock, peritonitis.	
4		'90 N.Y. Med. Jour., April 19, 1890.	Maniley.	Strangulated hernia.	Entero - enterostomy.	Abbe — catgut rings.	"	..	1		
5	July 16, '89	N.Y. Med. Jour., Sept. 14, 1889.	Davis.	Intestinal obstruction.	Ileo-colostomy.	Davis—catgut mats.	"	..	1	14 hrs. Exhaustion.	
6	June 11, '91	Guy's Hosp. Reports, 1891.	Davies-Colley.	Closure artificial anus, hernia.	Ileo-colic implantation.	Rubber rings and sutures.	E. S.	1	..	.....	Also resection of prolapsed bowel.
7	Nov. 30, '91	Maryland Med. Jour., July 2, 1892.	Ashton.	Malignant stricture ileum.	Ileo-ileostomy.	Ashton — rubber rings.	End.	1	..		
8		'92 Lancet, Sept. 24, 1892.	Milton.	Closure artificial anus.	Enterorrhaphy.	Milton — gelatine tube.	"	1	..		
9		'92 Brit. Med. Jour., May 21, 1892.	Paul.	Strangulated hernia.	Enterectomy.	Paul — bone tube.	"	1	..		

the peritoneal cavity! What physician would allow a strangulated hernia to go unrelieved one night? On the other hand, what is the practice of physicians in cases of internal strangulation? They allow not only one night, but two, three, four days and nights to elapse—yes, even to the stage of collapse—before the strangulated bowel is relieved. Only a few days ago I was called to operate in a case of recognized intestinal obstruction of six days' standing; there was not the slightest sign of pulse; the patient's extremities were cold to the trunk; every other respiration was that prolonged heavy sigh that we find in these cases preceding dissolution. It is needless to say no operation was performed.

This is what is called conservatism; *criminal procrastination* is a more proper term. Can we expect, under such circumstances, good results from any method of operation? Do statistics offer sufficient inducements under the treatment by opiates, stomach and bowel irrigations, etc., to justify us in waiting, depending upon a favorable accident to rescue the patient? No. *Expectant treatment in abdominal lesions is only justifiable when the diagnosis of intestinal obstruction is positively excluded.* The only rational outcome to expect from so-called conservative treatment of ileus is death, and in that expectation the physician will rarely be disappointed. The differential diagnosis of intestinal obstruction is not very difficult to make if the symptoms have not been masked by the use of opiates.

To assist in the diagnosis, I submit the following excellent synopsis from von Zoege Manteuffel:

1. Strangulation Ileus.

Pathological Changes.	Clinical Symptoms.
1. Localized meteorismus, dissolution of the strangulated coil.	1. (*a*) Asymmetry of the abdomen; (*b*) localized increased resistance.
2. Ischæmia, paralysis of the strangulated loop of intestine.	2. Complete inactivity of the abdominal wall over the strangulated coil; absence of peristalsis.

In this category are included: 1, Volvulus, agglutination, twisting of the intestine on the axis of its mesentery; 2, strangulation by bands and diverticula; 3, incarceration in pre-formed openings; 4, invagination.

2. Obturation Ileus.

Pathological Conditions.	Clinical Symptoms.
1. Meteorismus produced by accumulation above the obstruction.	1. Perceptible asymmetry, palpable resistance in obstruction of the large intestine, obstruction of the small intestine, diffuse tympanites.
2. (*a*) No pronounced disturbance of circulation. (*b*) Hypertrophy of the intestinal muscles above the obstruction in the chronic form, in the large intestine.	2. (*a*) Peristalsis to be observed or felt. (*b*) Greatly exaggerated peristalsis.

To this group belong: 1, Strictures; 2, twisting of the intestinal axis; 3, obstruction by neoplasms or foreign bodies; 4, compression by tumors from without.

(To be continued.)

The Climate of Southeastern Florida.—It is stated as a remarkable fact, in connection with the extension of the Jacksonville, St. Augustine & Indian River Railway southward to West Palm Beach, on Lake Worth, that, although most of the work was done in the period between April, 1893, and February, 1894—the long subtropical summer of more than six months' duration forming the greater portion of it—not a case of sunstroke or malaria occurred among the one thousand five hundred and more men employed daily during the progress of the work. Many of the laborers were unacclimated, being Italians imported from New York and Scandinavians from the West. The weather during the summer in this part of Florida is said to be pleasant and even exhilarating, the southeast trade-winds serving to moderate the heat to a great extent.

THE ACTION OF RATTLESNAKE VENOM UPON THE BACTERICIDAL POWER OF THE BLOOD SERUM.[1]

From the Pathological Laboratory of the Johns Hopkins University.

By CHARLES B. EWING, M.D.,

Medical Department, U. S. Army.

An apology would be necessary for introducing a subject of this character on the present occasion, if it were not that the loss of life from poisonous reptiles has become so great that it calls forth the best efforts of not only the military surgeon but medical men generally, to lessen it. The mortality in India alone reaches the alarming figure of twenty thousand persons annually, hence it was not a strange coincidence that it should have fallen to the lot of the British medical service, led by Dr., now Sir, Joseph Fayrer, to perform the pioneer work in that part of the globe.

While much has been written upon this subject in general, very little has been said or done in the special line to which this paper relates. At Professor Welch's suggestion we conducted a series of experiments in the pathological laboratory of the Johns Hopkins' University during the spring of 1893, having for their purpose the determination of the action of rattlesnake venom upon the bactericidal power of the blood.

Dr. Welch's attention was directed to the investigation of this subject by Dr. Weir Mitchell. Drs. Mitchell and Reichert demonstrated that the poisonous properties of rattlesnake venom depend upon the presence of proteid substances. These investigators were the first to demonstrate the existence of the so called toxic albumins. In their monograph on the subject as well as from previous observations, it was apparent that the animals killed by rattlesnake venom decomposed with great rapidity, indeed, with such rapidity that Dr. Formad, who contributed an appendix upon the pathological anatomy of animals dead of rattlesnake venom, believed that there was evidence of the spontaneous generation of bacteria.

Dr. Formad thought it impossible for the bacteria to make their way into the circulation and multiply so quickly. This seemed so improbable to Professor Welch that he suggested to Dr. Weir Mitchell the importance of having this point worked up. Dr. Mitchell kindly gave us a certain amount of poison. We were, however, fortunate enough to obtain a live rattlesnake of the diamond species, known as the Crotalus Adamanteus, from which the fresh venom was obtained and used in preference to the dried poison supplied us

It will not be out of place to recall briefly that the order Ophidia, of the sub-class Reptilia, is divided into three subdivisions: 1. The Ophidii Colubriformes, or innocuous snakes. 2. The Ophidii Colubriformes Venenosi, or poisonous Colubrine snakes. 3. The Ophidii Viperformes, or Viperine snakes, poisonous.

To the last subdivision, viperine snakes, belong the Crotilidæ or rattlesnakes, called by Fayrer "Pit-vipers," being distinguished from the Viperidæ or vipers proper, by possessing a pit or depression between the eye and the nostril in the loreal region; a triangular broad head, and thick body of variable length.

The Crotalus is distributed widely over the globe and all are terrestrial except in India, where quite a number of genera are arboreal; all, however, lack all semblance of the horny scales or rings at the tip of the tail, known as the "rattle," except the species called Halys, where the tail terminates in merely a rudimentary horny spine.

It is of interest to note that the Indian Crotolidiæ are not so venomous as their American congeners, though Asia has a very deadly species known as the Calloselasma Rhodostoma resident in Java and Siam; while South America is represented by the well-known Jararacca or Craspedocephalus Braziliensis. Australia and Africa

[1] Read before the Association of Military Surgeons, Washington, May 2, 1894.

likewise contain ophidians of this class, but they are little known.

The crotolidiæ of the United States are represented by ten species and three sub-species, all being equally poisonous, so far as we now know. Of these, the adamanteus has three sub species, one of them, the adamanteus proper found in this country, extending from North Carolina to Florida; a second, the Atrox, resident in the Indian Territory and Texas, also throughout that stretch of country extending to Sonora and Southern and Lower California; and a third called Scutulatus, known only to Arizona.

We had in view in the first place to test the question as to whether the blood of animals killed by rattlesnake-poison had lost any of its germicidal power.

We used Dr. Weir Mitchell's noose for securing the snake, and with a sterilized saucer thrust into the mouth of the animal, we collected the venom. In this way we had no difficulty in getting from 0.5 to 1 c.c. of nearly clear, slightly straw colored fluid, quite sufficient for our purposes. This was diluted with an equal quantity of sterilized physiological salt solution, and 0.25 to 0.5 of this mixture was inoculated subcutaneously, under antiseptic precautions, the dose varying according to the time we wished the animal to live. This was usually from one-half to one hour and a half, though in one or two cases, three hours after the injection.

The injections were in all cases given subcutaneously, sometimes beneath the skin of the abdomen and at other times in the groin. The lesions differed somewhat according to the site of injection; when made beneath the skin of the abdomen, there were most extensive peritoneal hemorrhages, whereas, when the injections were made in the thigh, these lesions were less extensive, although not absent; here the most striking effect noted, beside the deeply discolored integument surrounding the point of injection, were the underlying hemorrhages into the muscles.

The important lesions were briefly these: most extensive hemorrhage, with disintegration of tissue and actual necrosis of tissue for a wide distance around the point of inoculation, with ecchymoses in other parts of the body, particularly in the serous membranes. Another point which served our purpose admirably, is that the blood does not coagulate after death or coagulates only feebly and after a long interval. We therefore had no difficulty in collecting a sufficient amount of the fluid blood, and we did so by withdrawing the blood in less than a minute after the animal breathed its last. We exposed the heart at once, and with sterilized instruments made an incision in the right auricle and with a sterilized pipette we aspirated from the right heart, and then passing the pipette down into the abdominal vena cave, we secured sometimes as much as seven or eight c.c. of blood. This blood was collected in a sterilized test-tube and put in the refrigerator. After twenty-four hours, the red blood corpuscles had settled, sometimes a small, soft, dark coagulum had formed, and there was a layer of clear serum.

The usual statement is that the blood does not coagulate. It looks as if it did not coagulate, and as though there was merely a sedimentation. But there is in fact an extremely thin clot, which does not retract from the sides of the test-tube. It is an extremely viscid, sticky coagulum, which adheres to the platinum needle inserted into it. We pipetted off the clear serum after twenty-four hours, usually collecting 0.5 to 1.5 c.c. The organisms which were used to test the germicidal powers of the serum, were the bacillus coli communis and the bacillus anthracis. Professor Welch selected the bacillus coli communis because that is an organism which is normally present in the intestine and also one with which he had experimented upon with normal serum. He took the bacillus anthracis because that is a classic organism in regard to the action of serum. The results were uniform and striking. As a rule, we made a control experiment with normal serum; thus we killed a healthy rabbit and withdrew the serum in the same way, collected the same quantity and inoculated, at the same time, as a parallel control, tubes with the bacteria to be tested. The cultures were twenty-four to forty eight-hour cultures. Our bacillus anthracis was obtained in suspension from the spleen of an animal recently dead of anthrax. We wished to obtain the anthrax bacillus free from spores, and thought it better to take it fresh from the animal. Similar results were obtained also with twenty-four-hour anthrax cultures grown at room temperature. We made a suspension in salt solution of the organisms and inoculated a known quantity, one to two platinum loops of the suspension into the serum tube. Then we made roll cultures.

The following tables, drawn up by Professor Welch, represent only a certain number of our experiments and are much abbreviated for the sake of clearness.

BACILLUS ANTHRACIS.

NORMAL SERUM.

No.	Number of Bacilli Inoculated.	After Twenty-four Hours.	After One Week.
1A	485	0	0
1B	8,512	0	0
1C	210	0	0
2A	5,292	0	0
2B	1,628	0	0

VENOM SERUM.

No.	Number of Bacilli Inoculated.	After Nineteen Hours.	After Twenty-four Hours.
1A	8,512	Countless	
1B	25		3,233
2	68		250,000
3	3,292	Countless	
4	3,292	Countless	
5	3,292	Countless	

BACILLUS COLI COMMUNIS.

NORMAL SERUM.

No.	Number of Bacilli Inoculated.	Immediately.	After Twenty-four Hours.	After Forty-eight Hours.	After One Week.
1A	250,000	256	157	Countless	Countless
1B	175,000	188	50	Countless	Countless
2A	29,161	53	0	0	0
2B	3,150	18	0	0	0
3	9,990	13	38	625	Countless
4	84,947	258	0	0	0

VENOM SERUM.

No.	Number of Bacilli Inoculated.	Immediately.	After Twenty-two Hours.
1	800,000	1,077	Countless
2	3,150	6	26.000
3	16,560	32	Countless
4	9,990	35	Countless
5	84,947	284	Countless
6	84,947	231	Countless
7	84,947	182	Countless

With the bacillus coli communis, it will be observed that, in the case of normal serum, we inoculated 250,000 bacteria. Immediately afterward, there were 256 colonies. After twenty-four hours only 157 colonies. In other words, there was not only no development, but an actual diminution in the number of bacteria. If the organisms are not all killed at the end of twenty four hours, the germicidal power ceases and those which remain multiply. After forty-eight hours the colonies were countless. In the second experiment we inoculated 175,000 bacteria, which represented 188 colonies immediately. After twenty-four hours, there are only 30 colonies, and in forty-eight hours, they were countless. Taking a smaller number of bacteria, 29,161, there were immediately 55 colonies, after twenty-four hours, none, after forty-eight hours none,

after one week none. In other words, in twenty-four hours the normal serum had destroyed 29,000 bacteria.

These experiments were uniform in results, and point to one conclusion, that the blood of rabbits killed in one-half to three hours after subcutaneous inoculation with rattlesnake venom, has lost its germicidal power. This is of considerable interest, for it is an indication of a very profound alteration in the blood. This germicidal power of the blood is one of very great significance, on which many of the modern theories of immunity depend.

It is of special interest to ascertain under what conditions the germicidal properties of the normal blood-serum are at their highest and in what way these properties affect the composition of the blood.

The principal workers in this field have been Von Fodor, Nuttal, Wassermann, Kitasato, Buchner, Ogata, Hankin, and others. Von Fodor's work had reference to the composition of the blood and was intended to show that arterial has a more destructive action on bacteria than venous blood, and also that fresh blood has a more destructive action than that which has been standing for some time. It was also found that the germicidal power of the blood was weakened in an atmosphere of oxygen or carbonic-acid gas, but the removal of gases from the blood had no appreciable effect.

A series of experiments showing the effect of moving and stationary blood upon bacteria by means of small globes containing blood, some of which were kept in constant motion and others quite stationary, resulted in no appreciable difference being observed.

Temperature affected very materially the bactericidal power of the blood, which increased with the rise of temperature from 38° to 40° C., and then gradually diminished with the fall.

Von Fodor is of the opinion that the individual predisposition of an animal to an infectious disease stands in close relationship with the germicidal power of the blood. A second series related to the influence of drugs on the power of blood to destroy germs.

Hydrochloric acid had no effect; tartaric acid and quinine respectively, produced a marked decrease. A slight increase was produced by common salt and carbonate of ammonium, but a more marked effect by the phosphate of sodium, while the carbonate of potassium and sodium showed a very remarkable increase. From these experiments the deduction was made that the bactericidal power of the organism was raised by any drug which increased the alkalinity of the blood. The third series verified the conclusions regarding the alkalization of the blood. Of eight rabbits inoculated with anthrax all died, while of nineteen which had been previously injected with solution of soda, only three died. A majority of the sixteen remaining were perfectly free from disease, only a few being fatally affected.

Up to this time, however, the doctrine of phagocytosis as advanced by Metchniknoff held sway, when Nuttall struck the first severe blow to this theory. He, in his most excellent inaugural dissertation at Göttingen in 1890, showed that the destruction of virulent bacteria in the blood of animals by the leucocytes, was not at all essential, but that the serum of blood free from all cellular elements possessed this power to a degree equal to the blood in its entirety.

Nuttall's work is graphically shown in some twenty-eight tables in his "Beiträge zur Kenntniss der Immunität." He here proves very conclusively, that in the blood bacteria presented marked evidences of degeneration before being taken up by the wandering cells, or leucocytes. It was also seen that the bactericidal power of the blood of different animals varied and that while in some certain bacteria were promptly killed, in others these were simply restrained for a time or not affected.

Buchner, Lubarsch, Nissen, Stern, and Prudden have practically verified these observations. Buchner particularly, in his experiments upon dogs and rabbits verified the findings of Nuttall, but went even further and proved that the bactericidal power of the blood in these animals did not at all depend upon the cellular elements, but resided in the clear serum which separated from the clot, after the blood had stood a while in a cool place. He also demonstrated that the germicidal action of blood and serum were destroyed by exposure for an hour to 55° C., or by heating to 52° C., for six hours or to 45.6° C. for twenty hours.

Alternate freezing and thawing did not destroy the bactericidal power of serum, but it was diminished or completely checked by dialysis with distilled water, or by extreme dilution with the same. He preserved the antibacterial action of the serum by making an equal dilution with a .6 to .7 per cent. of sodium-chloride solution and was led to believe that the activity of the serum was greater alone than when the cellular elements of the blood were present, hence he concluded that the active element is a living albumin, having as an essential constituent an alkaline base. This albuminoid substance is thought by Hankin to be identical with his "globulin," isolated from the spleen and lymphatic glands.

According to the views of these experimenters the germicidal power of the blood resides in the serum alone, and phagocytosis is but a secondary process, the leucocytes taking up the bacteria only after they have been rendered inert by the germicidal power of the serum of the blood, and certain other fluids of the body. For our purpose, however, it is not necessary to insist upon the humoral as opposed to the phagocytic doctrine of immunity. All that concerns us is the recognition of the bactericidal power of the blood serum under certain conditions.

The loss of this normal germicidal power helps us to explain the varying rapidity with which post mortem decomposition sets in. It is well known that persons dead of different diseases decompose with varying degrees of rapidity. We cannot explain this differing rapidity of decomposition simply by variations in temperature, for under the same external conditions one body will be decomposed in comparatively few hours and another may remain undecomposed for several days. We selected the animals killed with rattlesnake venom because it is well known that they decompose with great rapidity. The bodies of human beings killed by snake venom are also said to decompose with great rapidity.

The results of our experiments furnish a satisfactory explanation of this phenomenon. The blood at the time of death and even before death, has lost all or nearly all power of resisting the invasion and multiplication of certain bacteria, so that the bacteria of putrefaction, which are normally present in the intestine, develop with astonishing rapidity and even before the animal is cold, produce this wonderfully rapid decomposition. Our experiments are also suggestive as regards certain secondary and mixed infections. The toxic proteids of snake venom belong to the same class of poisons as those formed by toxic bacteria, such as the bacillus of tetanus, of diphtheria, etc.

It is easy to suppose that these infectious diseases may cause a diminution of the germicidal power of the blood against secondary invaders, of which common examples are the pyogenic bacteria present often in our mouths and intestinal canals, and which in an individual whose resistance is lowered by a loss of the germicidal power of the blood, may grow and multiply. In other words, we can understand better the causation of many of these secondary infections.

The Paris Water Supply.—One of the main aqueducts of Paris has been closed for repair of a leak, and the city is now mainly dependent upon the Seine for its water supply.

Cremation in France.—The average number of cremations in France for the first three months of 1894 was ten a day, an increase of about twenty per cent. as compared with the same period of last year.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street

New York, May 26, 1894.

INVESTIGATION OF THE CITY INSANE ASYLUMS.

THE Female Department of the New York City Asylum for the Insane has recently been made the object of a newspaper attack, and in consequence the State Commission in Lunacy has been asked by the Mayor to investigate that institution. May 28th has, we believe, been fixed for beginning the investigation. The charges made against the institution appear to be, when exhumed from the distressing intricacies of unnumbered columns of irrelevancy, first, that the female patients have been unwisely removed from bad quarters on Blackwell's Island to worse ones on Ward's Island; and secondly, that they are improperly housed, clothed, fed, and treated in their present quarters.

The wisdom of the transfer from Blackwell's to Ward's Island is of course a matter of opinion, but there are certain matters of fact in connection with the newspaper account of the transfer that deserve notice as showing the animus of the newspaper criticism. It is said that the buildings now occupied by the female insane on Ward's Island were declared worthless after being vacated by the Immigration Board some years ago, and that they have steadily deteriorated since then, and are now occupied without being in any way repaired. In point of fact, all but one of the buildings now occupied by the female insane were fitted up for the male insane soon after the city acquired the emigration property, and have been continuously occupied by the male patients until vacated to make room for the females. The exception is the Verplank Hospital, a building which is said to have cost the State $800,000. This building has, it is true, stood vacant since the emigration patients left, but far from being "unrepaired," it was for some months in the hands of the contractors, who plumbed it throughout, put in wires for the electric lights, provided it with fire-escapes, and made such general repairs as were necessary to put it in excellent condition for occupancy. It is to day one of the most substantial buildings in the department. Whether it is adapted to the care of the insane (having been originally intended for general hospital purposes) is another matter, but we can testify from personal inspection that it is in no sense a "loathsome, rotten structure." The condemned buildings, which are said to be "occupied unchanged," were in reality burned or torn down about two years ago, preparatory to the construction of the new buildings, which are now practically completed, but not yet quite ready for occupancy. The débris resulting from the destruction of some old buildings and the repair of others, and the building of new ones, some of it still subject to the orders of contractors and so unremoved, constitutes the "ruins" the sight of which so grieved the sensitive soul of the newspaper writer. Indeed, most that is said about the disorder without or within the institution may be easily attributed to the measure of confusion necessarily incident to the transfer of an institution numbering more than two thousand inmates from long-established to new quarters, a transfer which, it may be added, is still incomplete. These details, not in themselves essentials, are worth stating as evidencing the animus and spirit of the newspaper attack. Such inaccuracies about matters easily ascertained suggest either carelessness or worse in the investigation which has led to the exposé, and must seriously invalidate testimony from the same source in all its bearings.

Leaving aside such temporary shortcomings as are necessarily incident to the removal, we do not care at the present to comment at length upon the internal administration of the asylum, inasmuch as an official investigation has been ordered. It is our opinion and expectation, however, based upon a thorough knowledge of the institution as conducted at its former site, and upon several recent visits of inspection made by a member of our staff (both before and since the exposé) to Ward's Island, that the investigation will result in a complete vindication of the Superintendent and General Superintendent of the institution. Holding this view, and knowing that the newspaper tirade will continue until the investigation is over, we cannot but regret the tardiness of the State Commissioners in Lunacy in beginning the investigation, which we feel sure will relieve the management of the asylum from the fire of unjust censure.

While we thus believe that such matters as lie within the control of the asylum superintendent have been efficiently conducted, we are equally convinced that there are many matters beyond his control regarding which reforms are radically needed. We have long known and have often said that the insane wards of the city are inadequately provided for, as to shelter, food, clothing, and attendance. But we have also known that the city provides only $2.80 per week at the very most for the maintenance of each of these insane wards, whereas the maintenance of our State asylums has often required four, five, or even six dollars per week for each inmate. The real question to be investigated, therefore, is not whether the authorities of the city asylums care for their patients on the scale of the State asylums, but whether they care for them to the full extent of the purchasing power of the money at their command. If it can be shown that the $2.80 appropriated for the weekly care of each patient is wisely and economically expended for the purpose intended, then the asylum superintendents and the Commissioners of Charities and Correction must be exonerated from all responsibility for deficiencies of lodging, food, clothing, or attendance supplied their charges; for it is matter of common knowledge that these authorities have constantly solicted from the Board of Apportionment more money for the insane, and that a deaf ear has been turned to their appeals. To the Board of Apportionment, then, the investigation should turn, to inquire why appropriation for a rich city's most depend-

ent wards is restricted to such niggardly limits. When that question is answered we shall have gotten a step on the road to reform. Wherever else dereliction of duty may or may not be found, it will be difficult to justify the action of the Board which imposes such ungenerous restrictions upon the most pitiable class of dependants that any community is called upon to care for.

It has been repeatedly said that the people of New York stand ready to provide liberally for the insane. More than this is true. The people of New York—that is, the tax-payers—*do* provide liberally for them; but each year half a million dollars of the sum they are assessed for that purpose must, according to the existing law, be diverted into the State treasury for the care of the insane in the State hospitals, and for this sum the city receives no return whatever except the privilege of caring for its own insane independently, caring for them about half as well as the State insane are cared for. The people manifestly have a right to inquire why their money is thus diverted from wards that so sadly need it. Why should the city care for its own insane and then pay, in addition, the cost of maintenance of forty per cent. of all the insane in the State outside the city? Would it not be better to enter the State system, when by so doing we could have our insane cared for about twice as well as at present without additional cost? The State system is by no means perfect, it is true, but there is reason to hope that the searching criticism it has been subjected to the past winter will result in greatly improving it, and even as it stands it must be conceded to be far better than our city system. The law provides that the city may enter the State system whenever the city authorities so desire. Who stands in the way of this transfer? If the coming investigation of the Ward's Island Asylum leads to the explicit answering of this question, it will clear the way for reforms in our method of caring for the insane that will be appreciated not more by the unfortunates themselves than by the much maligned authorities who are directly responsible for their custody.

MARRIAGE AND VENEREAL DISEASE.

THE medical profession is quite familiar with the discussions that have appeared relative to the infectiousness of old cases of gonorrhœa and of the injury done to innocent wives by marriage with such sufferers. The view at the present day is, we believe, that these uncured gonorrhœas are the cause of many cases of chronic pelvic troubles, endometritis, salpingitis, etc. Instances in which men who have had syphilis have communicated the disease to their wives and children are painfully familiar in every physician's practice.

These very unpleasant but extremely important facts have been utilized lately by a lady novelist in a book which has had extreme popularity in this country and England. "The Heavenly Twins" preaches and teaches mainly this doctrine, that men of the world who have led worldly lives are extremely liable to have been infected with a venereal disease at some time in their premarital career. Hence, young girls ought not to marry them. Furthermore, young ladies should be made acquainted with the habits and the code of morals of the young men of the day, and should not allow themselves to be surprised into falling in love with characters who are dangerous physically even if they are reformed morally. No amount of mutual love, she argues, will last if the husband proves to be specifically infected, or if the wife develops the ailments associated with chronic disease of the uterus and appendages. The sterility of the male as a result of venereal infection, and the consequent inability to gratify the maternal instinct, is an argument upon which the limitations of polite fiction probably made it impossible to dilate.

We do not know that anything can be said against the case so eloquently and ingeniously presented by Sarah Grand. Critics have said that it was in bad taste, and perhaps physicians would say that the argument appeals only to a certain not very large class of society. Syphilis is common enough among the poor, but the tragic marital consequences are perhaps most seen among the richer classes.

FORWARD.

A WRITER in *The Woman's Medical Journal* who signs herself from Louisville, Ky., gives some very extraordinary advice under the head "Forward." She says:

"The physician to-day must be on the alert for patients. Hospitals, asylums, and infirmaries and drug stores are strongly competing for patients. In them from ten thousand to fifteen thousand young physicians are being graduated, to enter new and inviting fields of labor. All these facts emphasize the argument that unless a man is peculiarly fitted for the profession he had better seek other business. If a physician fails to make a living, it is a bad failure. Business men don't want doctors, and it is hardly the thing to undertake manual labor. The doctor in active practice must have *push and audacity*. He must anticipate—*anticipate*, and carry his ammunition with him. In a crowded church he should be prepared with restoratives for a sudden case of asphyxia. The same in a theatre and other crowded places. The quick, kind, and affectionate doctor is the successful one. He must be a man of resources, and able to make medicines and tools out of nothing. He must do business economically, get his pay commercially, or his work will turn out charity. Diagnose your case quickly and then apply its remedy. Keep your own medicines."

There is a "breeziness" and "go" about this that is refreshing to the point of taking one's breath away. It must have been quite such a type of doctor who went to the theatre in this city a few months ago. It was a somewhat mixed performance, and after one of the acts the curtain was rung up and the leading comedian came to the front of the stage. He looked very anxious and worried, and in a distressed voice asked if there was a physician in the audience. Immediately up jumped one of the Louisville lady's models and said, "I am a physician." "All right," said the comedian, "don't go away till I get through with this song." The too alert practitioner sat down.

The writer in the *Woman's Medical Journal* is no doubt correct in saying that physicians must be always ready. But she neglects the important thing; he must be well prepared, in the first place; he must diagnose his case not quickly, but carefully and skilfully; he must show, not that he is alert to push himself into every place,

but that he understands his calling, its exacting requirements, and its arduous responsibilities.

We have noticed before this that women physicians were too ready to attach themselves to the numerous fads and dogmas which run so closely to charlatanry. And *The Woman's Medical Journal* does its sex no credit in publishing such pernicious rubbish as that which we have quoted.

News of the Week.

Medical Association of the State of Alabama — In a recent issue it was stated that the annual meeting of this Society was held in Mobile on April 16 and 19, 1894. The notice should have read—the *next* annual meeting *will be* held in Mobile, April 16 to 19, 1895.

The Accouchement of the Duchess of York is looked for some time in June.

A Police Surgeon Makes a Man Grow.—The following extract from the proceedings of the Police Investigation does not reflect credit on the medical part of our police system. Mr. Goff, counsel for the investigation committee had the following colloquy with a witness:

Q. Was Joe Cohen appointed? A. Yes.

Q. Did it cost him anything? A. Yes, $205.

Q. To whom was the money paid? A. The doctor who examined him got $30.

Q. What became of the rest? A. It went to Police Headquarters. . . .

Laughter was caused by the next few questions, put with quizzical significance by Mr. Goff. He asked if Cohen was undersized, and the witness replied that he was.

"Before the surgical examination?"

"Yes, he was half an inch too short."

"But by the time he had gone through the surgical examination he had grown half an inch?"

"Yes."

Not Consistent.—The *Medical News* has been a most aggressive and eloquent opponent of institutional medicine. But now it says: "The time has arrived when the State of Pennsylvania must make similar provision for her large contingent of epileptics. The Legislature can no longer fail to heed the appeals from County Medical Societies and the State Medical Society for the establishment of one or more epileptic colonies."

The Gouverneur Hospital.—The sum of $200,000 has been appropriated for the construction of additional buildings.

Niagara University.—The annual Commencement of the Medical Department was held on the 9th inst. The degree of M D. was conferred on fourteen candidates. The valedictory address was delivered by Harlow C. Curtiss, M.A., Professor of Medical Jurisprudence.

Theodor Billroth's Successor.—To bend the bow of Ulysses is proverbially a difficult undertaking, and to succeed a Billroth in the chair he adorned is an object of ambition to which few indeed legitimately aspire. Still, the duties of that chair have to be discharged, and the Vienna school has just taken the primary steps to fill it. At a meeting of its medical faculty three candidates were nominated for the post: *Primo loco*, Vincenz Czerny, Professor of Surgery in the University of Heidelberg; *secundo loco*, Karl Gussenbauer, Professor of Surgical Pathology and Therapeutics in the University of Prague; and *tertio loco*, Johann Mikulicz, Professor of Surgery in the University of Breslau. There is, we believe, little doubt that the first-named surgeon will be appointed.—*The Lancet.*

Medical Society of New Jersey.—The next annual meeting of the Medical Society of New Jersey will be held on the fourth Tuesday in June, 1894, at Lake Hopatcong.

The Annual Meeting of the American Medical Publishers' Association will be held at White Sulphur Springs, West Va., Friday and Saturday, August 3 and 4, 1894.

Professor W. W. Keen, of Jefferson Medical College, Philadelphia, has been appointed, by President Cleveland, as a member of the Board of Visitors at West Point Military Academy.

Mrs. Humphrey Ward, the novelist, has writer's cramp.

Dr. Elijah S. Elder, of Indianapolis, died May 18th. He was president of the Indiana Medical Society, and was fifty-three years old.

Connecticut has a New Law regulating capital punishment, which requires the execution of the death penalty privately within the State prison, before sunrise. It still employs the ancient, inexpensive, and very certain method of hanging.

The First Meeting of the Pennsylvania State Medical Examining Board will be held June 11th, after the Commencement of the Medical Department of the University of Pennsylvania, which takes place June 7th.

The Medical Department of the Columbian University, Washington, D.C., held its annual Commencement April 24th. There were twenty-seven graduates.

To do Justice.—Dr. Seth Scott Bishop, M.D., of Chicago, writes: "Will you kindly do me the justice to publish my reply to your paragraph concerning me on page 596 of the RECORD for May 12th?

"My prize essay on hay fever for 1893 was written without any knowledge of Dr. Tyrrel's work. If I had known that he had written on the subject I should have gladly availed myself of any valuable facts brought to light, and should have given him full credit, as I did with the thirty-eight other authors quoted. Indeed, I stated that 'I had taken pains to give each investigator ample credit by liberal quotations.' After writing the essay I learned that Leflaive had preceded me in this line of study by at least four years, and gave him due credit, so that, happily, there is no occasion for any dispute between us concerning priority. We are both antedated. We have arrived at the same results through independent investigations, as often happens, and I do not want, and have not received, any credit to which I am not fairly entitled."

State Board of Medical Examiners of New Jersey.—A special meeting of this Board for the examination of candidates desiring to practise medicine in this State will be held in the Capitol, at Trenton, on the third Tuesday in June (the 19th), and it will be the last meet-

ing for the examination of candidates held under our present medical law, as the new law enacted at the recent session of the legislature goes into effect July 4, 1894. This new law requires all candidates to have a competent common school education, to be graduates in medicine and surgery which they shall have studied at least four years, and upon which they shall have taken three full courses of lectures, before they can be admitted to the examination for a license, and then all will be subjected to the same examination; it also empowers the Board to accept, in lieu of an examination, the certificates of other State Examining and Licensing Boards having similar requirements.

Dr. J. B. Murphy.—The Chicago Academy of Medicine tendered a banquet at the Union League Club, Friday evening, May 18th, in honor of Dr. J. B. Murphy, on the occasion of his return from Europe.

Jefferson College held its Commencement exercises May 9th, and graduated a class of one hundred and sixty-three. The trustees conferred the degree of LL.D. upon Professor William Goodell, M.D.

The Medico Chirurgical College graduated the largest class in its history on the 11th inst., forty-four students receiving their medical degrees.

New Women Physicians.—Fifty women have received the degree of Doctor of Medicine at the Commencement of the Women's Medical College of Pennsylvania.

A Pension Fund for Employees of the Health Department.—The Governor has signed the Lawson Bill, establishing a pension fund for the physicians, nurses, clerks, and other employees of the Health Department who have served a term of twenty years, and also for the families of employees dying in the discharge of duty. The fund from which the pensions will be paid is to be made up of the fines and penalties collected for violations of the city health laws, and of the fees paid for searches of the records.

One Hundred and Five Years of Age.—According to the *Journal of the American Medical Association*, Mrs. Hannah Chard, of Glassboro', N.J., was one hundred and five years of age on April 20th, having been born at Brandywine in 1789. She is still able to go out, and has one hundred and eighty grandchildren and great-grandchildren.

Columbia Medical College.—The Commencement exercises of the Columbia Medical College, followed by the Faculty dinner, took place May 3d. General prize of $50 awarded to Gottlieb Werhle; clinical medicine to W. S. Washburn; clinical surgery, Miss C. Kiefe.

Decision Against Compulsory Vaccination.—A short time ago we referred to the case of two Brooklyn expressmen who were practically imprisoned because they refused to be vaccinated. They were released on a writ of habeas corpus. Justice Gaynor subsequently rendered a decision adverse to the Board of Health. His decision is important, and we quote it in part. He says: "If the Commissioner had the power to imprison an individual for refusing to submit to vaccination, I see no reason why he could not also imprison one for refusing to swallow some dose. But the Legislature has conferred no such power upon him, if, indeed, it has the power to do the like. Chapter 661 of the Laws of 1893 (Section 24), empowers all health boards to 'require the isolation of all persons and things infected with or exposed' to contagious or infectious diseases. There is no claim that the petitioners are infected, or have been actually exposed to infection. But even if they were subjects for isolation by reason of infection or exposure thereto, they could only be detained while such, and not indefinitely until they yielded their bodies to vaccination. The same act directs health boards to provide vaccine virus, 'and at all times provide thorough and safe vaccination for all persons in need of the same.' This falls far short of authorizing the imprisonment of those who refuse to be vaccinated. . . . If the Legislature desired to make vaccination compulsory it would have so enacted.

"My attention is also called to Section 5 of Title 12 of the Charter of Brooklyn, which is that in the presence of great and imminent peril of the public health, it shall be the duty of the Commissioner of Health 'to take such measures, and do and cause to be done such acts, and make such expenditures beyond those duly estimated for and provided, for the preservation of the public health from such impending pestilence, as he may in good faith declare the public safety and health to demand, and the Mayor of said city and the President of the Medical Society of Kings County shall also in writing approve.

"This does not mean that the Commissioner may take unlawful measures or do unlawful acts. It must be interpreted in the light of the Constitution and settled legal principles and safeguards. It does not confer on the Commissioner the right to imprison any more than to take life.

"I need not discuss here the right to isolate or quarantine in times of pestilence. That right grows out of the overwhelming necessity of the case and has its limitations. It is not being exercised here, for the petitioners are not being held in isolation as subjects of danger to the community, to be released when their bodies are no longer sources of infection, but they are being forcibly confined because they refuse to submit to vaccination and until they do submit thereto. The petitioners are discharged."—*The Brooklyn Anti-compulsory Vaccination League.*

Licenses must be Recorded in Alabama.—The Supreme Court of Alabama holds, in the case of Nicholson *v.* State, decided February 8, 1894, that the requirements of the Alabama Code, with regard to the recording of certificates, or "licenses," are mandatory and vital. It is provided that every certificate of qualification authorizing any person to practise medicine in that State, which shall be issued by any authorized board of medical examiners, shall be presented to the probate judge of the county in which such person resides, who shall officially indorse the same, seal it with the seal of the county, and cause it to be recorded in a book kept for the purpose. The very fact that no time is fixed to comply with these requirements, the court says, is a strong argument in support of the position that until they are complied with the so-called "license" is waste paper conferring no right perfect or inchoate.—*Journal of American Medical Association.*

Curious Bequest of a Physician.—The late Dr. G. S. Moore, of Glasgow, has bequeathed the sum of $225,000 to found a convalescent home for nurses.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, May 3, 1894.

D. B. St. John Roosa, M.D., President, in the Chair.

Electric Light Plant for the Academy.—The trustees recommended that a complete electric light plant be placed in the building, at an expense not to exceed $1,800. Before putting the motion to adopt this recommendation, the President stated that the expense of the plant would amount only to about that of lighting the building one year by electricity from the street. The motion was adopted.

Committee to Advise with the Constitutional Convention.—The council recommended that it be given power to appoint a committee of three to advise with the approaching constitutional convention regarding medical matters.

The President thought this was a matter of great importance, for, by a singular oversight, the medical profession was not represented in the membership of the convention, and if they would not be ignored there as they had been in the past they must be present to make their wishes known.

Dr. Armstrong thought it was customary for the president to appoint committees, and moved that the recommendation of the council be adopted with that amendment, which was done.

Report of Special Committee on Registration of Marriages and Births.—Dr. Alexander Hadden said that before the special committee appointed at the last meeting could take action further than write the Governor, urging his veto, the defective bill relating to the report and registration of marriages and births had been made a law. What was desired was a bill making the registration of marriages and births so easy as to be universal, and so exacting as to constitute documentary evidence before the courts. The present law, as the past one, not only failed to meet these requirements, but was unjust to medical men, to the public, and even to those who kept the records, because it simply wasted their time. As there was nothing more for the committee to do, he asked that it be discharged.

Amendment to the By-laws Proposed.—Dr. Grandin offered an amendment to the by-laws, to be acted upon at the next meeting, making the chairman of the committee on nurses and the chairman of the house committee members ex-officio of the council.

The Adoption by the Academy of a Nomenclature for the Different Classes of Infectious Diseases.—Dr. William H. Thomson read the paper. Medical terms, he said, became important as such in proportion to their influence upon conduct. When the wrong use of terms immediately disturbed the affairs of a household, and seriously altered the natural relations of its members to one another, or alarmed an entire neighborhood, or emptied a town, or greatly deranged the commerce of a country, it certainly behoved the medical profession to endeavor to prevent all such misunderstanding by making the meaning of terms as definite as possible. Instead, however, of this having been the case in the past, there was not a more unpleasant feature of the history of medicine than the controversy which had grown out of the use of terms intended to be descriptive of the nature of infectious diseases. No word could escape entirely being associated with its primary meaning; the derivation of descriptive names, particularly, was never wholly lost to view. To spread by contagion meant to spread by touch, and it was impossible to disabuse the mind, whether medical or non-medical, of certain suggestions connected with this first significance of the term. As soon as a disease was known not to spread by touch it was inferred to have no relation whatever with contagious diseases. Asiatic cholera, for instance, was easily shown not to be a contagious disease, because in every epidemic persons were known to have fallen victims to it who had not come in contact with the sick, and the conclusion was reached that therefore cholera had nothing to do with human intercourse, any more than had ague. As it was then observed to be neither contagious nor miasmatic, it was proposed to call it infectious, but this only served to make the conception of its truth more vague than ever. Vague fear was the mother of panics; vague terms were the most potent generators of vague fears.

The subject had of late assumed quite a new phase and importance, by the fact that the progress of medicine had led us to add to the list of specific infectious diseases tuberculosis and ague. If we should pronounce tuberculosis infectious, the public would have a right, in view of the common understanding of the term, to ask what we meant. Enough was known at present by the profession to tell the world just what infection was, and what were the chief modes of its conveyance.

A Classification Suggested. — Dr. Thomson then suggested the following classification for infectious diseases, hoping that it would invite discussion by the profession upon the adoption of a definite nomenclature descriptive of the various classes of infectious diseases.

1. Infectious diseases are due to the presence of their respective living micro-organisms in the body. 2. Infectious diseases are divisible into three classes: *a*, communicable, *b*, non-communicable, *c*, septic. 3. The communicable diseases are those whose origin is from an animal body, examples of which are small-pox, asiatic cholera, and tuberculosis. 4. The non-communicable infectious diseases are those whose origin is not from an animal body, but from a place or thing, examples of which are ague, yellow fever, and miasmatic diseases in general. 5. The communicable diseases are divisible into two classes, according to the ordinary modes of their communication: *a*, into the contagious, *c*, into the non-contagious communicable diseases. The contagious communicable diseases are those in which simple proximity to the sick is sufficient to communicate the infection; examples of which are scarlet fever, measles, small-pox, diphtheria, mumps, etc. Isolation of the sick in these cases is, therefore, needful to prevent infection. The non-contagious communicable diseases are those in which the communication is not by simple proximity to the sick, but through intermediate means of communication. Isolation of the sick with them, therefore, is neither needful nor effective in comparison with measures directed against intermediate means of infection; examples are, typhoid fever, asiatic cholera, and tuberculosis. 6. The septic infectious diseases are those in which infection is introduced through a wound or abrasion; examples are, erysipelas, hydrophobia, tetanus, etc.

Lastly, all infectious diseases can be prevented by measures of disinfection applicable to each. If the public could be made to understand that all infectious diseases were due to micro-organisms primarily, they would more fully comprehend and appreciate the significance of disinfection.

Only Diseases of an Animal Source Could be Communicated to Others.—Ague and yellow fever were not derived from an animal source, and therefore were non-communicable. It was fitting to direct attention to the fact that all classes of infectious diseases were capable of being disinfected out of existence, and it was doubtful if there was any portion of the globe which could not be made healthful unless it were the glacial regions, because of their extreme cold. There was no reason why, in the coming century, the world should not become so much wiser, and sanitary science so greatly improve, that malarial fevers should, with the sums now spent upon armies and navies, be wiped from the earth.

Dr. T. Mitchell Prudden being requested to open the discussion, said he thought any reader of medical literature must have been convinced of the need of a better nomenclature of the contagious and infectious diseases. The matter, however, seemed to be beset with peculiar

difficulties. The original terms were not very clear, and they had been used in a great variety of senses. In fact, the growing knowledge of to-day would require that they either be discarded or be given a different meaning. It was the old task of putting new wine into old bottles. He thought it would be wiser to start with a rather simple classification. An understanding might be reached with regard to what were infectious diseases, and these might be divided into communicable and non-communicable, and this would serve as a basis to start on.

Dr. Brannan thought that if we could spread abroad a clear idea of the words contagious and communicable as applied to the infectious diseases, it would, perhaps, be all we could expect to do at present. He would agree with Dr. Thomson in calling all these diseases infectious, and in dividing them into communicable and non-communicable, but he might not agree with him in some other regards. For instance, there might be a difference of opinion as to whether diphtheria was a contagious disease, and yellow fever non-communicable, as claimed by Dr. Thomson. He would retain the word contagious for such communicable diseases as scarlet fever, measles, etc.

Dr. J. West Roosevelt thought the object which we wished to accomplish did not permit of hair-splitting refinements. It was not so important whether diphtheria was directly contagious or not, so long as the profession and the people were given to understand that a case in the neighborhood was liable, like a case of scarlet fever, to give rise to cases. Use terms, if possible, which the people could not fail to understand. There were other diseases which were not immediately dangerous, like typhoid fever and tuberculosis, and to them a term should be applied which, while denoting their danger, yet would distinguish between the mode of their transmission and that of contagious diseases like measles.

Dr. Armstrong thought the classification suggested by Dr. Thomson was one of the best he had heard, and he hoped the paper and the discussion would excite interest and lead to some practical result.

Dr. Alexander Hadden impressed the fact that the public, which had to give so much time to making a living, could not be expected to learn all the finer distinctions of medical terms, when the other various departments of science and learning were each claiming somewhat of their attention. Doubtless, the public schools would be the best source of spreading a knowledge of what the profession would have the public know, and we would do well if a clear understanding were given of the fact that, among the infectious diseases some were spread by direct contact, were contagious, while others were spread through the soil, by the food, etc.; and that all could be prevented.

Dr. Thomson closed the discussion, after which, on motion of Dr. Prudden, the President was empowered to appoint a committee of five to consider the nomenclature and classification of infectious diseases.

SECTION ON GENERAL MEDICINE.

Stated Meeting, March 20, 1894.

Charles E. Quimby, M.D., in the Chair.

Dietetic and Therapeutic Management of Typhoid Fever.—Dr. Adolph Zeh read a brief paper in opening the discussion upon this subject. The patient should be placed in a large, light, well-ventilated room, preferably at the rear end of the house, beyond noise, the bedding should be firm and soft, the covering only sufficient for comfort; if there were two beds it would permit of daily change. The patient should be kept absolutely quiet; use the bedpan to relieve the rectum and bladder. The body should be sponged with water and alcohol daily, only part of the surface being exposed at a time. Forestall bedsores, by washing skin exposed to pressure by suitable solution containing alcohol. Quiet should be maintained for seven days after subsidence of fever.

If the patient were seen early, give a single dose of ten grains of calomel, and after an evacuation give a dose of sulphate of magnesia, which removed deleterious intestinal contents, stimulated secretion, and aided the digestive functions.

Seek to keep the typhoid ulcers in an aseptic condition, which, however, could only be done indirectly. Avoid introduction of deleterious foods and resort to such treatment as would call forth active normal secretion of the various juices as they were secreted in health. To accomplish this one might give dilute nitro-muriatic acid, with or without pepsin, and fel bovis inspissatum. Salol, creosote, and other agents had been resorted to for intestinal antisepsis by some, but the author could not especially recommend them. For delirium apply cold to the head. In intestinal hemorrhage, observe absolute rest; ice-bag over the abdomen, injection of ergot and morphine. He had not seen perforation in private practice, but if it should occur he would call an experienced laparotomist to consider the expediency of opening the abdomen.

Among symptoms, hyperpyrexia had received most treatment, and the author hoped to hear a full discussion upon it to day. In his private practice, if the temperature remained high and the skin was dry, the patient restless, he would diligently apply sponging with tepid water to which alcohol had been added, and the ice-bag to the head. Only where the patient suffered from excessive bodily heat would he resort to the cold bath. A tepid bath cooled down would probably answer.

In reply to the question whether stimulants should be used, he would answer in the affirmative, for the disease was a prolonged and exhausting one, and collapse might occur between visits. No alcoholics at first; later, wine in the form of the liquid beef peptonoids; in severe cases whiskey early. Among other stimulants under special circumstances he mentioned caffein, camphor, ether, alcohol.

Food.—Boiled milk, one or two quarts a day, liquid beef extracts or solid extracts of beef, broths, and eggs beaten up in beef-tea. By the fifth day after the normal evening temperature he allowed scraped beef.

An Encouraging Disease.—Dr. W. H. Thomson had found typhoid fever, so far as treatment was concerned, an encouraging disease. It being an affection which ran a much longer course than such acute diseases as pneumonia, the physician had much wider opportunity for the exercise of his art. After an experience of thirty years he had come to have scarcely any apprehension when called to treat a case of typhoid fever, whereas in the case of pneumonia he believed that the treatment of to day was no more successful than that of the past generation. Typhoid was a chronic fever, presenting a succession of conditions which were extremely manageable. After referring to statistics in his service at Roosevelt Hospital, where he said the mortality from typhoid fever, exclusive of cases dying within four or five days after admission, was extremely low (between two and three per cent.), Dr. Thomson referred to treatment, and said the principal indication, he thought, was to prevent starvation. It had been shown by Fenwick that the peptic power of the stomach in this disease was lower than in almost any other, unless it were cancer. The digestive power of the stomach being no greater than that of the newly born infant, milk fed these patients should be diluted as much as that for a babe a week old. As a routine practice it should be diluted at least one-half with lime water, the diluent rendering it less likely to curdle in large flakes, and also acting as an antiseptic. Eighty grains of pepsin in the twenty-four hours. First, however, every case on admission was given ten grains of calomel and thirty grains of compound jalap powder. He would give this even if there were diarrhœa, for it was the best means for checking the diarrhœa. Along with the pepsin he gave bismuth, ten grains every three hours, its object being to prevent fermentation and tympanites.

When the tongue became dry, and notably when it showed tremor, an indication of advanced intestinal ul-

ceration, he gave turpentine in emulsion. Seldom were any other drugs called for than those mentioned.

Temperature. — As soon as the temperature rose above 103° F., the nurse had instructions to use cold as an antipyretic, but not in the form of the cold bath. Having for years used the cold bath, eight years ago he abandoned it for cold affusion. A rubber sheet was placed on the bed, the patient, lying in the middle of it, was sponged with water at the ordinary temperature, then with ice-water. then a large sponge was used, soaked with water, producing a sort of affusion upon the body, which was continued until the temperature began to fall. Never after it had fallen to 101° F.

As to the effects of this treatment, not one patient in forty had typhoid diarrhœa, not one in thirty had any delirium, the nutrition of the patient was maintained very well. He regarded delirium of typhoid fever as largely toxic, which was obviated by the treatment mentioned.

Regarding hemorrhage: during his last service at Roosevelt this has happened in nine cases and all recovered. In its treatment he condemned the cold coil, as he believed its tendency was to drive the blood internally and enhance the hemorrhage. He gave nitrate of silver and opium—a quarter of a grain of each—nine grains of resin of turpentine, with sufficient amount of liquor potassa added to be sure the turpentine would be rendered soluble. More than half the deaths at the hospital had been from perforation.

Dr. Thomson protested against the use of undiluted milk, as it produced flatulence, diarrhœa, and favored ulceration. He also strongly condemned the coal tar series of antipyretics because of their injurious effect upon the muscular function. It was as muscular paralyzers that they reduced temperature, whereas cold acted as a tonic when properly used. Cold made the breathing deeper, caused the patient to sleep, increased the secretions. It should be followed by friction. Pneumonia would not deter him from the use of cold, for when this complication arose it was usually due to cardiac debility, for which the tonic effect of cold was indicated.

Regarding cardiac stimulants he had relied on alcohol, but objected to its use in frequent and small doses. Stimulation never gave strength, and should be resorted to only to prevent cardiac failure for the time being, and for that purpose should be given in some amount. When he heard but one heart-sound, and that plainest at the base, he ordered stimulants until he could hear a clear first sound at the apex. Heart failure was most liable after midnight, hence half an ounce of whiskey every two hours until morning would be more likely to prove beneficial than at other hours, except where special indications arose. A dicrotic pulse sometimes indicated strychnia and citrate of caffein, given in combination with camphor, and considerable subsultus led him to substitute compound spirits of ether for whiskey.

Dr. Thomson knew of no treatment which would prevent relapses in typhoid fever. He knew of no disease in which the patient so often owed his life to the physician and nurse.

The Starvation Method.—Dr. Lesser had formerly employed the milk diet in typhoid fever. One patient refused it and he gave her only water, and she was able to live on that alone for twenty-one days. From that time he had begun to investigate how much or how little food typhoid patients required. While he did not recommend the method, yet he had treated eight cases since that time, giving no food for fourteen days, or until the patient actually desired something, and he then began to give diluted milk. He had not found alcohol necessary, but overcame cardiac weakness by caffein, etc. As to acids or alkalies, if the tongue were red he gave an acid, if coated gray or brown, he gave an alkali, as lime-water.

Dr. Max Einhorn thought too much stress had been laid on weakness of the stomach in typhoid fever. In an examination of the stomach contents in a few cases he had found the ferments and hydrochloric acid present, though perhaps not in as large quantity as in health. To say, therefore, that the peptic glands scarcely acted at all was going too far. Even if the secretions in the stomach were absent for a time, it did not follow that food could not be converted, for there were conditions in which the stomach did not secrete any juices at all, yet the patients lived healthily for years. It showed that the digestive power of the small intestine was sufficient to do the whole work, and in typhoid much of the tract was free from ulcers. While it was well to dilute milk, yet some physicians gave it pure and obtained very good results. Irritating substances should be avoided. He would not approve of the starvation plan, for during the time food was not taken the body must be consuming itself. He would also recommend alcohol as a fuel as well as a stimulant.

Dr. Zeh closed the discussion. In hemorrhage he would apply the ice bag over the ileo cæcal region, expecting that it would check, not increase, the hemorrhage. He thought it wrong to test the powers of the patient by withholding food

New Apparatus for Administration of the Brand Bath.—Dr. A. R. Bellamy sent a paper relating to the method of administering the Brand bath in typhoid fever, and a new apparatus, which consisted of a galvanized bath-tub on a frame, with rollers and crank for raising or lowering the mattress in the tub on which the patient was placed. With it one person could give the bath. The Chairman, Dr. Quimby, recommended the apparatus very highly.

THE NEW YORK PATHOLOGICAL SOCIETY.

Anniversary Meeting, January 10, 1894.

H. P. Loomis, M D., President.

A Staining Method.—Dr. J. M. Byron described an improved method of staining, which he said was based on the action of aniline colors on the protoplasm and the histone of cells. The fluid consisted of equal parts of Ehrlich's acid hæmatoxylin, a saturated solution of orange, and a saturated solution of rubin S., or, as it was more commonly called, acid fuchsin. The specimen, after being taken out of any solution, no matter what, was immersed in this staining liquid for a few minutes—the exact time must be determined by experience. After the sections had been deeply stained they were transferred to a decolorizing solution consisting of one part of an alcoholic solution of picric acid and two parts of distilled water. After a few seconds, the sections were transferred to absolute alcohol, then to the clearing agent (any of the essential oils usually employed), and finally into balsam. The method was not new in principle, but it seemed to possess more than the usual selective action on protoplasm and on different kinds of cells. Connective tissue was stained by it a permanent and very bright red. It was useful in distinguishing between a spindle-cell sarcoma and a myoma, for the cells of the muscular tissue were stained a dark yellow, the connective tissue red, and the spindle cells of sarcoma of a brownish tinge with blue nuclei. The stain appeared to be permanent.

Cardiac Dilatation; Pulmonary Thrombosis.—Dr. George P. Biggs presented a heart showing great dilatation and very little hypertrophy; the wall of the left ventricle appeared much thinner than normal, the valves were all normal, and their orifices were of normal size except the tricuspid, which readily admitted four fingers. The right lung was also presented, as it contained three large infarctions, the largest of which had the diameter of 7 ctm., and was located in the upper part of the lower lobe. The two others were about the size of walnuts and were situated a little lower. There were no infarctions in the upper lobe. There was one infarction in the lower and posterior part of the lower lobe of the opposite lung which measured 5 ctm. in diameter. The vessels leading to these infarcted areas

were occluded by what appeared to be thrombi, and all of these thrombi were whitish or grayish, and were firmly adherent to the vessel-wall, and were not broken down.

The specimens were removed from a man, forty years of age, a patient at the New York Hospital. He stated that two weeks before his admission he first noticed swelling of his legs, and that it was brought on by exposure to cold. Five days later he noticed, for the first time, blood expectoration, with marked dyspnœa, headache, and some thoracic pain. His principal complaint was the cough and severe dyspnœa. On admission he had a temperature of 101° F.; respirations were 38, and pulse 124. He was quite cyanotic and had slight general anasarca, and over the right chest posteriorly, in the lower part, was marked dulness, with broncho-vesicular breathing and voice, and many fine, moist râles. Over the lower part of the left lobe were numerous fine, moist râles. Fluid was also discovered in the right pleural cavity. The cardiac area seemed to be increased, and the apex-beat was most distinct three and a half inches to the left of the median line in the fifth space. The heart sounds were feeble, but there were no murmurs. The temperature continued to be elevated, all the symptoms increased in severity, and he died three days after admission. At the autopsy, in addition to the lesions already presented, there was marked chronic congestion of the kidneys and spleen, the heart was much distended with post mortem clots—some of them thoroughly decolorized, but none antemortem. All the cavities were enormously dilated with blood; the pulmonary artery was free from thrombi, and the aorta appeared to be in an unusually healthy condition. One branch of the coronary artery contained a spot of atheroma, but was otherwise normal. A careful examination was made of the venæ cavæ and the iliacs, but no thrombi were found. It appeared to be a case of primary pulmonary thrombosis at several points, producing the infarctions mentioned. The right pleural cavity contained 1,800 c.c. of sero fibrinous fluid, and there was considerable fibrine on the surface of the pleura posteriorly. There were some recent adhesions, and some older adhesions posteriorly. A teased specimen of the heart muscle showed under the microscope considerable granular and fatty change in the muscular fibre. This seemed to be the only explanation of the great dilatation. At the autopsy the question arose as to whether the pleurisy antedated the thrombi, and as to the relation of the cardiac dilatation to the condition present. It seemed to the speaker that the cardiac dilatation had existed for some time, as indicated by the change in the spleen and kidneys. At the time of the swelling of the limbs the patient probably contracted a subacute pleuritis which caused no symptoms until shortly before his admission, and it was probable that at about the same time the thrombi formed which resulted in the infarctions. There seemed to be no lesions of the vessels; hence it was due probably to the enfeebled circulation. The patient was not an obese individual. His occupation was not known.

Dr. Byron said that from the history and the pathological changes in the lung he would be inclined to think there had been an acute dilatation of the heart. It was a disease not often found in this country, but more common in countries where young military recruits were required to make forced marches. There seemed to him also to be more than a simple infarction of the lung; he thought there was some pneumonia. From the high temperature and the post mortem appearances it would seem that there was a multiple pneumonia besides the infarctions. If there had been no inflammation around the vein he could not understand how these multiple thrombi could originate.

Dr. Biggs said that when quite fresh the appearance of the specimen was not so much like that of pneumonia. The temperature during the man's last illness was only 100° to 101.5° F. In one other case, seen recently, in at least six points there were small thrombi which did not occlude the whole vessel. He saw no reason why they should not form as well in the lung as in the heart, where they were well known to be the result of a weakened circulation. The explanation given of the dilatation of the heart seemed to him quite plausible.

Dr. Le Boutillier asked if the veins of the legs had been examined, for a portion of a thrombus might have been detached from here.

Dr. Biggs replied that he had examined along the iliacs and down to the femorals, and had felt along these vessels.

Dr. T. M. Prudden said that one of the most interesting and obscure of the pathological lesions met with rather rarely was thrombosis of the pulmonary vessels. He had seen several such cases, and in none of them had there appeared to be a lesion of the vessel wall which would account for the formation of the thrombus, yet unquestionably such a lesion was present. The thrombi had been usually single, although he had met with multiple thrombi in two or three instances. The condition of the heart in this case would, it seemed to him, account for the thrombosis. The whole subject of pulmonary thrombosis required thorough study. In a considerable proportion of the cases he had seen the thrombosis had occurred after a safe and uneventful delivery.

On motion, Dr. Biggs was requested to report the results of his further study of the specimen.

Extreme Pulmonary Emphysema.—Dr. H. S. Stearns presented a specimen of extreme emphysema of the right lung. When the sternum was removed at the autopsy the right lung bulged out several inches beyond the chest-wall, and also over to the left side. The left lung was firmly bound down to the chest wall posteriorly, and was thickly covered with new fibrous formation. It was impossible to separate the heart from the pericardium, the left lung and heart being bound down together to the chest-wall. The capsules of the spleen, liver, and both kidneys were greatly thickened.

The subject from whom this specimen was taken was a woman, about seventy years of age, an inmate of the almshouse, who was supposed to be an ordinary case of phthisis. A few days ago she fell and struck her head, and remained unconscious to the time of her death.

The President said that he saw the specimen when fresh, and he had never observed before such extreme emphysema. The sudden death could be explained by the heart being crippled by adhesions, and by the dilatation of its cavities.

A Caudal Appendage.—Dr. Halsted Myers presented a tail-like appendage, about an inch and a half long, which he had removed from a baby girl. The structure was of fibrous tissue and fat; there were few blood-vessels and no excess of nerve-tissue, judging from the lack of sensitiveness. The coccyx made a right angle with the sacrum, projecting to the right side. The tail was attached to the tip of the coccyx. The vagina was in the median plane of the body, but the rectum was about an inch and a half to the right of this, near the end of the coccyx, in a deep supernumerary transverse gluteal fold.

Dr. Byron said that this specimen reminded him of a remarkable case of the kind which he saw some years ago, in which a man had a caudal appendage about eleven inches long. It was a continuation of the coccyx. The case was published at the time, and attracted considerable attention from the fact that there was only one other similar case on record, one observed by Nélaton.

The Brain in General Paresis.—Dr. E. D. Fisher presented a brain from a case of general paresis. It was removed from a man, fifty six years of age, a machinist by occupation, who was admitted to the Ward's Island Hospital, February 9, 1893. There was a history of intemperance, but none of syphilis. He had the usual delusions of grandeur in regard to wealth, and exhibited marked tremor in the face and tongue and hands. He finally passed into a state of dementia, and died a few days ago. The progress of the disease was quite rapid, its duration being only six months. There was a fairly

well marked meningitis involving the pia, and adhesions of the dura and pia, especially over the frontal lobes, where calcareous deposits could be felt. There was not much pachymeningitis. The appearance of the brain would seem to indicate an encephalitis also. The pial inflammation was more marked on the base of the brain. The arteries were the seat of atheromatous changes. Nothing abnormal was observed in the ventricles, but no microscopical examination had yet been made. The specimen represented the early stage of general paresis, where there was a simple meningitis or meningo-encephalitis. In extreme cases there was considerable pachymeningitis and sometimes meningeal hemorrhage, thus explaining the epileptic and the paralytic seizures. The age of the patient was fifty-six years, and his intemperate habits would account for the atheroma. General paresis could be said to be the only mental disease where definite lesions were invariably found. Although there had been some symptoms of tabes, he did not expect to find on examination of the cord either the posterior or the lateral columns affected.

Dr. Ira Van Giesen said that tabes began in several different ways—sometimes in the spinal cord, sometimes in the roots. He did not think we could say that cases of general paresis behaved differently from uncomplicated tabes. It might be a disease of the cord itself, or outside of the cord, and the disease in the cord be secondary to it. It was rare to find a pure case of tabes which had passed into general paresis, or, on the other hand, a case of general paresis with well-defined symptoms or signs of locomotor ataxia.

Dr. Fisher said that in many of these cases where there was apparently exaggerated reflexes and ataxia, the post mortem changes were very slight. In the cases of locomotor ataxia he had seen he could not recall one which had ever passed into general paresis, although he was aware that such cases had been reported.

Guanin Gout in the Hog.—Dr. James Ewing presented a specimen of this kind which had been recently sent to the laboratory of the College of Physicians and Surgeons for examination. The condition was not infrequently mistaken for trichinosis. The deposits in the piece of ham exhibited by the speaker were of a light color, and instead of being spherical, as in trichinosis, radiated into the muscular fibres. In its composition guanin was a product of nitrogenous metabolism very similar to uric acid, but less highly oxidized. It was found in the tissues in combination with carbonic acid or some organic acid, for when treated with sulphuric acid it effervesced, which pure guanin did not do. The deposits in the ham did not crystallize in the same form as pure guanin, but this process was modified by its combination with a colloid, probably a degenerated form of muscular tissue. As the specimen in this instance had been cooked before being submitted to examination, no further investigation could be carried on. About four other cases had been reported. It was first noticed by Virchow in 1856; then another German reported one case in 1868, and in 1888 Dr. Walter Mendelson, of this Society, received for examination an entire ham which was affected in this way. His report of the case appeared in the August number of the *American Journal of the Medical Sciences* for 1888, and contained references to the literature of the subject.

A Deodorizing and Preservative Fluid.—Dr. Ewing also spoke of the manner in which this specimen had been preserved. It had been found that when a tissue was placed in a jar on cotton saturated with a forty per cent. solution of "formaline," or formic aldehyde, that decomposition was arrested and the odor destroyed.

Dr. George Biggs said that about one year ago the late Dr. Vought presented a similar specimen to one of the societies in this city. It was at first thought to be a specimen of trichinosis. In that case the nodules were not as large as those seen in the specimen just presented.

Carcinoma of the Duodenum Compressing the Common Bile-duct; Obstructive Jaundice; Rupture of Dilated Gall-ducts with Resultant Perinephritic Biliary Cyst.—Dr. J. S. Ely presented specimens from such a case. He recalled the fact that in 1889 he had presented to the Society a rather remarkable case of primary carcinoma of the common bile duct. The case was noteworthy in that the only carcinomatous deposit in the body was a small tumor, 11 × 9 mm., situated at the opening of the common bile-duct into the duodenum. Pressure on the bile duct had caused an obstructive jaundice for which Dr. Hartley undertook cholecystotomy. The patient died of secondary hemorrhage, and the autopsy gave an opportunity of seeing a carcinoma which had undoubtedly developed from the common bile-duct, and at such an early stage that no secondary tumors had formed which might thus have thrown some doubt upon the actual point of origin of the tumor. A search through the literature at that time yielded only seven cases of a similar nature; hence it was rather remarkable that he should be able now to show another case which was its almost exact counterpart.

The patient, M. P——, aged forty-one, a native of Ireland, and a varnisher by occupation, was admitted to Bellevue Hospital on September 15, 1893. It was said that his mother died of cancer. In June, 1893, while at work, he was suddenly taken sick with diarrhœa and vomiting of blood, about half a pint of blood being ejected. This vomiting was repeated the next day, but this time the vomitus was dark colored, "like bits of liver." He had also slight occasional pain over the liver during the first three days of his illness. In about a week he noticed that he was becoming jaundiced, and from that time it was constant, and steadily increased in intensity. He had lost about fifteen pounds in weight up to the time of his entrance to the hospital. The bowels moved regularly, but the stools were white and pasty. His appetite remained good. Itching of the skin, biliary coloration of the urine, and the depressed mental condition so frequently observed as concomitants of intense jaundice, were noticeable features of his case. On admission physical examination disclosed nothing but intense jaundice, uniform enlargement of the liver (its lower border being three inches below the free border of the ribs), dilatation of the gall-bladder, and some increase of splenic dulness. There was no fever. Little change took place in his general condition until December 25th, when he was again seized with vomiting, which on the 27th culminated in his vomiting a considerable quantity of thin blood, after which he was much prostrated. On the 28th clots of dark blood and fresh blood were vomited, and it then became necessary to infuse him. Notwithstanding this, he died the next day, of exhaustion.

At the autopsy, which was performed by Dr. Waring, House Physician of the First Medical Division, the liver was found to be much enlarged and deeply stained with bile. The gall-bladder and biliary ducts were greatly dilated—the gall-bladder to the size of a small orange, the common bile duct to a lumen of 1½ ctm. in diameter. The dilated bile-duct protruded into the lumen of the duodenum to a distance of about a centimetre in the form of a large papilla. Just below this, in the wall of the duodenum apparently, was a hard circumscribed mass about the size of a small pea, which completely closed the mouth of the bile-duct, and evidently formed the obstruction which gave rise to the jaundice. In removing the left kidney it was found to be enclosed in an irregular cavity containing about a pint of thin greenish liquid. On further dissection this cavity was found to extend upward behind the spleen and stomach, to the posterior portion of the left lateral ligament of the liver, the layers of which were separated, and the cavity was traced to the edge of the left lobe of the liver, where it was found to be continuous with the ruptured extremity of a dilated gall-duct. This sac lay entirely behind the peritoneum, and the surrounding tissue showed only a slight degree of inflammatory reaction. There was no peritonitis. The stomach in places was much congested; there was

no ulceration. The mucous membrane of the duodenum appeared normal. The pancreas was normal, and no dilatation of its duct was discoverable. The spleen was slightly enlarged and showed a moderate degree of chronic interstitial splenitis. The kidneys were of about normal size. The capsule of each was somewhat adherent, its surface was granular, the cortex thin, and the markings indistinct. The left kidney in addition contained a small cyst. The heart and lungs were normal. All the organs were deeply stained with bile-pigment. Microscopical examination of the small mass in the wall of the duodenum which caused the obstruction showed it to be scirrhous carcinoma. Small alveoli filled with irregularly shaped cells were found scattered through a dense fibrous stroma.

The case, then, was one of carcinoma at the mouth of the common bile-duct, with obstructive jaundice, great dilatation of the biliary passages, and consequent rupture of one or more of those on the surface of the liver, giving rise to a large peri-nephritic biliary cyst. The specimen presented consisted of a portion of the left lobe of the liver, the gall-ducts of which had been injected by Dr. Roosevelt with a blue mass. At a point on its edge representing the posterior edge of the left lobe, the layers of the lateral ligament could be seen separated, and the blue injection-mass emerging from a gall-duct through a rupture in its wall, and entering the cavity of the retro-peritoneal cyst, thus affording indisputable proof of the origin of the cyst from the rupture of a gall-duct.

The speaker said that as a result of a very hasty consultation of the literature of obstructive jaundice, he had been unable to find a record of any case of rupture of a gall-duct. Orth, however, mentioned rupture as a rare consequence of traumatism in extreme dilatation of the gall-ducts, and he stated that this accident was quickly followed by death as the result of acute peritonitis. From this it would be inferred that he was not acquainted with extra-peritoneal rupture, such as occurred in the case just reported.

Dr. George P. Biggs said that a specimen showing rupture of the bile-ducts had been presented to the Society about two years ago by Dr. Herman M. Biggs. The rupture had occurred in the left lobe of the liver, from excessive dilatation resulting from a gall-stone obstructing the common duct. The case occurred at the almshouse, and had been seen by him during life. There was a large tumor in the left side of the abdomen, from which large quantities of biliary fluid were removed by aspiration on two or three occasions. It was found that a cavity had been formed, the posterior wall being composed of matted coils of small intestine, and the anterior wall by the parietal peritoneum.

The speaker also called attention to a case of primary carcinoma of the papilla of the gall-bladder, very recently reported by Dr. R. F. Weir. He had made the autopsy on this case at the New York Hospital, and had found a small primary adeno-carcinoma which obstructed both the common and the pancreatic duct.

Dr. Ely said that at the time he searched the literature and found the seven cases, he excluded every case in which there was any secondary nodule anywhere else in the body, simply to rule out any possibility of error. He wished to emphasize the fact that the carcinoma did begin in the common bile-duct or in the gall-ducts. There were a good many cases where the gall ducts would seem to be the primary seat of the carcinoma, but the existence of other nodules of carcinoma made this rather doubtful. In this case, as well as in that of Dr. Biggs, the rupture occurred in the left lobe of the liver. In Wickham Legg's book on jaundice it was stated that in cases where there was such extreme dilatation of the gall-ducts as to lead to the formation of cysts on the liver, and even in less severe cases, he had noticed the greatest dilatation in the left lobe of the liver; but he was unable to explain it.

Carcinoma of the Clavicle.—Dr. W. B. Coley presented a specimen of this kind. It was taken from a woman who was in the New York Cancer Hospital last August. In 1886 she was operated upon at the hospital by Dr. Clement Cleveland, for a tumor diagnosticated as a cystic tumor of the breast. This was soon after the opening of the hospital, and apparently no microscopical examination had been made. She left the hospital in four weeks, but returned in one year with a tumor in the same locality, and also enlarged axillary glands. These were removed, and she remained free from the disease for three years. A year and a half ago she noticed a small swelling at the inner end of the right clavicle, which grew slowly. She was admitted to the Presbyterian Hospital with this, last July. There were no tumors elsewhere. She was supposed to have sarcoma of the clavicle, and was sent to the Cancer Hospital, to the speaker, to receive inoculations of the toxic principles of erysipelas. A few injections were given pending the report of the microscopical examination. As this showed the growth to be a typical carcinoma, and as she apparently had internal complications, the treatment was discontinued. The tumor had, however, been reduced seven-eighths of an inch in circumference. The autopsy showed the entire inner end of the clavicle occupied by this tumor, which apparently started in the central portion of the bone, and which was attached to the first rib. The upper lobe of the right lung was also involved, and the entire liver was filled with an enormous number of carcinomatous nodules. The case was exceedingly interesting, because carcinoma of the clavicle was rather rare, and also because the interval between the last operation and the recurrence was about three years.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, March 19, 1894.

Samuel B. W. McLeod, M.D., President, in the Chair.

The Tubercular Diathesis Controlled by Gold and Manganese in Combination.—Dr. J. Blake White read the paper. He first showed a hypodermic syringe with a double barrel, which he had found best for making the injections of the gold and manganese preparations. With it he had made over seventy injections in one person without the slightest irritation following.

This paper was supplementary to one which he had read before the Society about three years ago, upon gold and manganese in tuberculosis and allied affections. Since then he had received testimonials from many sources bearing upon the value of the method then described. Considering that the testimonials came from prominent sources without request, he thought they should have much weight.

The prevalent impression of the past, that tuberculosis was an incurable malady, still lingered, in spite of the fact that numerous cases of recovery with or without treatment had been put on record. The importance of an early diagnosis could not be too strongly urged, yet the early stage was not only often overlooked, but it was difficult to convince patients that they had the disease after evident symptoms were present, so that precious time was lost before the commencement of treatment.

A very good analysis of cases amenable to treatment had been made by his friend Dr. O. H. Merrill, with whom he also agreed that too much attention may have been paid the bacillus tuberculosis compared with that given physiological chemistry, in whose vast laboratory there was yet so much to be accounted for. If the valuable time spent in bacillus hunting could only be devoted to careful study of the blood of tuberculous subjects the practical results in treatment would greatly outweigh those attributable to a knowledge of the tubercle bacillus. The proper assimilation of elements introduced into the system was a chief factor in the successful management of cases of tuberculosis.

A knowledge of the influence of gold and manganese

upon the powers of nutrition was possessed by the ancients, ample proof of which existed in literature. Had the author's own experience not confirmed their reports of the benefit derived from these agents he would have considered them too wonderful to believe.

The gold and manganese were best used hypodermically, although they might be administered by the stomach. They led rapidly to increased action in the organs of nutrition and respiration, enhanced the appetite, corrected assimilation, accelerated respiration, so that amelioration of important symptoms soon became manifest. The remarkable effect of these remedies was also manifest in certain other abnormal conditions, particularly in malignant disease, for under their influence he had seen tumors of the breast, pronounced by competent authorities to be malignant, disappear and the cachectic appearance clear up. He would advise their trial before resorting to surgery. In chronic skin affections of a scaly nature, enlargements, and some other conditions, this combination of remedies would often prove remarkably efficacious when judiciously administered. It was not easy to explain their action, but the author thought the gold acted upon the lymphatic and glandular systems and promoted assimilation, so that soon there was a decided improvement in the general health. In certain cases of the tubercular diathesis it seemed to act almost as a specific. The combination of gold with bromide of arsenic, recommended by Wood, had proven satisfactory in certain cases of tuberculosis, particularly those of the type classed as scrofulosis. The indiscriminate use of the remedies was not to be recommended.

Dr. Fernandez having observed a druggist's name upon the samples passed around, inquired whether the formula was secret.

Dr. White replied that he had published the first formula in 1890 For hypodermic use each dose contained one-fiftieth of a grain of the double chloride of gold and manganese, carefully combined with glycerine as a solvent, which prevented decomposition of the gold. The later preparation, referred to in this paper, was prepared in about the same way, every ten drops containing $\frac{1}{100}$ of a grain of arseniate of strychnia, two or three drops of tincture of gelsemium, and about $\frac{1}{25}$ of a grain of chloride of gold and sodium, and the same amount of iodide of manganese. When used as an injection, from one to two or three drops of the mixture was added to five drops of a one per cent. solution of carbolic acid, and a sufficient quantity of distilled water. As some care was required in making the preparation, the druggist whose name appeared on the bottle had been requested to keep it on hand. He agreed with Dr. Thomas Mays that the strychnia was useful chiefly through its influence upon the nervous system, particularly the pulmonary and stomach supply. For injections into pulmonary cavities a longer needle was used. Some cavities had healed, or remained dormant under its influence until some other disease had ended life.

Recommends Gold and Manganese Strongly.—Dr. Octavius A. White said he had from the beginning of their use been a witness of gold, and gold and manganese, employed subcutaneously. Over forty years ago he was in the habit of using gold, which he regarded as a remarkable agent; but he could not say that he then achieved the results obtained by the combination introduced by Dr. J. B. White. He regarded the present combination as exceptional in its fortuitous results. He had not seen an instance in which it had not proven beneficial, although some of the cases had appeared to be beyond therapeutic aid. The disease phthisis had either been seemingly cured, or had improved to such a degree that the patients enjoyed a longer lease of life. He had watched the introduction of this remedy with the deepest interest because previous medication had been so inadequate to the seriousness of the disease. He had seen individual cases improve under other forms of treatment, but not commensurately with this. From the first dose startling effects were produced: the appetite, which was always deteriorated in tuberculosis, was quickened, the night-sweats were subdued, the patient began to rest in comfort, the relief was so prompt that he requested continuance of the remedy. Dr. White said his testimony was that of one who had passed the age of enthusiasm; it was offered as that of an impartial observer advanced in years.

Some further remarks were made by Drs. Kohns, Proben, Valentine, S. Brothers, Hunter, S. B. Allen, Hawke, the President, Von Donhoff, and the author.

Specialties and Specialism.—Dr. Charles B. Mëding read an entertaining paper upon this subject, giving the hearer the impression that he thought specialties were too numerous and specialists took up their particular branches too early, or before making themselves thoroughly acquainted with general medicine and becoming experienced in the several departments of practice. The constant tendency of specialism was to exclusively local treatment, and oversight of disease related to other regions of the body. Many specialties and many specialists owed their standing to the inability of ordinary practitioners to perform the simple duties of their calling. The extravagant development of any department would lead to its decline, a fact which we were witnessing in certain directions to-day.

Dr. Von Donhoff agreed with the author that the tendency of young men to take up specialties before having had practice in general medicine was to be deprecated. He respected specialists who, having entered upon general practice, found themselves compelled for want of time to limit themselves to certain lines of work which experience had taught them they were best fitted to do.

Specialists Immemorial.—Dr. R. H. Anderson said specialists had always existed. They were present among Hindoo medical men three hundred years before Christ. They would continue to be as long as the law of Darwin existed. Some men were more fit than others physically and mentally to do certain things. Dr. Anderson believed with previous speakers that every specialist should be a general practitioner in a sense. He should know his notes, as the musician should know his, but it was not necessary that a man should practise general medicine many years before becoming a specialist. Napoleon had found concentration and rapidity necessary for success in almost anything. It was so in medicine, whose domain was too large for any one man to keep well informed in all its departments. The specialist, therefore, was merely a supply for a demand. Medicine owed more to specialists than to general practitioners so far as original research was concerned.

Dr. J. Blake White agreed with some of the speakers, that some doctors took up a specialty too early. It had always seemed to him that specialists, in a sense, should always be such by necessity. One should begin as a general practitioner, and master, as far as he could, every branch of medicine, and then fall into some special line as his ability and opportunity permitted. It was scarcely possible for one to be expert in all departments of medicine, nor would the means of most practitioners permit of purchasing a complete outfit of instruments of precision in all specialties.

Dr. Valentine: "When I was Professor Pallen's assistant, in the heyday of his glory as a gynecologist, a lady came in, and addressing Dr. Pallen asked, 'Are you not Professor Pallen?' 'Yes.' 'Do you not make a specialty of diseases of the womb?' 'No. My assistant does. I am a specialist in diseases of the navel.'"

After some further discussion pathological specimens were called for.

Decidua Vera.—Dr. A. Reich presented two specimens, the first of which was a decidua vera in a case of abortion at the sixth week. The presence of an apoplectic spot was the probable explanation of the abortion.

Carcinoma of Rectum; Nephritis with Uræmia.—The second specimen presented by Dr. Reich was from a case in which artificial anus had been made for partial intestinal obstruction, diagnosed probable neoplasm of

the rectum. There was evidence of hydronephosis, and the patient died, after about twelve months, of uræmia, and at the autopsy the hydronephrosis was found to have been due to obstruction of the ureter by the carcinomatous mass spreading from the rectum.

Nasal Irrigator.—Dr. Perry exhibited Dr. Bermingham's nasal irrigator, consisting of a small glass vessel of suitable shape for pouring water into the nostril for cleansing purposes. This method was least likely of all to lead to middle-ear disease.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

MR. GLADSTONE'S SPEECH IN AID OF THE ANDREW CLARK MEMORIAL—INTESTINAL SURGERY—CASES AT THE CLINICAL AND MEDICAL SOCIETIES—SPECIMENS AT THE PATHOLOGICAL SOCIETY—CHOLERA—ROYAL SOCIETY—OPIUM COMMISSION.

London, May 5, 1894.

The event of the week has been the appearance of Mr. Gladstone, on Thursday, at the Prince's Hall, to speak in support of the proposal to commemorate the life and work of the late Sir Andrew Clark by a block of new buildings at the London Hospital. The great statesman spoke sitting, and declared it would have been a grief to him had he failed to be present, and he took the opportunity of saying a word in favor of the profession, to which he acknowledged himself indebted. He said the other professions had had advantage of this in time, for while lawyers had occupied a large place in the public eye for four or five hundred years the medical profession had more recently won its way, but its influence would go on increasing. He was old enough to have noticed no little change in the members of the profession, and bore testimony to their increased capacity and their larger ability to deal with the difficult and sometimes insoluble problems with which they are confronted. He felt that in a physician something besides knowledge and skill was required, and that was devotion; a quality which Sir Andrew Clark possessed in an eminent degree, for he loved his profession with a chivalrous devotion, and while such men as he survived it could not be said that the age of chivalry had passed. Mr. Gladstone said it was not for him to venture to speak of Sir Andrew's scientific attainments, but in every profession something more than knowledge was required, and that was character, and he held that it was a high privilege, an honor, and a benefit to the young men coming into the medical profession to contemplate the character and the career of such a man as Sir Andrew Clark, who gave himself, not merely to the acquisition of knowledge, but to the application of that knowledge to the relief of human suffering; he was indeed a typical representative of all that is best in the medical profession. Mr. Gladstone then referred to the early life of Sir Andrew Clark, and said that all through he had found delight and recreation in the consideration of divine subjects; he then proceeded to express his sense of the benefits he had personally derived from Sir Andrew's care, and declared he had come to that meeting not only from sentiments of duty and respect, but of gratitude and personal affection. He dwelt on Sir Andrew's patience, his thoroughness, his complete absorption in a case as if that were the single subject of his thoughts, and in his own case the warm friendship and assiduous care with which he had been watched; for though Sir Andrew was a younger man he had attended him with more than paternal affection, and never more than in the last year of his life. It was, said Mr. Gladstone, the happy lot of my wife to recognize at an early date what was in Sir Andrew Clark, and well do I remember how she returned from her first visit to the London Hospital, now some thirty years ago, and told me about "that great Andrew Clark." In conclusion he hoped the result of the meeting would prove that Andrew Clark was not forgotten, but that his work would be commemorated and that the noble profession of which the advance had been so great, and in the future would probably be greater, would help to make the memorial worthy of the name it would always be glad to have recorded on its annals.

Of course after the great orator other speakers would be at a disadvantage and what they said possessed little interest, except inasmuch as they formally moved and seconded resolutions to raise a sufficient sum of money to carry out the purpose in hand. No doubt the money will be raised, and the London Hospital obtain its new buildings.

Interstitial surgery is again to the fore. On Monday last at the Medical Society a case was related in which, on operation, three ruptures of the small intestine and laceration of the mesentery were found. The man had been kicked by a horse. Resection was performed and the patient did well for a time, but peritonitis occurred from the sutures giving way, probably in consequence of the bruised tissues in which they were placed, and perhaps, also, to the interference of the blood-supply through the injury to the mesentery. Another case was mentioned in which laceration of the mesentery was followed by gangrene of the intestine.

A case was then related of obstruction relieved by an opening into the cæcum; the patient did well but begged something further might be done to relieve him from the inconvenience of the discharge. The abdomen was opened, a tight fibrous stricture being found in the descending colon; it was excised and the ends joined; the man did well and the opening into the cæcum was closed. Subsequently he rode from Southampton to London on his bicycle, but a month or two later symptoms returned. Later another operation was performed, when nodular masses were found in the peritoneum and intestines, and so the wound was closed. At his death, some two months later, the resected part was found in a perfect condition, death having occurred from secondary deposits.

At the Clinical Society a case was related due to disease of the appendix in a man aged thirty-five. At the operation the appendix was removed and adhesions cut and torn through until the contents of the small intestine could be squeezed into the large. The patient was in a collapsed state for about thirty hours, but he rallied and recovery was uninterrupted. The collapsed condition was considered to be due to absorption of septic material. Another case was related of acute obstruction in which on making an opening in the middle line a small quantity of turbid serum escaped. Vascular adhesions prevented a systematic search for the source of obstruction and the patient became so profoundly collapsed that the wound was hastily stitched up. The next day it was opened in the central part, a small incision made into a prominent coil of small intestine and a cannula of a suction trocar introduced to which was attached a long India rubber tube leading to a vessel under the bed. The cannula was held in position for four hours and a half by relays of dressers, and a large quantity of the contents of the bowel came away. The patient made an excellent recovery and has had no trouble since his discharge last November. It was remarked by one of the speakers that it is curious obstruction should be so rare from appendicitis, considering how common disease of the appendix is. He mentioned a case of a man, aged thirty, who had passed through fifteen attacks, with the formation of a swelling the size of an orange, which disappeared with the discharge of pus by the bowels. When operated on the caput cæcum coli was found of an hour-glass shape, the appendix being reduced to a mere thread adherent along the cæcum; the adhesions were separated, and the wound closed, the patient recovering and remaining free from further attacks.

There was an interesting exhibition of specimens at the Pathological Society on the 1st inst., including one of

extreme tuberculous ulceration of the large intestine; another of cancer of the neck, the thyroid gland being involved and the trachea and œsophagus encircled by dense contracting tissue rendering both tracheotomy and gastrostomy necessary. There was some difference of opinion as to the origin of the growth. There was also rather a rare specimen of congenital hernia of the diaphragm, there being no deficiency but a pouch involving the left half without muscular fibres. The child had survived forty-three hours.

You will no doubt have received as full information as we have respecting the outbreak of cholera in Lisbon, so I need only say our sanitary authorities are on the alert, and we are not cherishing any serious apprehension of an invasion.

The Royal Society gave a conversazione on the 2d inst. There was a brilliant assemblage and some most interesting exhibits, one of them showing the influence of sunlight on bacteria, another illustrating the phenomena of chemiotaxis. There was also a model of a new Atlantic cable, through which it is expected that a speed of fifty words a minute will be attained and through which I may have the pleasure of saluting you.

A Blue Book is being issued containing the evidence of thirty-nine witnesses examined by the Opium Commission before it proceeded to India. Other parts of the Commission's report will follow.

THE CURE OF LOCOMOTOR ATAXIA.

To the Editor of the Medical Record.

Sir: It seems to me not less than a duty to say a word about the "case of Locomotor Ataxia cured," reported by Dr. T. E. Schumpert, in the Medical Record, of May 19th, for I fear some injury may be done by those who unguardedly accept the statements made.

There is no drug that is perhaps more universally discarded in the treatment of locomotor ataxia than strychnine. Ataxics are particularly sensitive to it, and I have seen a patient stiffened by $\frac{1}{100}$ of a grain. No drug will more surely give discomfort and pain. No doubt, in small doses carefully given, it sometimes has good symptomatic effects; but to give large doses, I am sure would be disastrous.

As for Dr. Schumpert's case, there is no evidence from his carelessly related history that the disease was locomotor ataxia, and as a matter of fact there is little doubt that it was one of neuritis, which would have got well under treatment.

C. L. Dana, M.D.

50 West Forty-sixth Street, May 22, 1894.

The Therapeutic Value of Minor Gynecological Operations.—"For these reasons," says Dr. Goodell, referring to some operative failures in his experience, "I must confess to becoming far less inclined than formerly to operate on trifling lesions of the reproductive organs, and especially on small tears of the perineum, the repair of which is painful, unnerving, and generally of doubtful expediency. I have become very sceptical of the influence of such lesions upon the general health, and have come to the belief that, even in bad cases, it is greatly overrated. In my experience the mistake usually made in these cases is that of attributing to the lacerations the mock uterine symptoms of nerve prostration. About this there can be no error, for I have over and over again, without any surgical treatment whatever, cured of all their ailments patients who had been sent to me for the very purpose of undergoing some operation on the womb, on the perineum, or even on the ovaries themselves."

Epistaxis.—Hutchinson places patients with obstinate nose-bleed in the sitting posture and with the feet in a deep pail of water as hot as can be borne. He says this never fails to arrest the hemorrhage.

New Instruments.

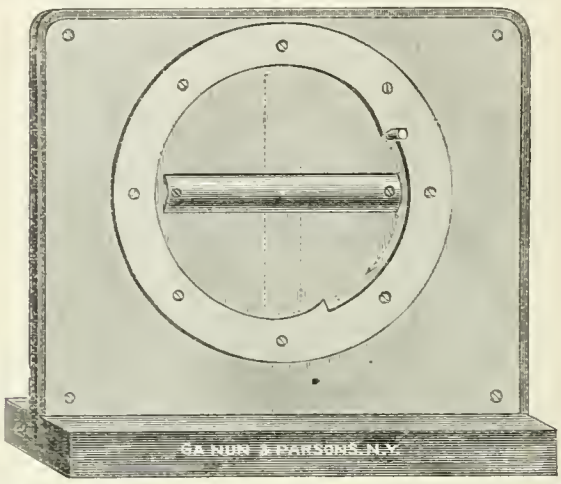
AN ADAPTATION OF THE MADDOX CYLINDER FOR USE ON THE PHOROMETER.

By JUSTIN L. BARNES, B.S., M.D.,
NEW YORK.
ADJUNCT PROFESSOR OF OTOLOGY, UNIVERSITY MEDICAL COLLEGE; ASSISTANT SURGEON, MANHATTAN EYE AND EAR HOSPITAL; FELLOW NEW YORK ACADEMY OF MEDICINE, ETC.

The accompanying cut shows the construction of an adaptation of the Maddox cylinder for use on the phorometer.

It consists simply of a carrier, like those supporting the usual phorometric prisms, in the upright of which is carried a mechanism by means of which the cylinder may be rotated into exact vertical or horizontal positions, a pin and stop being so contrived that these points are secured with precision, leaving nothing to the fallibility of the personal equation in making these adjustments.

The cylinder, being an infinite number of prisms



with their bases in apposition with the cylindric axis, produces in the eye which views a distant light through its medium, a juxtaposing multiduplication of the flame, which therefore appears as a line of light.

When the cylinder is turned into the vertical position this line is necessarily horizontal, and conversely; by means of which vertical and lateral heterophoria are determined much after the manner in which, with enlarged copies of the "Graefe dot and line" placed at twenty feet, I have, for confirmation, for years often diagnosed and measured these insufficiencies.

Now, with this appliance placed before one eye (and for convenience of reasoning I always select the same eye, usually the right), this line, in orthophoria, with the cylinder in any position, exactly intersects the single flame seen by the other eye, both eyes being, of course, open simultaneously; while in heterophoria this line does not cross the single light, but is found to be more or less remote.

The quality and quantity of heterophoric aberration are diagnosed and measured in the usual fashion and no extended discussion is pertinent in this connection.

When the cylinder is vertically placed over the right eye, if the single flame is above the line the fault is right hyperphoria, and conversely.

When the cylinder is in the horizontal position over the right eye, and the flame is to the left of the resulting vertical flame line, the conditions present are those of homonymous lateral diplopia with esophoria; when contrariwise, there is discovered to be crossed diplopia with exophoria. The prisms which produce coincidence of flame and line by intersection are the measure of the muscular errors.

This instrument, which further adds to the list of means of precision, can be had of Messrs. Ga Nun & Parsons, of New York, who kindly constructed it at my suggestion.

3 East Forty-first Street.

Medical Items.

Contagious Diseases — Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 19, 1894.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	4	3
Scarlet fever	111	12
Cerebro-spinal meningitis	3	6
Measles	180	7
Diphtheria	244	71
Small-pox	10	5
Cholera	0	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0

The Great Medical Error.—In the treatment of the diseases of women, at the present time, there seems to me to be a tendency to lay too much stress upon lesions of the reproductive organs. Too little heed is, therefore, given to the nerve element of woman's diseases, and as a natural sequence the surgical feelers and antennæ of the medical profession, always too keenly sensitive, vibrate vehemently at the approach of an ailing woman. This trend of the profession, to appeal to the knife as the great panacea for woman's diseases, is seen everywhere. It prevails alike in city, town, village, and hamlet. It asserts itself in every medical discussion and stands out in bold relief upon the pages of every medical journal. It has caused many needless sexual mutilations and unnecessary operations, and it is, in my opinion, the great medical error of the day.—*Goodell.*

The Canny Prince of Servia.—Dr. F. Semeleder, of Cordova, Mexico, writes: "An article in your issue of March 31st, entitled 'Skilled Labor and High Fees,' reminds me of an anecdote the late Professor Edward Jäger, of Vienna, related of his father (at that time the first oculist in Europe), and of Milosh Obrenovich, who then was the first Prince of Servia. Milosh had cataract of both eyes. Jäger operated for him on one eye and with good result. Milosh paid for this operation 6,000 ducats (nearly $10,000), a big fee in those times. When Jäger had operated on the second eye and the result was happy again, Milosh sent him this time 3,000 ducats. Later they met at the table of Prince Metternich and were seated one next to the other. Jäger asked his neighbor why he had only given him 3,000 ducats for the second operation. Milosh, with the cunning smile of a savage or a peasant, answered, 'If I had had a third eye to be operated on, I would no doubt have paid you again 6,000 ducats for the second operation.' May not his sublime Highness the Shah of Persia feel inclined to play a similar trick on Dr. Galezowsky?"

Report of the Pasteur Institute.—During the year 1893 the Pasteur Institute in Paris received for treatment 1,648 persons who had been bitten by rabid animals. Of these, four died, the others, as far as known, escaping hydrophobia.

Oranges and Alcohol.—It is asserted, upon whose authority we know not, that the craving for alcohol may be greatly diminished by the use of oranges eaten to the number of six or eight a day.

Monsieur Desprès is the object of much ridicule from his Parisian *confrères* because of his little faith in the value of antisepsis. One medical journal says that M. Tailhade, the anarchist poet, who was wounded by the explosion in the Café Foyot, cried out in alarm when told he was to be taken to the Charité, and begged that he be not allowed to fall into Desprès's hands. Another paper announces with black headlines that this surgeon was observed recently to pass a trocar through the flame of an alcohol lamp before tapping a hydrated cyst, and the onlookers telegraphed abroad that he had become a convert to antiseptic surgery. The wound suppurated, however, and now antisepsis is less in favor than ever before.

Death Following a Box on the Ears.—A German soldier was boxed on the ears several times by an officer for not being quick enough in obeying orders. He was soon after seized with headache, vertigo, and ringing in the ears, became comatose, and died within a few days. The autopsy showed cerebral hyperæmia with an effusion of blood in the pia mater.

Leprosy and Measles.—Dr. Impey, of Robben Island, writing in the *South African Medical Journal*, expresses the belief that leprosy will be cured, not by internal remedies or by external application, but by the introduction into the system of some bacillus inimical to the growth of the leprosy bacillus. This bacillus, he thinks, is to be found in measles.

Washing Underclothing in the Russian Army.—According to *Vratch* (No. 7, 1894), a small quantity of petroleum is added to the soap-suds in which the underclothing of Russian soldiers is boiled. The clothes are whiter, are less injured by washing, and a considerable saving is made in soap. The same process is to be employed in the German military hospitals.

Biehromate of Potassium in dyspepsia and gastric ulcer is recommended by Dr. Thomas R. Fraser. He gives it in doses of gr. $\frac{1}{10}$ or gr. $\frac{1}{12}$, twice or thrice daily.

The Degrees of Fertility at Different Age-periods in Men and Women.—Some interesting observations were communicated at the meeting of the Royal Society, on January 18th, in a paper by Joseph Koösi, member of the Hungarian Academy of Sciences. The subject was an inquiry into the fertility of each sex, based upon observations made with regard to statistics available at Buda-Pesth. Among husbands of thirty-nine years of age the probability of becoming fathers is, with a wife of twenty years, thirty-one per cent., and with a wife of thirty years, twenty per cent. On the other hand, for husbands of forty years the chances are, with a wife of thirty-five years, twenty-seven per cent.; with one of forty years, seventeen per cent.: and with one of forty-five, only two and a half per cent. Again, two degrees of fertility appear to exist for each age, namely, the physiological and the actual fertility. The former is the result of the unrestrained exercise of the sexual functions, while the latter is the outcome of such functions controlled by forethought initiated by motives of morality. It is among newly married couples, admits the author, that the physiological factor is nearly exclusively active. But after the birth of the first child the degree of physiological fertility declines, and under the influence of the moral factor it is reduced to an extent exceeding all expectation. For example, with mothers of thirty to thirty-five the reduction is to seventy-eight per cent.; with those of forty-three, to two per cent.: that is to say, ninety-eight per cent. of the physiological faculty is suppressed in these latter cases. With men the influence is also very great, though it is less pronounced than in women.—*Medical Press.*

The Earl of Carriek has Hæmorrhoids, or did have. He has written a letter to a patent medicine concern, stating that he was thus troubled, but that the great remedy "touched the spot" and relieved him. Lady Keane has also given a certificate to the effect that her piles were cured by the same remedy. Times are hard now, and the clergy will find a dangerous rival in the nobility in the once lucrative employment of composing patent medicine certificates.

The King of Italy is reported by a London paper to be suffering from cancer of the larynx, and will, it is said, soon submit to an operation in the hope of relief.

International Medical Congresses.—The following are the dates and places of meeting of the eleven congresses thus far held: 1867, Paris; 1869, Florence; 1872, Vienna; 1875, Brussels; 1877, Geneva; 1879, Amsterdam; 1881, London; 1884, Copenhagen; 1887, Washington: 1890, Berlin; 1894, Rome.

Attending Physicians in the Paris Hospitals.—There are 88 physicians, 44 surgeons, and 9 accoucheurs in the services of the various public hospitals of Paris. Attached to the Central Bureau are 18 physicians, 14 surgeons, and 4 accoucheurs. There are 16 consulting physicians and 9 consulting surgeons, making a total of 202.

Some Chinese Hints on Midwifery.—Dr. John G. Kerr, of Canton, China, has been translating the *Tai Shang Pin*, or Midwifery Made Easy. The work shows that the Chinese possessed many sensible ideas on this subject. Among the interesting paragraphs are these: When the child is born, it may not be able to cry, or it may be already dead. It should be quickly wrapped up in cloths, and the cord then burned off with perfumed oil-paper, which will cause the warmth to enter the stomach, and life will be manifested by the return of the voice. If the cord has already been cut, the child must die. . . . It is of the first importance in nourishing the womb to restrain the passions, and, if this cannot be done, to limit them. When lust is moderated, the heart is undisturbed, and the spirits of the womb are more quiet. When the womb is at rest it is more favorable for the nutrition of the child; it will be more easily delivered, and will be healthy and long-lived. In nourishing the womb it is best to be moderate in doing work. Look at the females in the country, the servants, and those of the lower orders. They suffer very little from diseases of the womb, because labor promotes the circulation of the blood and spirits, and gives strength to the bones and muscles. When the womb is accustomed to motion in the abdomen a slight fall will not be followed by an injury. If one lives in luxury and ease the bones and muscles are weak and delicate, and the circulation is sluggish. Any acciden' to such persons is immediately followed by falling of the womb. . . . In the after-treatment the customs of different places are not the same. In one place they use red sugar, in another, *Shau Cha*, in another, *Ng Chaü-ü*, and in another, pepper boiled in water, but none of these is as good as the mixture of boy's urine and whiskey. For pain in the stomach, the infusion of *Shang Fu* is infallible.

The Axis-Traction Forceps and Antepartum Douche as causes of Rupture of the Perineum.—Dr. George M. Boyd, in an article on injuries to the pelvic floor, says: That the forceps is the cause of many tears I believe, and I find in the forty-two operations reported a confirmation of this. In my experience we have a new factor in the axis traction rods of the modern forceps, as a cause of these injuries. Let us be mindful that while we are making traction in the axis of the pelvic canal that we may be also producing, by pressure, serious damage to the pelvic floor. Is the use of the bichloride antepartum douche a cause—washing away the natural secretions and producing a dryness and rigidity of the soft parts, as it is claimed by some? If this is the case, then we have an explanation of many of the injuries I have reported, for in all cases where the first stage of labor was not completed before admission, the patient was given a 1–4000 antepartum douche. Should the discussion favor or oppose its use, because of this danger, even then I should feel compelled to use it as a prophylaxis against gonorrhœal ophthalmia and septic infection.

Neebe's Treatment of Sweating Feet by Crude Hydrochloric Acid.—When the feet are very tender, especially in hot weather, treatment is preceded by an eight to ten days' application of compound talc powder, which is sprinkled in the stockings. The application of the acid is best made in the evening. The crude hydrochloric acid is poured into a flat vessel of stone or glass or porcelain, sufficiently large to receive the two feet. Since the soles of the feet and the skin between the toes are the seat of the trouble, sufficient hydrochloric acid is poured in the vessel to completely cover the soles. It should not be allowed to come in contact with the skin of the back of the feet. The heel is kept in the acid for five minutes; then the sole of the foot for ten minutes. After this the feet, especially the skin between the toes, are washed in soap and warm water. Soaking in the acid must be at once stopped as soon as pain is excited, and the painful spots must be treated with zinc ointment until healing is complete. The process of soaking may be repeated twice weekly.

The International Congress.—The medical press throughout the world is almost unanimous in pronouncing the Rome Congress a failure. The object aimed at was evidently the glorification of Baccelli rather than the advance of science or the comfort of the members, as everyone present in Rome could not fail to observe from the many advertisements of this gentleman scattered broadcast throughout the length and breadth of the Eternal City.

The Favorite Beverages in England are tea, beer, and light wines, which are gradually taking the place of coffee, spirits, and heavy wine. The consumption of sherry and port has decreased in the last seventeen years from 11,000,000 gallons per year to 4,700,000, while tea shows an increase of 6,000,000 pounds during the same period, and light wines of nearly 2,000,000 gallons.

BOOKS RECEIVED.

Diseases of Women. By Henry J. Garrigues, M.D. 8vo. 690 pages, illustrated. Cloth, $4; Sheep, $5 net. W. B. Saunders, Philadelphia, Pa.

An American Text-Book of the Diseases of Children. Edited by Louis Starr, M.D., assisted by Thomas S. Westcott, M.D. 8vo, 1190 pages, illustrated. Cloth, $7; Sheep, $8; and half Mo., $9. W. B. Saunders, Philadelphia, Pa.

Minor Surgery and Bandaging. By Christopher Heath, F.R.C.S. Tenth Edition. 12mo. 389 pages, illustrated. P. Blakiston, Son & Co., Philadelphia, Pa. Price, $2.00.

A Text-book of Gynecology. By James C. Wood, A.M., M.D. 8vo. 858 pages, illustrated. Boericke & Tafel, New York.

Pain, Pleasure, and Æsthetics. By Henry Rutgers Marshall. 8vo. 359 pages. Macmillan & Co., New York. Price, $3.00.

Clinical Lectures on Pediatrics. By A. Jacobi, M.D. 8vo, 195 pages. Bailey & Fairchild, New York.

Lectures on Auto intoxication in Disease, or Self-poisoning of the Individual. By Charles Bouchard. Translated by Dr. Thomas Oliver. 8vo, 302 pages The F. A. Davis Co., Philadelphia, Pa. Price, $1.75.

Tumors, Innocent and Malignant. By J. Bland Sutton. 8vo, 511 pages, illustrated. Lea Brothers & Co., Philadelphia, Pa.

A Practical Treatise on Medical Diagnosis. By Dr. John H. Musser. 8vo, 881 pages, illustrated. Lea Brothers & Co., Philadelphia, Pa.

The Year-book of Treatment for 1894. By Barclay J. Baron, et al. 12mo, 492 pages. Lea Brothers, Philadelphia, Pa.

A Manual of General Histology. By William S. Gottheil, M.D. 12mo, 148 pages, illustrated. Sabiston, Murray & Co., New York City.

Congenital Affections of the Heart. By George Carpenter, M.D., Lond. 12mo, 103 pages, illustrated. John Bale & Sons, London, Eng.

Politzer's Text-book of the Diseases of the Ear and Adjacent Organs. Translated by Oscar Dodd, M.D. 8vo, 739 pages, illustrated. Lea Brothers & Co., Philadelphia, Pa.

Syphilis in the Innocent, Clinically and Historically Considered, with a Plan for the Legal Control of the Disease. By L. Duncan Bulkley, A.M., M.D. 8vo, 398 pages. Bailey & Fairchild, New York City.

Hospitals, Dispensaries, and Nursing. Edited by John S. Billings, M.D., and Henry M. Hurd, M.D. 8vo, 718 pages.

The Microscope and Microscopical Methods. By Simon Henry Gage. 8vo, 163 pages, illustrated. Comstock Publishing Co., Ithaca, N. Y.

The Dispensatory of the United States of America. By Dr. George B. Wood and Dr. Franklin Bache. 17th Edition. 8vo, 1930 pages. J. B. Lippincott Company, Philadelphia, Pa.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 45, No. 22.
Whole No. 1230.

NEW YORK, JUNE 2, 1894.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

A NOMENCLATURE FOR THE DIFFERENT CLASSES OF INFECTIOUS DISEASES.[1]

BY W. H. THOMSON, M.D.,

NEW YORK.

PROFESSOR MATERIA MEDICA AND THERAPEUTICS, UNIVERSITY MEDICAL COLLEGE, NEW YORK.

MEDICAL terms become important as such in proportion to their influence upon conduct. When the effect of the wrong use of some such terms may needlessly disturb the affairs of a household and seriously alter the natural relations of its members to each other, or alarm an entire neighborhood, or empty a town, or greatly derange the commerce of a country, it certainly behooves the medical profession to endeavor to prevent all such misunderstandings by making the meaning of such terms as definite as possible. Instead, however, of this having been the case in the past, there is no more unpleasant feature in the history of medicine than the long confusion, often marked by angry controversy, which has characterized the use by medical men of the terms intended to be descriptive of the nature of infectious diseases.

How untoward in its results such confusion may be is well illustrated by the variety of ways in which the term "contagious" has exerted an influence for evil both on the profession and on the public. No word can escape entirely from association with its primary meaning, and particularly no descriptive name can wholly lose the original hue of its derivation. To spread by contagion means to spread by touch, and it is impossible thoroughly to dispossess anyone's mind, whether medical or non-medical, of certain suggestions connected with this first significance of the term. It was thus that this primary meaning of the word contagious generated the notion that a sort of continuity, like the spread of a fire among combustibles, was the essential element in all contagious diseases, and hence if any other diseases did not so spread, but could spring up separately without contact with previous cases, it was accordingly inferred that there could be no community between them and the contagious diseases. The term contagion, in fact, monopolized the mental conception entirely, to the exclusion of every other, with the result that when a particular epidemic disease was shown to spread in a community without personal contact with the sick, it was forthwith pronounced to be wholly different in kind from contagious diseases, and the public was exhorted to dismiss all fear of its having any relationship whatever to such diseases, and to act accordingly.

Asiatic cholera, for instance, was easily shown to be a non contagious disease, because in every epidemic of it, especially at the beginning, persons fell victims to it who were known not to have been near anyone sick with cholera, while those who themselves attended the sick, living, for example, on the banks of a stream, were not as often attacked as persons who lived at a distance down that stream. The next logical conclusion in this train of reasoning was that cholera had nothing to do with human intercourse any more than that ague has to do with human intercourse. This seems to have been the opinion of the Medical Society of Massachusetts, when, in the year 1855, it promulgated with much emphasis, for the benefit of the public, the doctrine that Asiatic cholera was in no sense contagious, but rather that it was a miasmatic disease dependent upon some general element suspended in the atmosphere.

Ere long, however, the close and unmistakable relationship of the spread of cholera to the routes of commerce or of travel obliged many to admit that this disease had something to do with human intercourse. But if so, such a fact was conclusive against its being a miasmatic disease, for miasmatic diseases never leave their localities nor go on journeys. Hence, as cholera was neither contagious nor miasmatic, it was proposed to call it "infectious." But this designation was equally unfortunate with contagious as a specifically descriptive term, though in an opposite fashion, for whereas "contagious" strictly limits the conception of the mode of extension, "infectious" defines nothing as to mode, for according to its original meaning it can be applied equally well to contagious, to purely miasmatic diseases, and also to the class which are neither miasmatic nor contagious, like typhoid fever and cholera. A man can be as truly infected with malaria by going to a malarious locality as he can become infected with small-pox by entering a room where a small-pox patient lies, and again, he can be likewise infected with typhoid fever and with cholera by going to a town where these diseases are epidemic. Therefore, to term cholera infectious only served to make the conception of its true nature more vague than ever.

Vague fear is the mother of panic, and vague terms are the most potent generators of vague fears. When medical men themselves are not sure how the different classes of epidemic diseases should be distinguished from each other by descriptive names, the public can scarcely know what to think about them, and hence is open to the occurrence of as needless a fright as that about cholera which cost the city of New York so much in the autumn of 1892.

This subject, moreover, has assumed of late quite a new phase and importance by the fact that the progress of medical knowledge has led us to add to the list of specific infectious diseases both tuberculosis and ague. But if the profession is to announce that pulmonary consumption is truly infectious, the public has every right to ask just what we mean by it. Is infectious the same thing as contagious; and if not contagious, then what is it? We cannot minimize the importance of this matter, for without more specific explanation it will be impossible to prevent painful results in conduct toward consumptives owing to the natural interpretation by ordinary persons of the term infectious as implying necessarily some form of contagion in this very general disease.

Moreover, it is to the immediate interest of the profession, as well as of the public, that the differences in the modes of infection between the various classes of infectious diseases should be clearly defined so as to prevent both disbelief in, and opposition to, our recommendations as a profession about them. One of the chief obstacles to the diminution of tuberculosis either by precautions taken with consumptive patients, or by the sacrifice of tuberculous cattle, will be the denial that consumption is an actively infectious disease, simply because common experience shows that it is by no means contagious. A general incredulity is already manifest in newspaper comments on this subject, which is based upon appeals to the infre-

[1] Read before the New York Academy of Medicine, May 3, 1894.

quency with which consumptive husbands or wives communicate the disease to their life partners. We even see communications signed by physicians taking the same ground on the same argument, with appeal to the Report of the Collective Investigation Committee of the British Medical Association of 1883, on this point, as disproving the communicability of consumption at all, and hence they inveigh against the inhumanity of the doctrine of the contagiousness of phthisis, thus plainly supposing that the terms infectious and contagious are interchangeable.

Meantime it cannot be said that on account of the insufficiency of our knowledge we as a profession are still unable so to distinguish the chief characteristics of infective diseases that we cannot classify them accordingly. On the contrary, in no respect has our advance of late years been so distinct and gratifying as in the discovery of just how infective diseases are infectious, and often to arrest their spread by specific knowledge on that very point. There has not been, for example, in all history such a striking illustration of the supreme advantage of definite scientific acquaintance with the mode of infection as in the case of the recent arrest, in the very act, so to speak, of Asiatic cholera at the great assemblage of pilgrims in its native habitat at the Kumbh Fair at Hardwâr in India. As a conclusive illustration of our contention we beg leave to cite the following extract about this case from a lecture delivered, February 14, 1894, by Dr. E Klein, F.R.S , before the London Institution.

Dr. Klein says: "A well known fact, which has received unfortunately a great many illustrations, is this, that pilgrims in India carry the contagium of cholera from the fairs or festivals to which the disease is brought from the endemic area to localities which were previously free from cholera" We may in passing note that even Dr. Klein speaks of the contagium of cholera, whereas cholera is in no proper sense a contagious disease. Need we wonder, then, that with medical authorities using such loose terms about infectious diseases ordinary people will dread the contagiousness of cholera, tuberculosis, and typhoid fever. "One such fair," he continues, "is particularly notorious, and it has in the past always been a source of the greatest anxiety to the Government of India. This is the great religious festival, or Kumbh fair of Hardwâr, a town on the Ganges, but situated outside the endemic area of cholera. This great Kumbh occurs once in twelve years, and it is attended by large numbers of pilgrims, a proportion of those coming from districts in which cholera is always endemic. It has thus frequently happened that this great concourse of pilgrims has been followed by a wide diffusion of the disease. The great Kumbh is principally a religious festival, and is looked upon by Hindoos as one of peculiar sanctity, and the very aim and object of the pilgrimage is to bathe in the sacred Ganges and to drink its holy waters. In 1891, when the last Kumbh fair was held, 800,000 to 1,000,000 pilgrims assembled at Hardwâr, and to get an approximate estimate of the enormous pollution to which the sacred Ganges is subjected on this occasion, and the great risk from cholera to which those who drink of its waters are exposed, I will mention what Dr. Simpson, the able health officer of Calcutta, states: In describing the scene at the 'sacred pool' at Hardwar, somewhat retired from the rest of the river, to bathe in which and to drink whose waters the pilgrims gather in such multitudes, Dr. Simpson states that as the bathing went on the clear stream became a muddy one, that from April 8th to April 12th there was always passing through the sacred waters 'a seething mass of humanity' in constant motion through the pool at the rate of four hundred to five hundred per minute. You can easily picture to yourselves that a few cases of cholera introduced into such a multitude would easily cause not only an outbreak of cholera there and then, but would, by the returning pilgrims, be carried far and wide. Thus a sanitary commissioner says of the Kumbh on previous occasions that very little remains on record, but that little is a record of disease and death. So grave was the outlook that the question of prohibiting the fair in April, 1891, was seriously discussed, and the official opinion of many government officials of great experience was that the most complete sanitary arrangements would be powerless to prevent the spread of cholera should the fair at Hardwâr be allowed to take place."

But in 1891, armed with the knowledge of just how cholera infects, and that without its being taken in food or drink cholera cannot travel six inches, the British sanitary authorities grappled with the problem by allowing the fair to be held, and then stamped out cholera every time it appeared in the midst of this Asiatic crowd, as effectually as a fire can be easily extinguished if taken just at its beginning.

Nor, with respect to other infective diseases besides cholera, is our knowledge less definite as to the ordinary modes by which they are propagated. We have now got rid utterly of that nightmare of a miasm, or deadly diffusible gas, which weighed upon the minds of medical men for so many generations whenever they thought of epidemic diseases, and enough is known for us now to tell the world both what infection means, and what the chief modes of infective propagation are, and hence, how to guard against them.

How readily this can be done I beg leave to illustrate by submitting the following classification of infectious diseases, for the consideration of the Academy, with the hope that it will serve to invite discussion on a subject of great public importance, namely, the adoption by the profession of a definite nomenclature descriptive of the various classes of infectious diseases.

This classification is as follows:

1. All infectious diseases are due to the presence of their specific living micro organisms in the body.

2. Infectious diseases are divisible into three classes—(1) the communicable; (2) the non-communicable, and (3) the septic.

3. The communicable diseases are those whose origin is from an animal body. Examples of which are small-pox, Asiatic cholera, and tuberculosis.

4. The non-communicable infectious diseases are those whose origin is not from an animal body, but from a place or thing. Examples of which are ague, yellow fever, and miasmatic diseases in general.

5. The communicable diseases are divisible into two classes, according to the ordinary modes of their communication.—(1) into the contagious, and (2) into the non contagious communicable diseases. The contagious communicable diseases are those in which simple proximity to the infected with them is sufficient to communicate the infection to those susceptible to them. Examples of which are, typhus fever, scarlet fever, small pox, measles, diphtheria, mumps, whooping-cough, etc. Isolation of the sick with them, therefore, is needful to prevent infection.

The non contagious communicable diseases are those in which the communication is not by simple proximity to the sick, but through intermediate means of communication. Isolation of the sick with them, therefore, is neither needful nor effective, in comparison with measures directed against the intermediate means of the infection. Examples of these diseases are—typhoid fever, Asiatic cholera, and tuberculosis.

6. The septic infectious diseases are those in which the infection has gained entrance through a wound, or damage, by inflammation or otherwise, of the skin or of a mucous membrane. Examples of these are surgical infection of wounds, erysipelas, hydrophobia, tetanus, etc.

Lastly, all infectious diseases can be prevented by measures of disinfection applicable to each.

This statement of infectious diseases and of their respective classes, if correct, would have the advantage in my opinion of being intelligible to the most ordinary readers on account of its being free from all technical terms. In the first place, it is desirable, as it seems to me, that a clear conception of the ultimate cause of all infection should be generally entertained. When all in-

fection is understood to be due to living micro organisms as its primary and essential element, all vague ideas of a relationship to poisonous chemical, physical, or atmospheric instrumentality will give place to more correct conceptions not only of what infection is, but also of what disinfection implies. The latter indeed is practically the most important of the two, for it is a familiar fact that people never do things so well as when they know why they should do them. The more thoroughly an enemy is known the more intelligently he is opposed, and when that enemy is known to be a living, though invisible, thing, what will destroy its life is seen to be more useful than to endeavor to counteract its doings. Another reason for defining infectious diseases as always due in the first instance to micro organisms, is that then it will be readily appreciated how their modes of propagation may vary widely according to the life-history of each species, rather than by only the one mode of contagion. Thus miasmatic diseases will easily be seen to be totally non-communicable as well as non-contagious, because yellow fever, for example, is not derived from an animal source, and only diseases from an animal source can be communicable to other animals. Again, with this conception of the nature of infection, it will not be difficult to demonstrate that some communicable diseases may be able to pass directly from one animal body to another, while others only indirectly, for so do seeds in all nature, even in the highest vegetable forms, present us with precisely analogous contrasts in the modes of their propagation. It has been asserted, for example, that but for the humble ground squirrel, hickory, oak, and chestnut trees would not be able to hold their own in our forests against the trees whose seeds can be carried by the wind.

The term communicable, seems to me particularly advisable to designate every disease whose origin as a disease is from some animal body previously infected with it, because this term will then fasten in the mind the fact that no case of such disease has any other cause than by such communication. This conviction of course does go with the word contagious, but it at once becomes very indefinite in all infectious affections where the term contagious is inapplicable. Hence some designation is particularly needful which will always mean danger to others, even if there be no evidence of contagion, and the word communicable, as we have defined it, does just that. Let a disease be known as communicable, whether contagious or not, and attention is at once awakened to the need of preventing such communication. Nothing, indeed, would so powerfully enlist general co-operation with us toward abating tuberculosis, for example, as to have every consumptive patient and his friends become assured that this distressing malady came to him, not *from* earth, air, or water (though perhaps by all three), but came instead to him originally from another consumptive. But I do not know of any other term than communicable which will serve this purpose, for all other terms which have been employed imply more or less the idea of contagion. Now we should not ignore the instinctive recoil of most persons against the word contagion. In an acute disease like scarlet fever, its dread presence is borne as well as may be on account of the hope that erelong it will be past. But for a chronic affection like phthisis, acting like the slow blight of a withering curse, to have it also thought of as contagious is so repellent to patients and to friends alike that every objection to the belief in such a doctrine will be sure to have its effect upon the mind. But with the designation communicable, but not contagious, the loving ministry of friends need in no way be checked by dread of touching the stricken one, while at the same time the name gives an effective note of warning against its further repetition in other persons.

It is with communicable but non contagious diseases, in fact, that a definite designating term is at present most needed to prevent ignorant fears on the one hand or ignorant carelessness on the other. It was a serious discredit to our profession, as well as to our civilization, that a passenger steamer was dealt with as the Normannia was in 1892, when, notwithstanding the great object-lesson which it gave that cholera is not a contagious disease, because not a single case of cholera occurred among its cabin passengers, though they were virtually nearer to it in an epidemic form among the steerage passengers than if they were all in a city tenement, yet no ship-load of small-pox patients could have been more summarily dealt with than they were. Meantime the absurdity of the usual methods of quarantine service in such a case was perfectly well known by us physicians. A single individual from that steerage crowd, with a slight choleraic diarrhœa, might have passed up to the Harlem Railroad as a laborer, and there infected the water supply of this city beyond the power of all the quarantine officials in the country to have remedied the mischief. But when confronting the New York State Senate Committee on Cities as a delegate from this Academy to lay these facts before that remarkable body of legislators, I found a state of mind and of intelligence in them on all questions about infectious diseases which one might expect from an equal number of Mohammedan muftis, and no more. In fact the chairman of the committee in reply, enunciated the old orthodox Moslem doctrine that God was himself responsible for whatever should happen on the Croton water shed, as he sent the rain which washed things into the river!

Again, what a commentary upon our contemporary medical knowledge is the following instance related to me only last week: A widely known and highly esteemed lady, resident in Princeton, N. J., died this past summer in Chicago, from typhoid fever. Arrangements for the funeral had all been made at her home, and prominent persons were chosen as pall-bearers, when the undertaker showed the husband a certificate that according to the laws of New Jersey public funerals were prohibited in the case of persons who had died of typhoid fever! In the case of tuberculosis the need of such a designating term as communicable is still more urgent as a warning against its most insiduous ways of gaining entrance. Thus a consumptive might not communicate the disease to anyone in his home, and yet so thoroughly infect his down town office by constantly expectorating on its floor, that he would communicate the disease to anyone who swept that floor, or even to another person who hired the same office after him.

Meantime I would restrict the appellation "contagious" to those diseases which are so directly communicable from body to body that mere proximity to the infected is ordinarily sufficient to occasion the disease in others. That these diseases should have a term which would adequately suggest this element in them is very desirable, because there should be no doubt in their case of the immediate necessity for isolation. This question of isolation indeed, overrides all others when it is raised, for it always means inconvenience and hardship at least, if not cause for widespread alarm. I can see no objection to the old term contagious, if we use it in the sense ordinarily understood by the public, namely, a disease which may be contracted by going near one sick with it, without implying anything else about its mode of communication. In this sense the term has become as settled in our language as any other English word, and on that account never can be displaced. It will always be used whether we medical men wish to retain it or not, while new words, however good, have to wait a long time ere it be known whether they will be allowed to become naturalized in a language or not. Moreover, the precise mode of communication has nothing to do with this term, or, for that matter, with any other designation of infectious diseases, for with the majority of these affections we are still ignorant of the precise mode of their infection, and hence we would have to wait indefinitely if we would postpone classifying them until we could define them according to their specific ways of entering the body. What we do know about those diseases which seem to pass directly from body to body is that whether

they pass in one way or another, they do so commonly only at short distances, and that fact is enough to justify the choice of a term like contagious, which sufficiently expresses the danger of approaching the infected, without necessarily implying anything else, while it also distinguishes them from the communicable but non-contagious diseases, in which the danger is as great, if not greater, at a distance than in the immediate neighborhood of the sick.

I have chosen the term septic to designate the third class of infectious diseases, mainly because of the familiarity of the public with the word as applied to what may be termed infections by inoculation. Antiseptic surgery has made the idea and the conditions of sepsis both widely and correctly known, and to my mind it is no objection to the term that its use in medicine is rather restricted to purulent infections, for tetanus and hydrophobia are as strictly inoculable diseases as pyæmia.

In this classification it is carefully stated that it is based upon the ordinary methods of propagation among the respective classes. That the active agents of some communicable contagious diseases may be carried to a distance by various media, as scarlet fever has been asserted to have been conveyed by letter, or in milk, does not militate against the statement that the usual mode of communication is by proximity to the sick. All infectious diseases probably can be communicated by inoculation into the blood, as it is claimed that ague has been so transmitted, but such wholly exceptional methods no more invalidate the designation of these diseases according to the normal modes of their increase than to object to certain plants being termed tropical because they are often found growing in green-houses.

Finally, it seems fitting to direct attention to the fact that all classes of infectious diseases are alike capable of being disinfected out of existence, because the public should be educated to the possibility of ridding the earth of the great cause of unhealthy places or climates, namely, miasmatic diseases. It is doubtful if an unhealthy climate as such exists on the globe, except in the Arctic regions from their extreme cold. Rather, it is not too much to hope that in the coming century the world will become so much wiser that a proper proportion of the enormous sums now wasted upon armies and navies will be transferred to sanitary bodies instead, with the result, already seen to be feasible, of disinfecting the soil by drainage and by other well known means until malarial fevers and affections will be matters only of history.

I have taken the liberty of bringing this subject before the Academy because it seems to me to be well within its province to take steps toward securing a uniformity in the nomenclature of the different classes of infectious diseases, such as would be justified by the present state of our knowledge on the subject, and which would greatly tend to the advantage both of the profession and of the public.

An Official Language.—According to one of the daily papers of Rome, a petition, signed by several hundred East Indian physicians, was presented to the officers of the Congress, praying that Latin be made the official tongue of all future Congresses. The signers also proposed the creation of a bureau in Rome for the publication in Latin of abstracts of all papers appearing in the leading medical journals of the world. Latin is not suitable for the purpose, it is too inflexible. Modern Greek is the language best adapted for an international medium of communication. We recommend a discussion of its advantages at the next Congress.

Syphilis in Tuberculosis.—The syphilitic infection prepares a soil well suited to the development of the tubercle bacillus, predisposing especially to pulmonary tuberculosis. It would appear that the syphilis, after the appearance of the tuberculosis for which it has prepared the way, decreases in virulence, or at least becomes latent.—Dr. P. Quidone, in *La Riforma Medica*.

INTESTINAL APPROXIMATION: ITS PATHOLOGICAL HISTOLOGY OF REUNION, AND STATISTICAL ANALYSIS.[1]

By J. B. MURPHY, M.D.,

PROFESSOR OF SURGERY AND CLINICAL SURGERY, COLLEGE OF PHYSICIANS AND SURGEONS, CHICAGO; PROFESSOR OF SURGERY, POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL; ATTENDING SURGEON TO, AND PRESIDENT OF, THE MEDICAL STAFF OF COOK COUNTY HOSPITAL; ATTENDING SURGEON TO ALEXANDER BROTHERS' HOSPITAL; CONSULTING SURGEON TO HOSPITAL FOR CRIPPLED CHILDREN; FELLOW OF ACADEMY OF MEDICINE, CHICAGO, ETC.

(Continued from page 663.)

It is a fact that in certain forms of intestinal occlusion (strangulation ileus in contrast with obturation ileus) a definite portion of the intestine suffers from an abnormal fixation and distention, which on inspection can be recognized by the asymmetry of the abdomen, and determined and outlined by careful palpation.

The one pathological condition from which it is most difficult to differentiate ileus is perforative peritonitis, but there are two symptoms upon which great reliance may be placed.

1. *In the early stage of perforative peritonitis there is an elevation of temperature; in intestinal obstruction, no elevation of temperature.*

2. *In perforative peritonitis there is a paralysis of peristalsis over inflamed area; in intestinal obstruction there is a very great increase in the peristalsis,* which continues until necrosis of the bowel takes place or a peritonitis is developed. Frequent auscultation of the abdomen, as an aid to diagnosis of intestinal obstruction, is of as much value as auscultation of the chest in arriving at a diagnosis in pulmonary diseases. With the stethoscope, or ear, upon the abdomen, in the early stage of intestinal obstruction, there is a constant rumbling and rolling of the contents of the intestine, and manifestations of stormy peristaltic action. These manifestations are most marked at the seat of obstruction, and, indeed, the location of the obstruction can frequently be ascertained by these signs alone. If this peristalsis should momentarily subside, it can be brought on with increased violence by manipulation of the abdomen. A dose of opium will suppress the peristaltic action of the intestine for hours, while a chloroform narcosis does not interfere with it. It should therefore be impressed on every physician that no opiates should be given in acute lesions in the peritoneal cavity until the question of diagnosis is decided. In ileus, where active peristalsis has subsided and cannot be reproduced by pressure, it is an indication that peritonitis has ensued, and the prognosis of the operation is proportionately grave. A symptom of importance is a very circumscribed dulness near or at the seat of obstruction, due to accumulation in the proximal portion of the bowel,[2] and a meteoric distention of the strangulated loop itself, due to obstructed circulation and decomposition of its contents, producing a rapid gaseous distention and complete paralysis of the wall.[3] Kadar's experiments show that the distention of the strangulated loop is not due to gas and intestinal contents forced into the loop from the proximal side, as was formerly supposed, but is principally due to disturbances of the circulation in the intestinal wall, and consists of a uniform expansion of the entire intestine which is produced by, (1) thickening of the wall; (2) accumulations of fluid; (3) development of gas from fermentation within the loop. This condition he produced experimentally by ligation of the mesenteric vessels after a ligature of the intestine on the proximal side of the portion in which the circulation was obstructed, the distal end being free, still the intestine was dilated. This has great bearing in all operations of intestinal approximation, as it accounts for the paralysis and distention occurring where a greater portion of the mesenteric side of the bowel is removed than on the convex side.

The outlines of dulness in various intestinal obstructions given by von Zoege-Manteuffel are interesting and instructive. An irregularity on the surface of the abdomen,

[1] Read by special invitation before the New York Academy of Medicine, December 7, 1893.

[2] Schede, Schlange. [3] Von Wahl.

supported by an increased circumscribed resistance and tension of the underlying coil of intestine, points definitely to an obstruction at the seat of that distended coil—a local meteorismus.[1]

It will be admitted that a definite diagnosis of the pathological condition producing the obstruction may not be possible. Does that prevent us from operating? No. Will waiting help the patient, or will it even assist in making the diagnosis? No. Every hour lessens the patient's resistance and increases local destruction or necrosis. Still every day we meet with cases in which this policy of procrastination is pursued until the patient is moribund; finally, and unfortunately too often, we are forced to operate under just these unfavorable circumstances.

When we operate under these conditions are we warranted in abandoning the search for the cause of obstruction and its removal, for the establishment of an artificial anus? I think not. Saltzman states that laparotomies for ileus, with removal of cause of obstruction, up to 1883 had a mortality of 71.3 per cent.: simple enterotomy, without removal of cause, 67.3 per cent. So hopeless were the results of laparotomies with the removal of cause that such surgeons as Madelung, Mikulicz, Schede, Shoenborn, who were formerly strong advocates of this operation, abandoned it for simple enterotomy to relieve the obstruction. The indications for the latter operation they attempted to extend even with a slight percentage in its favor, and the comparative certainty that a second operation would be necessary. The establishment of a fecal fistula in this class of cases should be permitted only as a last resort in a profoundly collapsed patient, as we have now means at hand for removing the necrotic intestine and re establishing its continuity in a much shorter time than a fecal fistula can be formed. The more acute the attack and persistent the pain, the more pronounced the collapse, the more probable the existence of complete strangulation and local necrosis. There is, however, no positive symptom of necrosis.

If the foregoing principles are adhered to, the intrinsic dangers of intestinal obstruction can be reduced to a minimum. As a matter of necessity the surgeon must see the case early, examine it carefully, and must be allowed to name the time of operation.

If we were asked what we considered the greatest danger in intestinal obstruction, would the answer not be, not the ileus, not the gangrene, not the peritonitis, but the lamentable failure to make an early and correct diagnosis; or still worse, the lack of courage, having made it, to act upon it. In other words, the fault is not in defects in nature, whereby these accidents are permitted to occur, but in the doctor for allowing the lesions to progress unrecognized or unrelieved beyond the possibility of rescue by surgical interference.

Leichtenstern, Peyrot, and Treves have endeavored, through careful analysis and classification of the history, symptoms, and physical signs, to make a definite diagnosis of the nature of the mechanical obstruction and of the portion of intestine obstructed. Leichtenstern expresses his views as follows: "The object of our diagnosis before the operation is performed is to designate the anatomical and pathological conditions by the history, symptoms, and physical signs, and thereby to ascertain not only that an obstruction exists, but also the position, cause, and nature of the obstruction." In a few cases this has been accomplished, but in the great majority it was impossible to arrive at such conclusions with any degree of certainty, and I feel that Schede has expressed the condition exactly as it exists, and includes all that is of vital importance to operators in the following words: "The greatest difficulty rests, and will for a long time rest, in the diagnosis. I will not even once mention, in considering the diagnosis, the nature of the obstruction, nor the portion of intestine obstructed. I will be satisfied if in a given case, at a given time, the presence of an obstruction to the passage of fæces can be determined, which obstruction it is impossible to relieve by any other means than the surgeon's knife."

Dr. P. Poppert, of Giesen, comments as follows on the cause of death after operation for ileus: "The majority of cases of ileus are already severely depressed—yes, collapsed, when they come for operation; for this kind of depressed patients every long operative procedure, which is accompanied by extensive opening of abdomen and exposure of its contents, will prove fatal; consequently a large percentage of laparotomies of this class die shortly after the operation, from heart failure."

LATERAL APPROXIMATION.

	Cases.	Recoveries.	Deaths.	Not Given.	Mortality Percentage.
Suture	33	20	12	1	36.4
Suture with mechanical aids	23	18	5	—	21.7
Of these, bone plates	14	11	3	—	21.4
Robson's bone bobbin	1	1	—		
Potato plates	1	—	1	—	100.0
Robinson's raw-hide segmented plates	1	—	1	—	100.0
Abbe rings	4	1	3	—	75.0
Davis mats	1	—	1		100.0
Mechanical means, Murphy button	10	10			
Total	66	43	21	1	31.8

The operation of lateral approximation (anastomosis proper) is distinctly a modern operation, as it was first successfully performed by von Hacker, of Vienna, 1886. It rapidly gained adherents on account of the great mortality following the operation of circular enterorrhaphy, and on account of the many mechanical devices that were brought forward about that time, which were intended to simplify the operation; such as the plates used so extensively by Dr. Senn (originally suggested by Connell), Abbe's rings, Robinson's raw hide and segmented rubber plates, Davis' catgut mats, etc.; and finally, on account of the larger aperture that could be secured, by the lateral suture.

The objections to this operation after resection are:

1. The amount of time and the labor required, as both ends have to be closed with two rows of sutures, each row at least an inch long, necessitating four inches of suturing for the end, no matter what method may subsequently be used for the lateral apposition. Then the approximation plates or button is inserted. If the suture be used, it is advised (Abbe) that an opening four inches long be made, and around this be placed one row of Czerny and two rows of Lembert sutures; these rows will average about ten inches each, which, with the four inches of suturing required to close the ends, make thirty-four inches of suturing. For each inch four to six stitches are required, making a total of 136–204 stitches. An expert operator is able to do this operation in a comparatively short time, as Abbe has done, but how long would it take the average operator?

2. The danger of necrosis of the inverted portion at some point over this long space; this I consider of small moment.

3. The danger that one of the many stitches might penetrate the thin mucosa, as they must all include the tunica propria upon which it rests, and be exposed in the calibre of the bowel, producing stitch abscess (as in W. Rindfleisch's cases). The silk remains for an indefinite time.

4. The broad cicatricial mass and the one-half inch of surface-approximation produced by these three rows of sutures, might be expected to contract, as there is no juxtaposition of the incised edges of the various coats of the intestine. This is shown in the case of Salzwedel, lateral approximation of intestine with suture, and still it is *the only case* we found of post-operative stenosis of the intestines, showing that it is of very rare occurrence.

End to Side Approximation.—There are two places in the intestinal tract where this operation should always be

[1] L. Rehm, Frankfort.

given the preference: 1. In resection for cicatricial occlusion of the pylorus, the end of the duodenum should be joined to the side of the stomach. 2. Resection of the cæcum in adults on account of the inequality of size of colon and ileum. In the first case the food is allowed to enter the intestine in about its normal position, and duodenal digestion progresses about the same as if no operation had been performed; of still greater importance is the fact that by this method the bile and pancreatic secretions are not permitted to enter the stomach and cause such grave disturbances as are reported to have occurred (Dr. Heinrich Braun). He considered the condition so grave that he suggested an operation involving a triple anastomosis to prevent the bile from entering the stomach. Lauenstein recommended this operation. End-to side approximation has no other legitimate place in surgery of the small intestine after resection.

End-to-End Approximation.—We note from the reports of cases in the last six years, 134 intestinal approximations by all methods, of which 49 were end-to-end, 61 side-to-side, and 24 in which the position of approximation was not stated. Of these, 44 cases were for intestinal approximation for acute obstruction, with 29 recoveries and 15 deaths; mortality, 34.1 per cent. For chronic obstruction 43 cases, with 31 recoveries and 12 deaths; mortality, 27.9 per cent.; making a total for obstruction of 87 cases, with 60 recoveries and 27 deaths; mortality, 31 per cent. The methods employed in acute obstruction were suture 28, recoveries 18, deaths 10, mortality, 35 6 per cent. Mechanical means 13, recoveries, 10; deaths, 3; mortality, 23 1 per cent. Suture with mechanical aid, 3 cases, with 1 recovery and 2 deaths; mortality, 66 7 per cent. Methods employed in chronic obstruction were, suture, 28 cases; 19 recoveries, 9 deaths; mortality, 32.1 per cent. Mechanical means, 13 cases; 11 recoveries, 2 deaths; mortality, 15.4 per cent. Murphy button, 20 cases, 19 recoveries.[1] Suture with mechanical aid, 2 cases; 1 recovery, 1 death; mortality, 50 per cent. Total number of intestinal approximations for closure of artificial anus, 35; 28 recoveries, 6 deaths; 1 unknown; mortality, 17.1 per cent. Of these 24 were suture, with 18 recoveries, 5 deaths, 1 unknown; mortality, 20.8 per cent.; 7 were by mechanical means, 7 recoveries; 4 were by suture with mechanical aid, 3 recoveries, 1 death; mortality, 25 per cent.

End to end approximation of the bowel is the most desirable position, as it most closely approaches the natural condition. Surgeons have always regarded the end-to-end as the ideal approximation. This was only deviated from with the hope of reducing the great mortality that resulted with the methods heretofore employed. Has this deviation accomplished the desired result? Our statistics answer, no. In forty-nine cases of end to end approximation by all methods, the above statistics show a mortality of 16 3 per cent.; while in 66 lateral approximations by all methods the mortality was 31.8 per cent. Results of the lateral approximation, therefore, show a mortality about one hundred per cent. higher than that of end-to-end approximation.

Paul remarks that; "end to-end is preferable to lateral union, if it can be obtained with equal safety." The objections raised to the circular suture are: first, the time consumed; second, the possibility of perforation in parts not covered with peritoneum (mesenteric attachment); third, the large number of sutures, and the liability that some of them would go through the entire thickness of the bowel and produce peritoneal infection; fourth, with the invagination method there is the additional danger of a post-operative progression of the invagination, finally producing obstruction; fifth, the danger of obstruction from contraction of the necessarily broad cicatrix.

While these objections have force against the end to-end approximation by suture, not one of them is valid against the use of the button.

Abbe favors the lateral approximation by suture in the following words: "Lateral anastomosis properly done, is eminently the safest and the best method of restoring the canal in most cases." The statistics of lateral anastomosis do not sustain this statement. Our statistics show a mortality in lateral approximation of 34.4 per cent.; end to end approximation, 16.3 per cent.; of this the mortality with suture was 20.6 per cent.; with mechanical means—the button—100 per cent.

The first objection to the button is that it is a foreign body in the intestinal tract and might cause obstruction. This accident has not occurred in one of the 32 cases operated upon, nor has it taken place in over three hundred experiments, nor will it occur except where there is a pathological contraction of bowel. The second objection that the necrosis of the tissue within the clasp of the button would be a source of danger, is purely mythical. There is no more danger from its infecting the peritoneum than from infection through the bowel by a piece of undigested meat; as the bowel is securely sealed *par excellence* by this method. Infection has not occurred in a single case. The third objection that the small surface of apposition would not prove adequate in the protection of the peritoneal cavity, has as little basis as there is for believing that the wall of the intestine itself is not strong enough to protect the peritoneum, as the pathologists show, in slides herewith submitted, that the intestine at the seat of approximation can scarcely be differentiated from the normal intestine. I have received no information, nor do I know of a case in which there was a failure of union by the button, nor do I believe that such failure will occur except where there is a septic peritonitis *due to infection from without.* The contraction of three-eighths of an inch in the opening, reported by Keen in his case, is in unison with the contraction of the bowel from its previously distended condition, and should be expected under these circumstances. But there is no proof that the contraction would have continued to complete closure, as occurred with the bone plates.

Two years have elapsed since the first operation with the button, in many others over a year, and in a still greater number a shorter period of time. I have received recent reports on many cases, and stenosis has not occurred in a single case.

I here append a synopsis of the cases of intestinal approximation as furnished me by the operators:

Case I.—From Dr. H. O. Walker, of Detroit, Mich. Diagnosis: Fecal fistula following laparotomy. Several unsuccessful attempts by other surgeons had been made to close fistula; laparotomy, December 8, 1892; excision of about four inches of portion of bowel involved in fistula; end-to-end approximation by Murphy button; time consumed in performing operation, seven minutes; patient made an uneventful convalescence, and in a letter received from Dr. Walker this month, he states that she has been in excellent health since operation, about one year ago. This was the first case of end-to end approximation performed on human subject by Murphy button.

Case II.—From Dr. Hoelscher. Mrs. L., aged thirty-two. Diagnosis: Annular stricture of rectum, situated three inches above the sphincter, which would scacerly admit the tip of finger.

Operation by Dr. Murphy, January 14, 1893.—The sphincter split down to the bone, half of the Murphy button passed up above the stricture. Incision united with sutures. Other half of button placed below the stricture and button pressed together. This produced a necrosis of the cicatricial tissue constituting the stricture, and an end-to end union of the rectum. The special button used was one and a half inch in diameter, and was voided on the twelfth day. Patient was seen three months after operation, and there was but very little contraction.

Case III.—From Dr. W. W. Keen, of Philadelphia. Mrs. P——. Diagnosis: Carcinoma hepatic flexure of colon.

Operation, January 30, 1893.—For repair of artificial anus and re establishment of continuity of bowel. Enterectomy of portion of bowel involved in fistula; suture

[1] Cases were added since table of percentages was made.

of distal end of ileum with Cushing's right angle suture; united proximal end of ileum to side of colon with Murphy button (middle size); closed abdomen; recovery. In writing of this method, Keen says: "The speed and certainty with which an anastomosis can be made, once that the bowel is prepared for it, are certainly advantages which the button possesses over every other means of anastomosis, whether by simple suturing or by bone plates, catgut or other rings. The question of speed in such abdominal operations is of the utmost importance, and this device is by far the quickest of all means of anastomosis." For an excellent review of the method and detailed report of this case, see *Annals of Surgery*, June, 1893. This was the first case of end-to-side approximation with Murphy button.

Case IV.—From Dr. G. D. Thomas, of Chicora, Pa. Mrs. H——, aged fifty. Diagnosis: Fecal fistula with stricture of bowel.

Operation, March 25, 1893, by Dr. R. S. Sutton, of Pittsburg.—Lateral approximation was make with Murphy button (largest size); bowels moved twenty-four hours after operation; on and after the sixth day bowels moved regularly, the constipation from which the patient had suffered having been overcome; fecal fistula closed in three weeks without operation.

August 11, 1893.—Patient continued in excellent health, being robust and going about her household duties. This was the first case of lateral approximation by Murphy button.

Case V.—From Dr. E. Wyllys Andrews, Chicago. Mrs. F. F——, aged thirty-eight. Diagnosis: Strangulated right femoral hernia.

April 3d.—Herniotomy; gangrene of eighteen inches of ileum; excision, end-to end approximation with Murphy button (middle size); mass dropped into the abdomen; procedure rapid and easy; no drainage; bowels moved fifth day; nineteenth day, button voided in normal stool; patient discharged April 23, 1893. November, 1893, patient in perfect health.

Case VI.—Dr. Murphy. Mrs. E. T. S——, aged fifty-three, in consultation with Dr. Fortier. Diagnosis: Dermoid cyst, intestinal obstruction. Patient removed to Post-Graduate Hospital; laparotomy by Dr. Murphy, June 2d, three days after onset of symptoms. Intestines found adherent in two places to dermoid; but this did not produce the obstruction; cyst removed; obstruction located, a circular band completely occluding small intestine; two inches of intestine excised; approximation made with Murphy button, mass dropped into abdomen. Time for making resection and approximation, five and a half minutes; time for whole operation, including complete closure of abdomen, nineteen minutes. Patient made uneventful recovery; temperature never reached 100° F.; bowels moved every day after operation; button voided on nineteenth day.

December 2, 1893, patient in excellent health.

Case VII.—Dr. Murphy. Mrs. K——, aged forty-eight, admitted to Post-Graduate Hospital July 10th. Diagnosis: Strangulated umbilical hernia, peritonitis; laparotomy same day; resection of four inches of gangrenous bowel which had perforated within the sac, and contents had escaped into peritoneum; approximation with Murphy button. Time for resection and approximation, seven minutes; extensive peritonitis; gauze drain; death thirty six hours after operation. Autopsy, one hour later, showed perfect agglutination of bowel, so that the exact line of union could not be defined; specimen exhibited to the post graduate class.

Case VIII.—From Dr. Hugh McCall, Lapeer, Mich. T. H. P——, aged fifty-five. Diagnosis: Fistula from gangrenous hernia.

Operation, July, 1893.—Lateral approximation with Murphy button (largest size). On seventh day patient had a copious natural bowel movement, the first in seven weeks; the button was perfectly satisfactory in establishing the anastomosis.

Case IX.—From Dr. Bacon. Mrs. L——, aged thirty-five. Diagnosis: Specific stricture of rectum, beginning two inches above sphincter and extending up two inches.

Operation, July, 1893: Modified Kraske, exposure of rectal wall, which was denuded, folded upon itself; button passed on sixteenth day. There was some hemorrhage a week or ten days after the button passed. The result is very gratifying; the patient was examined May 20, 1894; found rectum of ample calibre, and the wall, which was previously dense, is now soft and pliable.

Case X.—Dr. Murphy, on September 10, 1893, at the request of Dr. Joseph Price, of Philadelphia, in the latter's private hospital, performed a lateral approximation for fecal fistula on Mrs. K——, in the presence of the members of the Pan-American Medical Association. Cause of fistula, strangulated femoral hernia; Murphy button (largest size) used in making approximation. Time from beginning of operation until completion of anastomosis six minutes.

Under date of October 24th, Dr. Price writes: "Your patient made a beautiful recovery and has gone home healthy and happy; her bowels act kindly, and the fistula closed without operation; passed button on twelfth day.

Case XI.—Dr. Murphy. Mrs. B——, aged forty-five. Diagnosis: Fecal fistula following laparotomy for tumor. Present at operation, Drs. Mayo and McGahey and members of the Pan American Medical Association.

Operation, September 26th.—Lateral approximation. Time, seven minutes; recovery. Fistula not yet closed.

Case XII.—From Dr. W. B. Rogers, Memphis, Tenn. Male. Diagnosis: Strangulated inguinal hernia.

Operation, October 11, 1893.—Herniotomy, removal of ten inches of gangrenous intestine, end-to end union with Murphy button (largest size). Button voided on seventh day. Patient up and about in four weeks.

Case XIII.—From Dr. H. O. Marcy, Boston, Mass. Male. Diagnosis: Cancer of upper portion of rectum; profuse and dangerous hemorrhage. Case had had a previous left inguinal colostomy.

Operation, October 16, 1893.—Removal of coccyx and two-fifths of sacrum; opened the peritoneum; divided meso rectum, which permitted the bowel to come well down, resected four inches of rectum, and joined it end-to-end with Murphy button (largest size); button removed with slight traction on twelfth day. Patient made uneventful recovery. Dr. Maurice Richardson congratulated Dr. Marcy on the result obtained in this case, and in commenting on it, said: "It would seem to indicate that by this means cases were amenable to treatment that were heretofore inoperable."

Case XIV.—From Dr. C. E. Ruth, Keokuk, Ia. A. W., aged five and a half. Diagnosis: Tumor of cæcum, obstruction of three months' duration; patient very much emaciated.

Operation, October 18, 1893.—The entire cæcum, with two inches of colon and three-quarters of an inch of ileum excised, together with the enlarged glands in the neighborhood; approximation of end of ileum to end of colon with Murphy button (smallest size).

Dr. Ruth[1] remarks: "This is the first excision of the cæcum, to my knowledge, in one so young, for intestinal obstruction due to neoplasm, and the first in which the Murphy button has been used to make the end-to end junction of ileum to colon, in the human subject. Pulse at end of operation, which lasted but a few minutes, 160. Patient made an uneventful recovery, and on November 4th left for his home, apparently in the best of health. In spite of the objections made to the Murphy button, these stubborn facts remain: 1, It furnishes the strongest junction known; 2, we do not need to wait five days to get strong union, it is immediately obtained with proper approximation of the segments; 3, in urgent cases nourishment can be commenced at once, which would be scarcely thought of in connection with any suture or plate device; 4, no foreign body is left permanently in the walls of

[1] Tri-State Medical Journal, December, 1893.

the gut or in the peritoneal cavity to cause subsequent trouble; 5, in anastomosis between the gall-bladder and duodenum; in the formation of biliary, gastric, or fecal fistulæ externally, and by Bacon's method of treating non-malignant strictures of the rectum, it leaves nothing to be desired; 6, if 'circular enterorrhaphy,' undoubtedly the ideal approximation, is ever justifiable, it is by this means, as it minimizes the objections urged against the operation, viz, weakness at the mesenteric attachment and subsequent contraction; 7, the union can be made in less time than by any other means, thereby greatly lessening the primary mortality. The objection has been urged that the opening through the button is not sufficiently large. In my case the smallest-sized button was used, and the immediate symptoms of obstruction were decidedly less than at any time during the three months previous to the operation, and the pain was also less, showing that there is no need to fear on that score. In the small intestines the contents, being fluid, will pass, and of course there will be no difficulty with the gas as far as the button is concerned. Of course, in the management of these cases it is presupposed that the surgeon would use ordinary intelligence in feeding after a resection of the intestine, and not diet his patients on food that could not be rendered fluid, or nearly so, in the small intestines. All the alimentary functions seemed perfect after the eighth day. On the fifteenth day he is dressed and walking about, apparently perfectly well. He is rapidly gaining in flesh and strength. Microscopical examination showed the tumor to be a large round-celled sarcoma."

Dr. Ruth's conclusions are based upon very extensive experimental research.

Case XV.—From Dr. A. I. Bouffleur, Chicago. Female. Diagnosis: Intestinal obstruction from strangulated femoral hernia, in which a herniotomy with enterotomy in gangrenous portion had been made two days previous without relieving the obstruction, making six days in all from beginning of strangulation.

Operation, November 11, 1893.—Laparotomy, excision of four inches of bowel at seat of gangrene and fistula, end-to end approximation with Murphy button (largest size). Time for resection and approximation, four and a half minutes, the quickest time in which this operation had been performed, notwithstanding the fact that the doctor had not used the button previously. Abdomen closed without drainage. Patient was very much collapsed at time of operation; however she gradually improved and made an uneventful recovery, having copious passages two days after operation.

Case XVI.—From Dr. A. H. Cordier, Kansas City, who writes as follows: "On November 16, 1893, I operated for intestinal strangulation (acute), due to a complete stricture of the ileum, from an old inflammatory band. The constriction had existed ten days previous to operation. I used the button, and am pleased to tell you that his recovery up to this date, November 27th, has been an ideal one. His bowels moved within three hours after the operation. This was my first experience with the button, but I have used rings, mats, decalcified bone plates, etc., and I must say that the button is the quickest, easiest, safest, and surest of anything I have so far tried."

Case XVII.—From Dr. Carl Beck, Chicago, September, 1893. Patient aged thirty five. Diagnosis: Cancer of pylorus, involving liver, pancreas, and mesentery. Maydl's operation, duodeno-jejunostomy, using Murphy button for anastomosis. Patient progressed nicely until the evening of the seventh day, when symptoms of peritonitis began and terminated in collapse the following day. Autopsy revealed a peritonitis; another cancer in the sigmoid flexure obstructing the same. The food that had been injected per rectum had ruptured the bowel at this point and caused the fatal peritonitis. The button, which was of excellent use in the operation, was found in place; perfect union over the entire circumference; no peritoneal adhesions around the point of union, nor in the neighborhood. I think if it were not for the complication of the second carcinoma, the case would have been a perfect success. As to the usefulness of the button, it has been a most beautiful illustration.

Case XVIII.—*Cæcectomy. End-to-end Approximation of Ileum to Colon, with Murphy Button.* (By Dr. Alexander Hugh Ferguson.)—"Mrs. X——, suffering with a cancer of the cæcum for many months, emaciated, cachectic, presented herself for relief of intestinal obstruction.

"Operation, December 11, 1893.—I decided upon the removal of the cæcum, lateral incision, adhesions severed, ligation of mesentery, excision of one inch of ileum, cæcum, and two inches of ascending colon, end-to-end approximation of ileum to colon with Murphy button. Button liberated on sixteenth day. Recovered."

Case XIX.—*Lateral Approximation of Small Intestine with Murphy Button.*—Mrs. McC——, aged fifty-seven. Several months previous suffered from strangulated umbilical hernia with necrosis of loop of intestine; enterostomy was performed, both ends of the bowel retained in the wound; since that time patient has had a continuous discharge of the entire contents of the small intestine on the surface of the abdomen.

Operation, December 12, 1893, by Drs. Charles McBurney and J. B. Murphy, in Sym's operating theatre. —Ends of intestine plugged with gauze as a guide to the loops to be approximated. Incision in median line below the openings; loops readily secured; largest button placed in position; time of operation, five and a half minutes. Button escaped nine days after operation, through fistula. Recovered, fistula still open.

Case XX.—*Fecal Fistula at Ileo-cæcal Region. Enterectomy. End of Ileum joined to Side of Colon with Murphy Button.*

Operation, January 15, 1894, by Dr. Alexander Hugh Ferguson, of Winnipeg, Manitoba.—Mrs. X—— suffered from a fecal fistula following an operation on the intestine. The ileum was severed from its attachment to the colon, a portion of the latter in which fistula was situated, was resected, end of colon sutured, end of small intestine joined with the button to the side of colon with Murphy button. The result was perfect and the button passed on the sixteenth day. Patient did not have an unpleasant symptom after the operation.

Case XXI.—*Resection of Six Inches of Sigmoid Flexure of Colon, with End-to-end Union with Murphy Button.* —Dr. Joseph Price, of Philadelphia, under date of February 13, 1894, writes as follows: "I did an unique piece of surgery on the 3d. I found an universally adherent cyst, malignant invasion of sigmoid—the bowel too strongly imbedded in cyst-wall for enucleation. I sev ered the bowel above and below the adhesions, leaving six inches of bowel on cyst-wall taking out a V-shaped piece of the mezzo-sigmoid. I placed in both extremities a puckering string, inserted a Murphy button, pressed it home; the work was quickly and beautifully done. By any other method it would have been a tedious piece of work. The result has been perfect. The button passed on the ninth day. Since July last I have had a run of over one hundred and forty sections without a death from any cause. The Murphy button saved one that would have been hopeless without it, so you see your button is helping to give me a nil mortality. Please order me a set and O.K. them, as my stock is exhausted."

Case XXII.—By Dr. Carl Beck, of Chicago. Diagnosis, fecal fistula. Operation, duodenojejunostomy. Fistula had existed for some time. The approximation was made two inches from the fistulous opening with Murphy button (small size); no inconvenience; convalescence uneventful; button discharged on twentieth day.

Case XXIII.—By Dr. Willy Meyer, New York. Mrs. L. P——, aged forty-three years. Diagnosis, carcinoma of pylorus. Operation February 24, 1894: resection of five inches of greater and three inches of lesser curvature of stomach; continuous Czerny-Lembert suture of end

of stomach; complete closure; resection of one inch of duodenum with pylorus; end approximation of duodenum to latero-posterior wall of stomach with Murphy button (largest size). Time for inserting button and making approximation less than eight minutes. Uninterrupted recovery. Button voided on twenty-first day.

CASE XXIV.—By Dr. Willy Meyer. Male, aged forty-six. Diagnosis, sarcoma of abdominal wall involving small intestine.

Operation, March 3, 1894: extirpation of a large fibro-sarcoma of abdominal wall with resection of fifteen inches of ileum which was infiltrated and twisted upon itself; end-to-end approximation by Murphy button; uneventful recovery.

CASE XXV.—By Dr. W. T. Dodge, Big Rapids, Mich. Boy. Diagnosis: fecal fistulæ, following gun-shot wound; two unsuccessful attempts to close the openings with suture had been made; the opening on the left side connected with the small intestine and the one on the right with the large intestine. The patient was rapidly emaciating on account of loss of nutriment.

Operation, January 2, 1894: incision on side of opening in small intestine; intestinal adhesions liberated and the intestines drawn out of the wound; resection of three inches at seat of fistula; end-to-end approximation with Murphy button; on eighth day the button escaped through the fistula in the large intestine. Recovery.

CASE XXVI.—By Dr. W. T. Dodge. Same patient as above. Operation, February 16, 1894: incision on side of fistula in large intestine; adhesions liberated; large intestine drawn out, resection of three inches; end-to-end approximation with special large-sized button. ("This button was ordered by Dr. Murphy for this case, its diameter of one and a half inch; diameter of central opening seven-eighths of an inch.) Having made the approximation I searched for the seat of the previous approximation. I found that it was not adherent to the abdominal wall and could only be recognized by the slight omental adhesions. It was of the same calibre as the rest of the bowel. The abdomen was completely closed. On the morning of the eighth day the button appeared at the sphincter and I assisted its escape. Perfect recovery."

CASE XXVII.—By Dr. W. T. Dodge. Female. Diagnosis, double ovarian cyst. "Operation, May 8, 1894. Cyst adherent throughout; it was found necessary to resect a portion of the small intestine. On end-to-end approximation was made with Murphy button; patient was very much shocked, but rallied from the operation; drainage-tube was kept in position; on the third day a fecal odor was noticed from the discharge; there was considerable nausea and vomiting; some fecal matter escaped through the wound on the fifth day; as the fæces were liquid I concluded the escape was from the small intestine. As the patient had considerable pain on the tenth day I opened the wound; soon found the small intestine at the seat of anastomosis, the union was perfect and the button gone; the opening from which the fæces escaped was found at the junction of the sigmoid and rectum. I made a colotomy. The patient died of shock the same night. While this case terminated unfavorably it has strengthened my faith in the Murphy button. The button was found in the rectum."

CASE XXVIII.—By Mr. A. Lane, Guy's Hospital, London. Diagnosis, sarcoma of mesentery of sigmoid. Operation, resection of tumor with twelve inches of large intestine; end-to-end approximation with Murphy button (largest size); gauze drain; button voided eighth day. Recovery. For details of this case see *Lancet*, April 21, 1894.

CASE XXIX.—By Dr. Joseph D. Bryant. Female. Diagnosis, fecal fistula of long standing. There had been several operations previous for its closure. The fistula was believed to connect with the transverse colon. Operation, May 9, 1894: lateral approximation of ileum to descending colon with oblong button (two and one-half inches in length); the button was easily inserted. Convalescence uneventful. Button passed on fifteenth day. Dr. Bryant was the first to use the oblong button on the human being, and I am much pleased to notice that it passed at such an early day, as the long button has a larger area of pressure atrophy than the circular one. Dr. Bryant will publish a detailed report of this case later.

CASE XXX.—By Dr. George Shrady. Female. Diagnosis, fecal fistula following gangrenous hernia. Operation, May 14, 1894: laparotomy in right inguinal region; lateral approximation with large-sized Murphy button; abdomen closed; perfect convalescence. May 26, 1894, operation for closure of fistula.

CASE XXXI.—By Charles McBurney. Diagnosis, tumor of cæcum. Operation, February 12, 1895, ileo-colostomy with Murphy button; infection occurred and a fecal fistula formed, on account of absence of adhesions; the button was removed through the fistula; a small fistula now remains. This report was furnished me by Dr. Gibney.

CASE XXXII.—By Dr. Robert Abbe, New York. Diagnosis, complete obstruction of colon by malignant growth. Operation, April 27, 1894, lateral approximation of ileum to colon with Murphy button, for relief of symptoms of obstruction, preparatory to extirpation of the growth. Convalescence was perfect.

Conclusions.—1. The more rapidly the operation is performed, the less the danger from shock.

2. The less the manipulation and exposure of the intestine, the less the danger of infection, post-operative paralysis, and adhesions.

3. The more uniform and continuous the pressure at approximation, the greater the assurance of adhesion and the less the liability of infiltration.

4. A line of approximation is as good as half an inch.

5. Mechanical means in the last five years have produced better results than the suture, in both lateral and end-to-end approximations.

6. The mortality in end-to-end approximations is much less than in lateral apposition, and should always be given the preference.

7. The more perfect the juxtaposition of the various layers, the less the interposition of fibrous tissue, and the more complete the regeneration across the line of union.

8. The juxtaposition of the similar histological layers of the wall of the intestine is an assurance against cicatricial contraction.

9. The more extensive the approximation surface, the larger the fibrous deposit, the greater the contraction.

10. The contraction with end-to-end is less than with lateral approximation.

BIBLIOGRAPHY.

Abbe, R.: Complete Obstruction of the Colon Successfully Relieved by using Senn's Plates. New York Medical Journal, March 23, 1889, p. 314.

Abbe, R.: Intestinal Anastomosis. Medical News, June 1, 1889, p. 589.

Abbe, R.: Intestinal Anastomosis and Suturing. MEDICAL RECORD, April 2, 1892, p. 365.

Abbe, R.: Surgery of Gall-stone Obstruction. MEDICAL RECORD, May 6, 1893, p. 548.

Agnew, D. H.: Laparotomy with Excision of a Portion of the Ileum. Medical and Surgical Reporter, Philadelphia, 1888, lix., p. 321.

Albert, E.: Ein bemerkenswerther Fall von Gastro-Enterostomie. Wien. Med. Woch., No. 1, 1893, p. 1.

Allingham, H.: Gastro-enterostomy for Cancer of the Pylorus. British Medical Journal, April 22, 1893, p. 847.

Ashton, W. E.: Pathology of Intestinal Obstruction following Abdominal and Pelvic Operations. Journal of the American Medical Association, July 9, 1892, p. 47.

Ashton, W. E.: Successful Case of Lateral Anastomosis of the Ileum for Malignant Stricture, with a Discussion of the Operative Technique. Maryland Medical Journal, July 2, 1892, p. 773.

Atkinson, E.: Acute Intestinal Obstruction—Operation by Short Circuit. Lancet, May 7, 1892, p. 1024.

Banks, W. M.: Surgery of the Gall-bladder. Liverpool Medico-Chirurgical Journal, July, 1893, p. 305.

Von Baracz, R.: Ein praktisches Ersatzmittel für dekalcinirte Knochenplatten bei der Sennschen Plattendarmnaht. Ctlb. f. Chir., June 11, 1892, p. 481.

Von Baracz, R.: Ueber den Werth der Enteroanastomose mittelst der Plattennaht nach Senn in der Magen-Darm Chirurgie. Arch. f. klin. Chir., 1892, B. xliv., Heft. 3, p. 513.

Barbat, J. H.: Demonstration of Murphy's Anastomosis Button, and Report of a Case of Gastro-enterostomy by means of same. Pacific Medical Journal, April, 1893.

Barker, A. E.: Case of Gastro-enterostomy for Cancer of the Pylorus

and Stomach; Good Recovery; a new Method of Suture. British Medical Journal, February 13, 1886, p. 292.
Barker, A. E.: Successful Case of Gastro-enterostomy. British Medical Journal, January 9, 1892, p. 61.
Barker, A. E.: Suggestion for the Treatment of Irreducible Intussusception of the Bowels. British Medical Journal, January 9, 1892, p. 79.
Barton, J. M.: Enterectomy for Obstructive Epithelioma at the Ileo-cæcal Valve; Secondary Anastomosis by Abbe's Long Incision. Annals Surg., September, 1893, p. 322.
Bealson, G. T.: Two Cases of Gastro-enterostomy. Lancet, October 11, 1890, p. 761.
Le Bec: Gastro-entérostomie pour Cancer. Gaz. d. Hôp., August 1, 1893, p. 827.
Beck, C.: Maydl's new Method of Jejunostomy and Gastro-enterostomy for Pylorostenosis. Chic Med. Rec., October, 1892, p. 630.
Bell, J.: Case of Gastro-enterostomy. Montreal Medical Journal, May, 1892, p. 831.
Berger, P.: Epithélioma du Rectum; Extirpation suivie d'un Prolapsus du Rectum compliqué d'une Ulcération rebelle de celui-ci. Colopexie iliaque; Guérison du Prolapsus et de l'Ulcération; Cure de l'Anus contre Nature par l'Enterorrhaphie. Bull. et Mém. de la Soc. de Chir., Paris, March, 1892, p. 146.
Bier, A.: Fünf Interessante Bauchoperationen. Deut. med. Woch., June 8, 1892, p. 538.
Billroth, Th.: Ueber 124 vom November, 1878, bis Juni, 1890, in seiner Klinik und Privatpraxis ausgeführte Resectionen am Magen- und Darmcanal; Gastro-enterostomien und Narbenlösungen wegen chronischer Krankheitsprocesse. Verh. d X. International Medical Congress, B. III., Abth. 7, p. 75.
Billroth, Th.: Ueber fünf. Darmresectionen. Arch. f. Klin. Chir., 1891, B. xlii, p. 493.
Borelius, J.: Tva Fall af Operation för Cancer Ventriculi. Hygein., September, 1891, p. 287.
Braun, H.: Ueber die Entero-Anastomose als Ersatz der circulären Darmnaht. Verh. d. Deut. Gesells. f. Chir., 1892, xxi., p. 504.
Braun, H.: Ueber Gastro-Enterostomie und gleichzeitig ausgeführte Entero-Anastomose, *Vide*, p. 515.
Braun, H: Zur Technik der Naht, bei verschiedenen Operationen am Magen und Darm. Deut. med. Woch, January 1, 1891, p. 3.
Brenner, A.: Zur Technik der Gastro-Enterostomie. Wien. klin. Woch., 26, 1892, p. 375.
Brokaw, A. V. L.: Experimental Study of Intestinal Anastomosis, with some Practical Suggestions as to a Modified Technique. Medical Review, St. Louis, August 12, 1889, p. 121.
Brokaw, A. V. L.: Intestinal Anastomotic Operations with Segmented Rubber Rings, with some Practical Suggestions as to Their Use in Other Surgical Procedures. Medical News, December 7, 1889, p. 634.
Brokaw, A. V. L.: New Methods of Performing Pylorectomy, with Remarks on Intestinal Anastomotic Operations. St. Louis Courier of Medicine, June, 1890, p. 355.
Brokaw, A. V. L.: Use of Segmented Rubber Rings in Intestinal Anastomotic and other Operations. International Journal of Surgery, November, 1889, p. 251.
Brown, W. H.: Case of Gastro-enterostomy. Lancet, May 2, 1891, p. 989.
Bruce, H. A.: Malignant Disease of the Pylorus and its Surgical Treatment. Canad. Pract., February, 1893, p. 86.
Bull, W. T.: Removal of a Large Portion of the Stomach with Gastro-enterostomy. MEDICAL RECORD, April 19, 1890, pp. 448, 472.
Bull, W. T.: Three Cases of Pylorectomy with Gastro-enterostomy. MEDICAL RECORD, January 10, 1891, p. 39.
Butz, R.: Zur Gastro-Enterostomie vermittelst Kohlrubenplatten. St. Petersburg med. Woch., May 15, 1893, p. 181.
Carmalt, W. H.: Cancer of Cæcum; Excision; End-to-end Union; Recovery. International Clinics, 1891, iii., p. 113.
Chaput: De l'Entéro-anastomose ou Opération de Maisonneuve. Procédés opératoires, Indications, Résultats. Arch. Gén. de. Méd, 1891, pp. 543, 687.
Chaput: Sur le Traitment de l'Anus contre Nature. Verh. d. X. International Med. Congress. B. iii., Abth. 7, p. 54.
Chavasse, T. F.: Successful Case of Cholecysto-colotomy. Lancet, March 12, 1892, p. 568.
Clarke, T. K.: Case of Gastro-enterostomy with the Aid of Decalcified Bone Plates. British Medical Journal, November 16, 1889, p. 1089.
Clarke, T. K.: Gastro-enterostomy. Lancet, December 6, 1890, p. 1213.
Clarke, T. K.: Gastro-enterostomy. British Medical Journal, April 11, 1891, p. 798.
Colzi, F.: Contributo alla Cura chirurgica delle Stenose Piloriche. Lo Sperinent. Mem. Orig., 1892, p. 319.
Connell, M. E.: Experimental Contribution Looking to an Improved Technique in Enterorrhaphy, whereby the Number of Knots is Reduced to Two or even One. MEDICAL RECORD, September 17, 1892, p. 335.
Connell, M. E.: Intestinal Anastomosis by a New Method without Plates and with but Two Knots. Either silk or catgut sutures may be used. Journal of the American Medical Association, July 29, 1893, p. 150.
Connell, M. E.: Oblique Enterorrhaphy. MEDICAL RECORD, January 28, 1893, p. 125.
Cordier, A. H.: Elastic Ligature in Intestinal Anastomosis. Journal of the American Medical Association, August 15, 1891, p. 263.
Credé: Die Behandlung der narbigen Mastdarmverengerungen. Arch. f. klin. Chir., 1892, xliii., Heft 3, 4.
Crowley, D. D.: Intestinal Anastomosis. Occidental Medical Times, September, 1891, p. 493.
Czerny: Ueber den gegenwärtigen Stand der Gallenblasenchirurgie. Deut. med. Woch., June 8, 1892, p. 516.
Davies-Colley, N.: Case of Ileo-colic Implantation Followed by Resection of Portions of the Large and Small Intestine for the Cure of Artificial Anus due to Gangrene after Strangulated Hernia. Guy's Hospital Reports, 1891, xlviii., p. 259.
Davis, J. D. S.: Experimental Study of Intestinal Anastomosis. MEDICAL RECORD, November 30, 1889, p. 613.
Davis, J. D. S.: Ileo-colostomy in which Davis's Catgut Mats were Used for Approximation. New York Medical Journal, September 14, 1889, p. 296.
Davis, J. D. S.: Intestinal Anastomosis without Mechanical Devices. Transactions of the Southern Surgical and Gynecological Association, 1892, p. 412.
Dawbarn, R. H. M.: Vegetable Plate; also a New Technique in Intestinal Anastomosis. MEDICAL RECORD, June 27, 1891, p. 725.
Dawbarn, R. H. M.: Vegetable Plates in Bowel and Stomach Surgery. A Discussion of the Proper Technique. Annals of Surgery, February, 1893, p. 147.
Delagenière, H.: Cancer du Pylore généralisé; Gastro-Entérostomie postérieure. Bull. et. Mém. de la Soc. de Chir., Paris, December, 1892, p. 683.
Dentu, Le: Résection de 22 centimêtres du Colon ascendant en même temps que celle des Annexes de l'Utérus atteintes de Pyosalpinx. Ibid., November, 1891, p. 662.
Dezanneau: Obstruction intestinale par Rétrécissement fibreux de l'Intestin grêle; Laparotomie; Résection de 12 centimêtres d'Intestin; Guérison. Cong. Franç. de Chir., 1892, vi., p. 255.
Earle, S. T.: Successful Case of Colectomy for the Closure of an Artificial Anus. Virginia Medical Monthly, November, 1892, p. 667.
Earles, W. H.: Surgery of the Gall-bladder and its Ducts. Milwaukee Medical Journal, 1893, i., p. 16.
Von Eisetsberg, A. F.: Ueber die Magenresection und Gastro-Enterostomien, in Professor Billroth's Klinik, von März, 1885, bis Oct., 1889. Arch. f. klin. Chir., 1889, xxxix., p. 785.
Finney: Gastro-enterostomy for Cicatrizing Ulcer of the Pylorus. Johns Hopkins Hospital Bulletin, May, 1893, p. 53.
Fraenkel, A.: Zur Chirurgie des Gallensystems. Ctlbl. f. Chir., September 3, 1892, p. 687.
Frank, R.: Einige Darmoperationen mit Bemerkungen über die Darmnaht. Wien klin. Woch., 27, 1892, p. 390.
Franks, K.: Colectomy or Resection of the Large Intestine for Malignant Disease. Medical and Chirurgical Transactions, 1889, lxxii., p. 211.
Franks, K.: Three Cases of Enterectomy and Enterorrhaphy. Dublin Journal of the Medical Sciences, June, 1893, p. 475.
Gaston, J. McF.: Surgery of the Gall-bladder and Ducts. Medical News, June 11, 1892, p. 651.
Gaston, J. McF.: Surgery of the Gall-bladder and Ducts. Journal of the American Medical Association, April 1, 1893, p. 349.
Graff, H.: Senn's Intestinal Anastomosis in Operations for Strangulated Hernia. Northwest. Lancet, May 15, 1893, p. 181.
Grant, H. H.: Suggestions as to the Technique of Intestinal Anastomosis. Annals of Surgery, 1892, xv., p. 126.
Haasler: Ueber Gastro-enterostomie. Arch. f. klin. Chir., 1892, xlv., p. 201.
Von Hacker, V.: Ueber die Verwendung des Musculus rectus abdominis zum Verschluss der künstlichen Magenfistel. Wien. med. Woch., 1886, Nos. 31 and 32.
Von Hacker, V.: Zur Casuistik und Statistik der Magenresection. Arch. f. Klin. Chir., 1885, xxxii., p. 616.
Von Hacker, V.: Zur Operation der Darmanastomose. Wien. klin. Woch., 1892, p. 8.
Von Hacker, V: Zur operativen Behandlung der Pylorusstenosen und der malignen Neoplasmen des Magens (Carcinom, Sarcom). Wien. klin. Woch., 1889, pp. 632, 648, 662, 675, 689.
Hadra: Ueber Gastro-Enterostomie. Berl. klin. Woch., January 25, 1892, p. 75.
Hadra, B. E.: Five Resections on the Alimentary Canal. Daniel's Texas Medical Journal, January, 1891, p. 275.
Hahn, E.: Eine neue Methode der Gastrostomie. Centralbl. f. Chir., No. 11, 1890, p. 193.
Hahn, E.: Ueber Gastro-enterostomie. Deut. med. Woch., July 23, 1891, p. 913.
Hame, G. H.: Case of Gastro-enterostomy. British Medical Journal, April 22, 1893, p. 842.
Hankins, G. T.: Case of Jejuno-gastrostomy by Senn's Decalcified Bone Plates. Death after seven months. Closure of new opening. Post-mortem report. Australasia Medical Gazette, July, 1892, p. 271.
Hansen, I.: Et Tilfaelde af circular Tarmresektion samt nogle Betragninger om Resultaterne af Herniotomi pa Aarhus Amtssygehus. Hosp. Tid., 1891, ix., p. 365.
Harris, M. H.: Circular Enterorrhaphy. A new method. Chicago Medical Record, September, 1892, p. 523.
Hartley, F.: Resection of Intestine for Carcinoma and Double Intussusception. New York Medical Journal, September 10, 1892, p. 302.
Hasslauer, W.: 5 Fälle von Pylorusresection. Münch. med. Woch., May 24, 1892, pp. 365, 393.
Hayes, P. J.: Colectomy. Transactions of the Royal Academy of Medicine in Ireland, 1891, ix., p. 195.
Heilmann, G.: Eine Operation für Ileus. Deut. med. Woch., September 24, 1891, p. 1107.
Helferich: Ein Fall von Cholecystenterostomie. Deut. med. Woch., February 25, 1892, p. 157.
Helferich: Ueber die Ausführung der Herniotomie bei dem verdächtigen Gangrän Darm. Arch. f. klin. Chir., xli., 1891, p. 237.
Hochenegg, J: Ein Beitrag zur Cœcalchirurgie und zur Ileo-colostomie. Wien. klin. Woch., No. 53, 1891, p. 996.
Homans, J.: Case of Intestinal Anastomosis by Means of Senn's Plates for the Relief of Complete Chronic Obstruction Caused by Invagination and Sloughing of the Upper Part of the Ileum. Recovery. Boston Medical and Surgical Journal, November 5, 1891, p. 488.
Jalaquier, A.: De l'Intervention chirurgicale dans les Rétrécissements et Occlusions du Pylore. Gaz. Hebd. de Méd., 1891, xxviii., p. 485.
Jessett, V. B.: Case of Combined Pylorectomy and Gastro-enterostomy for Carcinoma of the Pylorus. Recovery. Lancet, October 24, 1891, p. 921, and May 2, p. 988.
Jessett, V. B.: Case of Pylorectomy. Medical Press and Circular, September 7, 1892, p 234.
Jessett, V. B: New Methods of Performing Enterorrhaphy. British Medical Journal, April 2, 1892, p. 703.

Jessett, V. B.: Observation on Intestinal Surgery. Lancet, March 16, 1893, p. 530.
Jessett, V. B.: Remarks on Pylorectomy. British Medical Journal, May 10, 1890, p. 1105.
Jessett, V. B.: Remarks on the Operation of Ileo-colostomy for Organic Disease of the Cæcum, Causing Obstruction. Lancet, February 24, 1891, p. 358.
Jessett, V. B.: Report on Intestinal Surgery. British Medical Journal, July 27, 1889, p. 169.
Jessett, V. B.: Surgical Treatment of Carcinoma of the Stomach and Intestines. British Medical Journal, June 27, 1891, p. 1377.
Jessett, V. B.: Two Cases of Enterostomy. British Medical Journal, June 2, 1888, p. 1155.
Jessett, V. B.: Two Cases of Gastro-enterostomy for Pyloric Carcinoma. Lancet, July 12, 1890, p. 68.
Jones, G. W.: Cholecystotomy Followed by Cholecystenterostomy. Boston Medical and Surgical Journal, March 23, 1893, p. 289.
Jonnesco: Technique operatoire des Gastrectomies pour Cancer. Gaz. des Hôp., May 30, 1891, p. 581.
Kader: Arch. f. klin Chir., 1891, xlii., p. 856.
Kaensche, C.: Untersuchungen über das functionelle Resultat von Operationen am. Magen. Deut. med. Woch., December 8, 1892, p. 1114.
Keen, W. W: Case of Cancer of the Hepatic Flexure of the Colon, Producing Intestinal Obstruction; Temporary Relief by an Artificial Anus; Later Re-establishment of the continuity of the Bowel by means of Murphy's Button. American Surgical Journal, 1893, p. 652.
Keen: Discussion. Barton's Paper. Annals of Surgery, September, 893, p. 322.
Kehr, H.: Zur Chirurgie der Gallensteinkrankheit. Berl. klin. Woch., 1893, pp. 39, 69, 141, 168, 423.
Kocher, Th.: Beitrag zur Chirurgie der Gallenwege. Deut. med. Woch, March 27, 1890, p. 253.
Kocher: Ueber eine neue Methode der Magenresection mit nachfolgender Gastro-Duodenostomie. Verh. d. deut. Gesells. f. Chir., 1891, xx., p. 129.
Köhler, A.: Vorstellung eines vor 2 Jahren und 4 Monaten operirten und geheilten Falles von Pyloroplastik. Verh. d. deut. Gesells. f. Chir., 1892, xxi., pt. i., p. 53.
König, F.: Die Operationen am Darm bei Geschwülsten, mit besonderer Berücksichtigung der Darmresection. Arch. f. klin. Chir., 1890, xl., H. 4, p. 905.
König, F.: Die peritoneale Tuberkulose und ihre Heilung durch den Bauchschnitt. Verh. d. X., International. Medical Congress, 1891, iii., Abth. 7, p. 31.
König, F.: Die Structurirende Tuberkulose des Darmes und ihre Behandlung. Deut. Zeits. f. Chir., xxxiv., p. 65.
Körte, W.: Ueber die Chirurgie der Gallenwege und der Leber. Samml. klin. Vortr., No. 40, 1892.
Kummer, E.: Experimentelles über submucöse Resection von Darm und Magen. Verh. d Deut. Gesells. f. Chir., 1891, xx., pt. 2, p. 400.
Lange, F.: Gastro-enterostomy for Carcinomatous Stricture of the Pylorus. New York Medical Journal, June 30, 1888, p. 721.
Lange, F.: Pylorectomy for Carcinoma; Recovery. Annals of Surgery, July, 1893, p. 36.
Lange, F.: Resection of the Gut for Cancer. MEDICAL RECORD, March 4, 1893, p. 279.
Larkin, F. C.: Case of Gastro-enterostomy for Relief of Pyloric Constriction, Followed Later by Recurrence of Symptoms, for which Jejunostomy was Performed. Lancet, September 19, 1891, p. 667.
Larkin, F. C.: Successful Case of Gastro-enterostomy. Remarks. Lancet, July 11, 1891, p. 72.
Lauenstein, C.: Bemerkungen zur Chirurgie des Magens. Deut. med. Woch., August 20, 1891, p. 1005.
Lauenstein, C.: Magendünndarmfistel. Deut med. Woch., May 23, 1889, p. 428.
Lauenstein, C.: Zur Chirurgie des Gallenblase. Cntlbl. f. Chir, January 7, 1893, p. 6.
Lawson, D.: Resection of the Cæcum, Greater Part of Ascending Colon, and Five Inches of Ileum for Malignant Disease of Ascending Colon. Lancet, March 25, 1893, p. 648.
Leichtenstern: Von Ziemssen's Handbuch.
Levy, W.: Ueber Mastdarmresection mit querer Durchtrennung des Kreuzbeins. Berl. klin. Woch., March 27, 1893, p. 302.
Lindner, H.: Ueber Operationen an der Gallenblase. Berl. klin. Woch., pp. 238, 281.
Littlewood, H.: Successful Case of Ileo-sigmoidostomy (Senn's Method) for Intestinal Obstruction due to Malignant Disease of the Hepatic Flexure of the Colon. Lancet, April 16, 1892, p. 864.
Llobet: Ablation d'un Sarcome du Mésentère et Résection d'un mètre et demi d'Intestin grêle. Rev. de Chir., August 10, 1891, p. 676.
MacCormac, W.: Excision of the Ileo-cæcal Valve for Carcinoma; Subsequent Operations for Fecal fistula. Lancet, February 6, 1892, p. 310.
MacCormick, A.: A Case of Pylorectomy. British Medical Journal, March 12, 1892, p. 553.
McArdle, J. S.: Enterectomy and Enterorrhaphy. Dublin Journal of Medical Science, January, 1888.
McArdle: Pylorus Resection. Dublin Journal of Medical Science, June, 1887, p. 511.
McCann, J.: Enterectomy for Sarcoma of the Mesentery. Transactions of American Surgical Association, 1892, x., p. 193.
McCosh, A. J.: Resection of Gangrenous Intestine Occurring in Strangulated Herniæ. New York Medical Journal, March 16, 1889, p. 281.
McGraw, T. A.: On a Method of Making Intestinal Anastomosis which will Prevent Subsequent Contraction of the orifices. Annals of Surgery, September, 1893, p. 313.
McGraw: Upon the Use of the Elastic Ligature in the Surgery of the Intestines. Journal of American Medical Association, May 10, 1891, p. 685.
McIntosh, W. P.: Laparotomy and Removal of Cystic Tumor (Cystoadenoma of Peritoneum; Formation of Artificial Anus; Subsequent Laparotomy and Resection of Colon; Closure of Artificial Anus; Recovery. American Journal of the Medical Sciences, May, 1893, p. 545.
Matas, Rudolph: The Present Status of the Operations of Intestinal Anastomosis and Enterorrhaphy. New Orleans Medical and Surgical Journal, August, 1890.
Manley, T. H.: Kelotomy. Excision of Intestine and Lateral Anastomosis. New York Medical Journal, April 19, 1890, p. 442.
Marcy, H. O.: Surgical Relief for Biliary Obstruction. Journal of American Medical Association, December 20, 1890, p. 887.
Maunsell, H. W.: Enterectomy. Lancet, February 13, 1892, p. 386.
Maunsell, H. W.: New Method of Excising the Two Upper Portions of the Rectum and the Lower Segment of the Sigmoid Flexure of the Colon. Lancet, August 27, 1892, p. 473.
Maunsell, H. W.: New Method of Intestinal Surgery. American Journal of the Medical Sciences, March, 1892, p. 245.
Maunsell, H. W.: Resection of the Intestine by a New Method. Transactions of Int.-Medical Congress of Australasia, 1889, p. 236.
Maydl, K.: Magenresection. Wien. klin. Woch., No. 17, 1891, p. 326.
Maydl, K.: Ueber eine neue Methode zur Ausführung der Jejunostomie und Gastro-enterostomie. Wien. Med. Woch., 1892, pp. 697, 740.
Mayo, W. J: Surgery of the Gall-bladder, Cystic and Common Ducts, with Report of Seven Cases Operated upon. Journal of American Medical Association, August 26, 1893, p. 301.
Mayo, W. J. and C. H.: Complete Obstruction of the Common Duct of the Liver; Anastomosis between the Gall-bladder and Jejunum by Means of Murphy's Button. Northwestern Lancet, June 15, 1893, p. 236.
Meyer: Gastro-enterostomy for Cancer of the Stomach. New York Medical Journal, June 22, 1889, p. 691.
Michaux, P.: Un Cas de Gastro-entérostomie. Gaz. des Hôp., 1892, lxv., p. 707.
Morestin, H.: De la Gastro-entérostomie. Gaz. des Hôp., 1893, lxv., p. 73.
Morison, R.: Successful Case of Ileo-colostomy. British Medical Journal, April 22, 1893, p. 84.
Morse, T. H.: Case of Gastro-enterostomy for Cancerous Obstruction of the Pylorus. British Medical Journal, March 13, 1886, p. 488.
Morton, T. G.: Abdominal Section for Perforated Typhoid Ulcer. Medical News, December 24, 1887, p. 729.
Morton, T. S. K: Surgical Considerations of the Abdominal Complications of Typhoid Fever. Medical News, November 26, 1887, p. 617.
Mausell-Moullin, C. W.: Gastro-enterostomy. British Medical Journal, April 22, 1893, p. 847.
Mausell-Moullin, C. W.: Two Cases of Gastro-jejunostomy. Lancet, August 19, 1893, p. 428.
Murphy, J. B.: A Contribution to Abdominal Surgery. Ideal Approximation of Abdominal Viscera without Suture. Original Research. North American Practitioner, 1892, pp. 481, 539.
Murphy, J. B.: Cholecysto-intestinal, Gastro-intestinal, Entero-intestinal Anastomosis and Approximation without Sutures. Original Research. MEDICAL RECORD, December 10, 1892, p. 665.
Murphy, J. B.: Ideal Surgical Means of Treating Cholelithiasis, Cholecystitis, and Obstruction of the Gall-ducts. Chic. Clinic. Rev., 1892–3, i., p. 161.
Obalinski, A., and W. Jaworski: Ein Fall von Pylorusresection wegen Carcinomatöser Pylorusverengerung nebst Untersuchungen über die Aenderung der Magenfunction nach erfolgter Heilung. Wien. klin. Woch., 1889, pp. 85, 332.
Page, H. W.: A Case of Gastro-enterostomy, together with a Table of the Cases hitherto Recorded. Medico-Chirurgical Transactions, 1889, p. 373.
Parker, C. T.: Surgery of the Gall-bladder. New York Medical Journal, July 30, 1892, p. 113.
Paul, F. T.: Case of Gastro-enterostomy. Liverpool Medico-Chirurgical Journal, January, 1892, p. 256.
Paul, F. T.; Enterectomy. British Medical Journal, May 21, 1892, p. 1080.
Paul, F. T.: Gastro-enterostomy, by a Modification of Senn's Method. Lancet, July 15, 1893, p. 129
Paul, F. T.: New Method of Performing Circular Enterorrhaphy. Lancet, May 30, 1891, p. 1196.
Paul, F. T.: Remarks on the Use of Glass Tubes for Draining the Bowel in Colotomy, Excision of the Rectum, Intestinal Obstruction and Colectomy. British Medical Journal, July 23, 1892, p. 174.
Polk, W. M.: Gastro-colostomy. MEDICAL RECORD, August 23, 1890, p. 200.
Postnikow, P.: Die zweizeitige Gastro-Enterostomie Cntlbl. f. Chir., December 10, 1892, p. 1018.
Poulsen, Kr.: Die chirurgische Behandlung der Cholelithiasis. Nord. Med. Arkiv., 1892, ii., H. 3, No. 16, p. 1.
Purcell, F. A.: Gastro-jejunostomy for Pyloric Cancer. Recovery. Lancet, June 4, 1892, p. 1238.
Ramsay, A. C. L.: Gastro-enterostomy, with Report of Two Successful Operations. Northwestern Lancet, May 15, 1891, p. 152.
Rawdon: Pylorectomy and Gastro-enterostomy. British Medical Journal, February 8, 1890, p. 323.
Reclus, P.: Sur une Observation d'Entérostomie biliaire. Bull. et Mem. de la Soc. de Chir. de Paris, January, 1893, p. 755.
Reclus, P.: Sur une Observation de Gastro-enterostomie. Mercredi Med., 1892, iii., p. 497.
Reder, F.: The Rubber Bulb as an Aid in Intestinal Resections Intern. Jour. Surg., September, 1892, p. 231.
Reichel, P.: Ueber den Werth der Senn'schen Darmnaht und Bildung einer Darmanastomose. Münch. med. Woch., 1890, No. 11.
Renton, J. C.: Notes of a Case of Gastro-enterostomy for Dilatation of the Stomach. Recovery. Glasgow Medical Journal, December, 1892, p. 424.
Renton, J. C.: Notes of a Case of Gastro-enterostomy for Pyloric Tumor, with Gradual Disappearance of the Tumor after Operation British Medical Journal, January 9, 1892, p. 64.
Richardson, W. H.: Case of Intestinal Resection and Suture for Artificial Anus Following Gangrenous Hernia. Boston Medical and Surgical Journal, March 3, 1892, p. 211
Richmond, C. H.: Report of a Case of Intestinal Anastomosis for Fecal Fistula. New York Medical Journal, December 20 1890 p. 674.

Ricketts, B. M. : Remarks on a New Method of Intestinal Anastomosis for Fecal Fistula. Transactions of the New York State Medical Association, 1892, ix., p. 187.
Ricketts, B. M. : Specimens Demonstrating the Operation of Gastrocholecystotomy, End-to-end Anastomosis of Gut, and the Connecting of the Gall-bladder with the Alimentary Tract, as Performed with the Murphy Button and by the Maunsell Operation. Journal of the American Medical Association, August 26, 1893, p. 302.
Rindfleisch, W. : Experimentelle Untersuchungen über die Heilung des Darmes nach Resection bei Anwendung Czerny-Lembert'scher Nähte. Arch. f. klin. Chir. 1893, xlvi , p. 600.
Ritschl : Virchow's Archiv, B. 103, 1887.
Robinson, F. B. : Circular Enterorrhaphy by a New Method. Annals of Surgery, February, 1891, p. 81.
Robinson, F. B. : Gastro-enterostomy with Rawhide and Segmented Rubber Plates. Medical News, March 14, 1891, p. 285.
Robinson, F. B. : Syllabus of Intestinal Surgery. Annals of Surgery, May, 1893, p. 557.
Robson, A. W. M. : Case of Cholecystenterostomy. Medico-Chirurgical Transactions, 1890, lxxiii., p. 61.
Robson, A. W. M. : Case of Gastro-enterostomy for Pyloric Cancer. Lancet, May 23, 1890, p. 1140.
Robson, A. W. M. : Cholelithiasis, with Special Reference to its Surgical Treatment. International Clinics, 1891, i., p. 148.
Robson, A. W. M. : De l'Emploi des Tubes d'Os décalcifié dans la Chirurgie de l'Intestin, de l'Estomac, et des Voies biliaires. Semaine Méd., December 7, 1892, p. 485.
Robson, A. W. M. : Gastro-enterostomy. British Medical Journal, May 17, 1890, p. 1167.
Robson, A. W. M. : Method of Performing Intestinal Anastomosis by Means of Decalcified Bone Bobbins. British Medical Journal, April 1, 1893, p. 688.
Robson, A. W. M. : Surgery of the Liver and Gall-bladder. British Medical Journal, April 15, 1893, p. 787.
Robson, A. W. M. : Two Cases of Pylorectomy, and one of Gastro-jejunostomy with Remarks. Medico Chirurgical Transactions, 1892, p. 407.
Rockwitz, C. : Die Gastro-enterostomieen an der Strassburger chirurgischen Klinik. Deut. Zeits. f. Chir., 1887, xxv., p. 502.
Rose, E. : Die conservative Chirurgie der Gallenblase und das Sondiren der Gallenwege. Deut. Zeits. f. Chir., 1890–1, xxxi., H, 5 and 6, p. 480.
Rosenheim, Th. : Ueber das Verhalten der Magenfunction nach Resection des Carcinomatösen Pylorus. Deut. med. Woch., December 8, 1892, p. 1118.
Rosenthal, B. : Zur Casuistik der Darmresection und Darmnaht. Wien. med Presse, March 20, 1892, p. 450.
Ross, J. F. W. : The Establishment of Anastomosis between the Gall-bladder and Intestines for Obstruction of the Common Duct. American Gynecological Journal, June, 1893, p. 340.
Russell, T. H : Complete and Permauent Recovery by Jejuno-ileostomy with Senn's Bone Plates. New York Medical Journal, December 20, 1890, p. 673.
Ruth, C. E. : Demonstration of Intestinal Anastomosis with the Murphy button. Omaha Clinic, 1893–4, vi., p. 243.
Ruth, C. E. : Gastro-enterostomy for Carcinoma of the Pylorus. Medical News, October 1, 1892, p. 379.
Sachs, W. : 33 Darmresectionen aus der chirurgischen Klinik des Herrn Prof. Kocher, in Bern. Ein Beitrag. zur Frage der Darmresection bei Gangränöser Hernia. Deut. Zeits. f. Chir., 1890–91, xxxii., H. 1 and 2, p. 93.
Sainsbury : A Case of Gastric Ulcer Simulating Cancer of the Pylorus ; Gastro-enterostomy ; Death ; Remarks. Lancet, January 3, 1891, p. 18.
Salzer, F. : C. Beiträge zur Pathologie und chirurgischen Therapie Chronischer Cœcumerkrankungen. Verhtd. Deuts. Gesells, f. Chir. 1891, xx., p. 305.
Sandberg, C. O. & E. S. : Perman. Fall af ärrstenos vid pylorusmed. höggradig Ventrikel-dilation, Gastro-enterostomi. Helsa. Hygiea, January, 1893. p. 40.
Schede : Verh. d. xvi. Cong. der Deut. Gesells. f. Chir.
Schlange, H. : Ueber einige Darmresectionen. Arch. f. klin. Chir., 1893, xlv., H. 3, p. 674.
Schmidt, M. : Ein einfaches Mittel die Dichtigkeit von Magen und Magen-Duodenalnähten zu Prüfen. Cntlbl f. Chir., April 5, 1890, p. 249.
Schmidt, M. : Zur Dichtigkeitsprüfung und Nachbehandlung der Gastro-Duodenalnaht. Cetlbl., f. Chir. August 22, 1891, p. 655.
Schramm, H. : Beitrag zur Magenchirurgie. Wien med. Presse, 1892, pp. 1866, 1910, 1951, 1992.
Schramm, H. : Ein Fall von Pylorusresektion. Cntlbl. f. Chir., March 19, 1887, h. 219.
Schramm, H. : Resektion brandiger Darmschlinge bei Kindern. Wien. med. Woch., 1892, xlii., p. 1492.
Schwartz : Accidents de Sténose aiguë dans un cas de Cancer du Pylore ; Gastro-entérostomie. Bull. et. Mém. de la Soc. de Chir. de Paris, September, October, 1892, p. 585.
Schwartz, De la Gastro-entérostomie. Bull. et Mém. de la Soc. de Chir. de Paris, November, 1892, p. 629.
Scott, N. S. : Case of Gastro-enterostomy. Cleveland Medical Gazette, February, 1892, p. 183.
Senn, N. : Experimental Contribution to Intestinal Surgery, with Special Reference to the Treatment of Intestinal Obstruction. Annals of Surgery, 1888, vii., pp. 99, 171, 264, 367, 421.
Senn, N. : Surgical Treatment of Intestinal Obstruction. Transactions of Congress of American Physicians and Surgeons, 1888, i., p. 43.
Senn, N. : Surgical Treatment of Intussusception. Canadian Pract., July 16, 1891. p. 317.
Senn, N. : Surgical Treatment of Pyloric Stenosis, with a Report of Fifteen Operations for this Condition. MEDICAL RECORD, 1891, pp. 557, 589.
Senn, N. : Two Cases of Resection of the Cæcum for Carcinoma, with Remarks upon Intestinal Anastomosis in the Ileo-cæcal Region. Journal American Medical Association, June 14, 1890, p. 845.
Shepherd, F. J. : Intussusception and Its Treatment by Operation ; Illustrated by Two Cases. Lancet, November 19, 1892, p. 1155.
Shimwell, B. T. ; Artificial Anus *vs.* Anastomosis. Medical Age Detroit, November 25, 1891, p. 675.
Shimwell, B. T. : Intestinal Surgery. Medical News, April 12, 1890, p. 389.
Sinclair, T. : Enterectomy for the Closure of Artificial Anus. Recovery. British Medical Journal, November 16, 1889, p. 1089.
Sinclair, T. : Inguinal Enterectomy for the Closure of an Artificial Anus of Eighteen Months' Standing. Recovery. British Medical Journal, June 2, 1888, p. 1158.
Smith, J. Greig : Intestinal Obstruction Caused by Tumor ; Ileostomy ; Disappearance of Tumor ; Subsequent Enterorrhaphy ; Recovery. Lancet, March 21, 1891, p. 646.
Sprengel : Extirpation der Gallenblase mit Anlegung einer Communication zwischen Duodenum und Ductus choledochus. Deut. med. Woch., September 3, 1891, p. 1061.
Stanius, M. : A Case of Gastro-enterostomy after Senn's Method for Cancerous Obstruction of the Pylorus. Medical News, February 1, 1889, p. 112
Stansfield, E. S. : Gastro-enterostomy with Senn's Approximation Plates. British Medical Journal, February 8, 1890, p. 294, and June 7, 1890, p. 1300.
Steven, J. L. : Surgical Treatment of Gastro-intestinal Cancer. British Medical Journal, April 23, 1892, p. 845.
Stokes, Sir William : Remarks on Pylorectomy. British Medical Journal, May 3, 1890, p. 997.
Studsgaard, C. : Et Par. Stenoperationer frã Goldevejeue. Nord. Med. Arkiv, 1892, No. 37, p. 1.
Studsgaard, C. : Traumatik strictura ilei. Resectio ilei. Nord. Med. Arkiv, 1891, xxiii., No. 18, p. 9.
Tappey, E. T. : Report of a Case of Successful End-to-end Suturing of the Intestine. Journal of the American Medical Association, July 29, 1893, p. 154.
Taylor, O. : A Case of Cancer of the Pylorus ; Gastro-enterostomy ; Recovery. Lancet, March 28, 1891, p. 718.
Terrier, F. : Des Opérations chirurgicales sur les Voies biliaires. Résultats immédiats et éloignés. Le Prog. Méd., April 16, 1892, p. 297.
Terrier, F. : Discussion. Gaz. des Hôp., April 30, 1892, p. 481.
Terrier, F. : Néoformation du Pylore ; Gastro-entérostomie ; guérison. Mercredi Méd., 1892, iii., p. 521.
Terrier, F. : Quelques Résultats immédiats et éloignés d'Opérations pratiquées sur les Voies biliaires. *Ibid.*, p. 146.
Thiriar, J. : Contribution au Traitement de l'Anus contre nature accidentel par l'Enterectomie. Gaz. Hebd. de Méd., 1890, xxvii., p. 556.
Thomsou, H. : Experimentelle Beiträge zur Bauchchirurgie. Zeits. f. Geb. u. Gyn., B. 1893, xxvi., part 1, p, 154.
Treves F. : Darm Obstruction, Ubersetzt v. Pollock.
Treves, F. : A Case of Removal of a Portion of the Sigmoid Flexure. Lancet, March 11, 1893, p. 521.
Tuholske, H. : Gastro-enterostomy and Pylorectomy. Medical News, May 10, 1890, p. 503.
Von Török : Lymphosarcom der Magenwand ; Resectio Ventriculi, Heilung. Verh. d. Deut. Gesells, f. Chir., 1892, xxi., p. 102.
Von Unge, H. : Gastrektomi, Kroniskl-magsar, Laparotomi, Excision af saret ur Ventrikelväggen. Sammansyende af Sarkanterna. Helsa Hygiea, 1891, liii., p. 401.
Vance, Ap. M. : Cases in Intestinal Surgery. New York Medical Journal, July 22, 1893, p. 95.
Weir, R. F. : Gastro-enterostomy for Pyloric Stenosis. MEDICAL RECORD, February 22, 1890, p. 221.
Weir, R. F. : Gastro-enterostomy rather than Resection for Cancer of the Pylorus, with a case of Gastro-enterostomy. MEDICAL RECORD, January 10, 1891, p. 37.
Weir, R. F. : Intestinal Anastomosis (without rings) between the Ileum and the Sigmoid Flexure, for Intestinal Obstruction (neoplasm) in the Transverse Colon. MEDICAL RECORD, April 9, 1892, p. 399.
Weir, R. F. : Resection of the Large Intestine for Carcinoma. Medical News, February 13, 1886, p. 173.
Weir, R. F. : The Treatment of Simple Pyloric Stenosis by Gastro-enterostomy (by Abbe's rings), rather than by Loreta's Stretching Operation. Medical News, December 14, 1889, p. 663.
Wickhoff, M. : Ein Beitrag zur Gallenblasen-Chirurgie. Wien. klin. Woch., January 19, 1893, p. 39.
Wickhoff, M. & F. Angelberger : Cholelithiasis ; Obturatio ductus choledochi (?) ; Cholecysto-Enterostomie. Heilung. Wien. klin. Woch., May 4, 1893, p. 325.
Wolfler, A. : Gastro-enterostomie. Centlbl. f. Chir., November 12, 1881, p. 705.
Wright, G. A. : A Case of Lateral Intestinal Anastomosis (Senn's Operation) in a Man Aged Sixty-six. British Medical Journal, April 30, 1892, p. 909.
Wyeth, J. A. : Case of Resection of the Intestine. MEDICAL RECORD, March 4, 1893, p. 277.
Young, W. H. : Excision of the Colon. St. Louis Courier of Medicine, April, 1892, p. 124.
Zarraga F. : Herida penetrante de Vientre, Salida da una asa intestinal Reseccion de 96 Centémetros de Intestino delgado.—Curación. Gaceta Med. di Mexico, December 15, 1892, p. 440.

(To be continued.)

The Lombroso Cure for Anarchism. The *Figaro* having asked Dr. Lombroso if he knows a remedy for Anarchism, the Italian *savant* immediately sent a reply, which the *Journal de Médecine* sums up in the following terms: "It must be treated by rendering it ridiculous." The same journal formulates prescriptions in accordance with the *savant's* dictum, with evidently more faith in their power of amusing their readers than in their medical efficacy.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street.

New York, June 2, 1894.

THE EARLY TREATMENT OF SYPHILIS.

IN one form or another the question keeps continually coming up: How best to treat the early manifestations of syphilitic infection, and when to begin? More or less confusion has entered into the thought and discussion of the subject, from the conflicting observations of different syphilographers upon, first, the results of chancre excision, and secondly, the effects of very early mercurial treatment upon the subsequent course of the disease.

For one to arrive at a firm conviction by which he can be guided in his practice, it is important to have distinctly fixed in the mind just what the chancre signifies. He should also have a belief as to the nature of the virus, and a fairly clear idea of the relation which this virus bears to the subsequent manifestations, both early and late. Scientific research has resulted in so little positiveness upon anyone of these points that the individual is left to form his conclusions to a large extent from the accumulated clinical evidence, analogy, and deduction.

We know that after inoculation, within a period ranging in round numbers from ten to forty days, certain changes take place at the point of entrance of the virus, which are, in the great majority of instances, so characteristic as to be pathognomonic of systemic infection of a peculiar kind. It has been abundantly shown that at the time these local changes become manifest the system is no longer capable of a second inoculation. It is therefore evident that, while the elaboration is progressing which is to result in the local sign, there is also going forward some multiplication of the poisonous principle, which as such, or in some modified form, is to permeate the whole organism.

Excision of the inoculated point, to have any decided effect in checking this diffusion of the poison, must therefore be done at some very early period to offer any chances of success. Just when this period ends is naturally a matter of much uncertainty, for until the primary syphiloma appears there is no proof that the disease is present, and the preponderance of evidence goes to show that after the papule begins to form its excision does not prevent the usual eruptions and glandular involvement. Sufficient proof has, however, been adduced to encourage the early removal of the chancre, if it is so favorably situated that considerable surrounding tissue can be included in the cut—provided always that no neighboring glands show enlargement. It is highly probable that the general system becomes involved, not only through the lymphatics and blood-vessels, but also by contiguity of tissue.

If we presume the disease to be bacillary in origin, and that in some instances the bacilli wander into the neighboring tissues before they are carried to more remote ones, it follows that the only proper course to pursue in such a case is to remove the entire process with one stroke of the knife. Until it has been shown that such procedure never results in full prevention, or even marked attenuation, of after effects, the chances of benefit should be accepted for those initial lesions most favorably located.

Turning our attention to the medical side of the question, we find most authors and writers say, "Don't treat syphilis in the chancre stage;" and some even take no note of, and make no allowances for, those indurations, which may persist for months. Many say, "Postpone systemic medication until a secondary eruption appears," forgetting the many instances in which no early rash ever comes out, or is so slight that both physician and patient fail to note it. Others sound their warning to students, that mercury early employed causes grave lesions late in the course of the disease, and in the next breath advise local inunctions of mercurial ointment at and about the site of the primary induration. Little attention is often paid to the altered conditions when chancre and pregnancy coexist, and the imminent danger to the patient within the uterus, if treatment is put off too long.

Most certainly no one should treat syphilis any more than another disease before the diagnosis is made, but the common injunction, so often heard in the class-room, that one should wait for other manifestations, which, when they appear, are often as difficult of recognition as the primary, is too frequently an acknowledgment on the part of the professor that insufficient instruction in the diagnosis of chancre is provided by the college. That early treatment predisposes the patient to dangerous cerebral symptoms later on, is a question still to be settled, and until it is definitely disposed of it is safe practice to exercise common-sense.

COMMON FORMS OF DYSPEPSIA IN WOMEN.

THIS is the subject of the recent Ingleby Lectures, delivered by Dr. Robert Saundby, of which abstracts are given in *The Lancet*, March 17 and 24, 1894. These common forms of dyspepsia are well known, constituting the chief difficulty of nearly two-thirds of all the adult female patients who seek relief at hospital clinics. These particular conditions are not relieved by remedies set down in books, and originate chiefly in a neurosis dependent upon debility from anæmia or overwork. The nervous defect shows itself most commonly, or in its first and simplest form, by depression of the motor functions of the stomach and intestines; then by increased sensitiveness of the gastric mucous membrane; and, eventually, by diminution of the secretion from the membrane of the stomach. In the simplest form there is mere atony. Other forms present more serious features, of which vomiting is the most constant, due to gastritis or hyperæsthesia of the stomach. Hyperæsthesia of moderate degree may lead to serious impairment of health, and death may result from want of proper care.

Numerous experiments demonstrate that atony of the stomach, involving delay in the passage of ingesta into the intestine, is the most common, constant, earliest, and most important factor in the production of dyspepsia in

women. The defective movement of the muscular walls of the stomach results in the incomplete admixture of gastric juice with the food that it contains. The stomach becomes slightly dilated, and fermentative changes follow, together with attacks of subacute gastritis, known as bilious attacks. By degrees there is some atrophy of the gastric glands and consequent diminution of gastric-juice secretion. This initial evil, atony of the stomach, arises from many conditions: from anæmia, overwork, want of sleep, from anxiety, superlactation, absence of sufficient food, from irregular meals, too close confinement to the house, infectious diseases, and from want of fresh air, rest, and sufficient food during convalescence. The first indication in all these cases is to secure rest—rest in bed. Without it patients do not get well. Atony of the stomach is a condition due to exhaustion. Physical and mental power have been overstrained. The tax upon vitality must be reduced to the minimum. The period of necessary rest depends upon the intensity and duration of the symptoms. Sometimes thirty-six hours in bed will do wonders in the way of restoration, during the earlier stages; then, again, a week is required to bring about any real improvement; and it is often two or three weeks before the patient gains much, even when lying quietly in bed. Isolation from friends is not seldom imperative. Cases that are most obstinate and seem incurable will frequently yield to treatment when the unwise kindness of friends is made impossible. A change of scene and climate is of the highest value. Whatever exercise the patient takes should come in the early part of the day. Electricity, to stimulate the action of the muscular coat of the stomach and to restore its tone, is sometimes of great service. Either current may be used. Washing out the stomach, too frequently done in Germany and too seldom made use of in England, occasionally proves a valuable therapeutic measure. Emetics, however, according to Dr. Saundby, are to be preferred in most instances.

In regard to eating, the patient should be advised to eat everything she can without causing digestive disturbances. The regulation of diet depends upon definite special conditions. English and Irish women drink inordinately of tea, and the lecturer utters words of warning against this practice. Many American women, like the French, are inclined to the excessive use of coffee. The warning should include coffee in this country. But to forbid altogether the use of tea and coffee to women who never have enough to eat is both cruel and absurd. The order will certainly not be carried out, except under the restraints of hospital discipline.

The drugs that do the most good are strychnine, iron, bismuth, hydrochloric acid, and mercury. Abernethy defined biliousness as the condition that is curable by a blue pill. Whether it acts as an antiseptic or by unloading the vessels, or in both ways, is as yet unknown. Magnesium and sodium sulphate are the best aperients. Either may be given in the form of mineral water. Franz Joseph, Friedrichshall, and Hunyadi are the best-known magnesium waters; and Carlsbad, Kissingen, and Rubinat the most noted of the sodium waters. These sodium and magnesium salts or waters are to be taken in a pint of hot water on rising, if the patient is up and about, and in divided doses during the daytime if she is in bed. Rest, electricity, morning exercise, the regulation of diet—to be governed by the requirements of each case—the use of sodium and magnesium as aperients, and the judicious employment of one of five well-known drugs are the measures that this year's Ingleby lecturer advises, as the results of careful observation and a wide experience of the common forms of dyspepsia in women.

ANOTHER WORD ABOUT OUR ASYLUMS.

We are pleased to note that since our last issue the newspaper which recently attacked the New York City Asylum for the Insane has reached a clearer understanding as to the powers and responsibilities of the superintendents of that institution, and as to the handicap in the form of inadequate appropriations that is placed upon them; but we regret that it still seeks to hold the General Superintendent, Dr. A. E. Macdonald, responsible for some things over which he has, in point of fact, no control whatever. It ought to be generally known that Dr. Macdonald, during the entire twenty years he has served the Asylum in executive capacities, has persistently cried out against the restrictions placed upon his patients through illiberal appropriations of funds for their maintenance. His protests, his appeals, his arraignments of the Board of Apportionment, his attempts to reach the people in behalf of his patients, are matters of official record, as may be seen by anyone who will consult the printed annual reports of the Department of Charities and Correction. No one else has called attention as persistently as he to the fact that our insane dependents are inadequately provided for, and it is manifestly unjust to attempt to hold him responsible now for evils beyond his control, which he has so long and so loudly deplored. If we mistake not, he has more than once gone before the Board of Apportionment in person, to make his appeals for better shelter, clothing, food, and attendance for the insane. Is it his fault that the Board of Apportionment has chosen not to respond?

It should be known, too, that Dr. Macdonald has nothing whatever to do with the direct purchase of supplies, or with the placing of any contracts, either for supplies or for the construction or repair of buildings. He is therefore in no way implicated if it should be proven, as has been charged, that all asylum contracts are invariably placed with persons or firms of certain political affiliations. This very grave charge does, however, concern the Commissioners of Charities and Correction, and they should make haste to clear themselves, if possible, of an allegation so unpleasantly suggestive of malfeasance in the performance of their public duties. Our dependents and delinquents are charges of the entire city, not of any political party, and it is hard to believe that our Commissioners of Charities and Correction could be so lost to a sense of duty as to use the patronage of their department in the interests of a political machine. This certainly is one of the most serious of the charges brought against our asylum system, and the investigation now in progress should sift it to the very bottom. If it should appear that the patronage of our asylums is used, even indirectly, to bolster the dominant political party, that fact will be a strong additional reason for transferring the custody of these dependents from the city to the State. Independently of this matter, however, there are quite sufficient reasons for the transfer. The Commissioners

of Charities and Correction, even if proven altogether trustworthy, are utterly powerless before the Board of Apportionment, and that Board has repeatedly demonstrated its unfitness to act as custodian of the interests of the city's insane dependents. Whether the niggardliness of successive Boards of Apportionment has been due to indifference, to wilful ignorance, or to partisanship, does not greatly matter in the long run, for in any event their impositions upon this most pitiable class of unfortunates should no longer be tolerated by a humane people.

AN UNFORTUNATE VETO.

Governor Flower has vetoed the bill amending the public health law by adding to the civil penalties now imposed certain criminal penalties for practising medicine without legal authority. The governor says: "This bill is defective. To enact the bill in its present shape would be to destroy partially the wise principle upon which the public health law was framed and to establish a bad precedent for future legislation."

This bill was, we are informed, supported by the State Medical Society, and approved by the profession of the State. It simply provided penalties and rendered effective the present law regulating the practice of medicine. The veto of Governor Flower is a serious blow to the work of driving out quacks and ignorant practitioners from the State.

TO MAKE VACCINATION MORE EFFICIENT AND POPULAR.

Vaccination, as we are informed by a writer in *The Lancet*, is unpopular in the lower and middle classes (of London). It is, he adds, daily becoming more so, and then a suggestion is made for increasing the popularity and efficiency of the operation. A large proportion of vaccinations are inefficient and useless, owing to the antagonism of the patient and the carelessness of the doctor. Now Dr. Yarrow proposes to remedy this by having the government offer a fee of 2s. 6d., or about 62 cents, for each successful case. In this way vaccination will be more thorough, the results will be better, and the method will grow in favor. Dr. Yarrow and, we believe, English vaccinators are quite against the practice of vaccinating in only one place, and consider it an improper and inefficient method. Yet it is the one commonly pursued and approved in America.

We do not know that vaccination is getting unpopular in this country, but we are convinced that a great deal of it is imperfectly and carelessly done; and it is reported that the stock of virus used by health boards in some cities, including New York, is not very sure. Perhaps a prize for producing a good mark would be of use with us.

Bad Grammar and the County Medical.—The monthly notices of the New York County Medical Society read: "Members are respectfully reminded that in the discussion of papers each speaker is limited to five minutes, and will confer a favor by sending their names to the President." This is not very creditable to the literary attainments of a great and learned profession.

News of the Week.

The Death of Dr. Charles James, of Brooklyn, occurred, by a shocking misadventure, on Tuesday, the 22d inst. In the dark he seized a bottle containing tincture of aconite and swallowed a teaspoonful of the contents, instead of a medicine that had been prescribed for him by a colleague. The deceased was twenty-seven years of age and a graduate of the Long Island College Hospital Medical School.

Changes in Professorships Abroad.—M. Germain Sée, professor of clinical medicine, has been retired at his own request on account of the state of his health, and M. Chantemesse, *agrégé*, has been chosen to take his place until October 30th. Dr. Malassez has been nominated to succeed Professor Charcot in the chair of pathological anatomy. Dr. Joseph Gruber and Dr. Politzer, heretofore extraordinary professors of otology, at Vienna, and also Dr. Karl Stoerke, extraordinary professor of laryngology, have been made ordinary professors. Professor Czerny has been elected to succeed the late Professor Billroth.

Disease in Railroad Coaches.—In the laboratory of the Imperial Board of Health of Germany experiments were made, and the results which have been published show, says London *Science Siftings*, that the seeds of consumption were found in abundance in the dust collected, not only on the floors, but on the walls and seats of carriages. Samples of dust were taken from forty five compartments of twenty-one different passenger cars, and one hundred and seventeen animals were inoculated with them. Part of these died very soon thereafter of various contagious diseases, before they had time to develop consumption; of the rest, killed four to six weeks after inoculation, three had tubercles. These three, however, were inoculated with sleeping-carriage dust, taken, not from the floor, but from the walls, cushions, and ceilings. Bacteria at the rate of 78,800 per square inch were found on the floor of a fourth-class carriage, and 34,400, 27,000, and 16,500 per square inch on the floors of the third, second, and first-class carriages. Thus, even in the latter, the average passenger, who usually has at least half a compartment to himself, say 3,000 square inches of floor, has an army of 49,500,000 deadly enemies aiming at his vitals on the floor alone, to say nothing of other millions in front and rear, on both flanks, and overhead. It would seem impossible to escape; but a Board of Health is said to have reported measures for removing or reducing the danger, which the railroads are considering.

An Industrial Farm for Inebriate Women.—An English woman physician, Dr. Anderson Brown, has established an industrial farm for inebriate women, an experiment that will be watched with interest by all students of social economics, as well as the world of law and order. The test is to be made under the auspices of the Women's Temperance Association, and one of its chief features is to be the number of out-door occupations to be provided.

Surgical Instruments of Antiquity.—George Pernet, M.R.C.S., of London, England, writes: "With reference to the extract from my article 'The Armamentarium of a Gallo-Roman Surgeon of the Third Century,' *Medical*

Magazine, for April, which appeared in your issue of May 5th, under the heading, 'The Surgical Instruments of Antiquity,' will you allow me to point out that Dr. Deneffe is professor of operative surgery at the University of Ghent. He is not an Antwerp surgeon, as stated in your journal. As the information may prove useful to those of your readers who may visit Belgium at some future time, I trust you will be able to insert these few words in the columns of your esteemed and vigorous weekly."

The Treatment of Lead Poisoning with Monosulphite of Sodium.—M. Perou states that the administration of 40 centigrammes a day of monosulphite of sodium gives rapid relief in lead colic. He states that the elimination of the metal is much hastened by this treatment, and that the sulphite is an efficient prophylactic agent. The employment of the drug is, he says, devoid of danger.

Gold Cure Establishments Must be Under Medical Control.—An action has been taken by the College of Physicians and Surgeons, Quebec, against Father Murphy, he having opened and conducted "Father Murphy's Gold Cure Institute" for the treatment of inebriates from April, 1893, to September of the same year. The reverend priest claimed in defence that the institution was always under the control of a duly licensed physician. The court held that the proof went to show that the physician made only one visit and gave a single injection to the patients each day, the other injections being attended to by the defendant himself or his employees, notwithstanding the prohibition of the physician, and that the defendant practised medicine to the extent of giving them remedies and injections. For these reasons the defendant was held to have acted in violation of the law and was fined fifty dollars, and, in default of paying the same within thirty days, to be imprisoned for sixty days.

New Hospital Managers.—The Governor of New Jersey recently appointed the following gentlemen as members of the new Board of Managers of the State hospitals: Mr. George Richards, Dover; Dr. Romeo F. Chabert, Hoboken; Rev. Dr. J. M. Buckley, Morristown; Mr. George B. Jenkinson, Newark; Mr. Patrick Farrelly, Morristown; Mr. Lewis Parker, Trenton; Mr. Charles E. Green, Trenton; Mr. John Howe, Monmouth. The new Board appears to be made up of the right sort of material. The Rev. Dr. Buckley, editor of the *Christian Advocate*, of this city, is known to be a great friend of the insane, and for more than twenty-five years has manifested a warm interest in bettering their condition everywhere. With the advent of the new Board into power, partisan considerations will undoubtedly cease to pertain in the State hospitals of New Jersey. The present medical officers of these hospitals, who have so vigorously endeavored to keep the great charitable institutions under their charge beyond the grasp of political despoilers, ought to feel encouraged at seeing the dawn of what appears to be a new era.

Legal Requirements in Montana.—Dr. W. M. Bullard, secretary of Board of Medical Examiners, Montana, writes: "Dear Sir: I desire to correct the position given Montana in the article, 'Legal Requirements for Practitioners in Different States,' in the MEDICAL RECORD or March 24, 1894. We are proud to say that Montana belongs to the first class mentioned in said article; we require 'an extra and independent examination.' The applicant to practice in Montana must present a diploma from a recognized college, in order to be admitted to the examination, which is written and conducted by the whole board, so that with us a diploma of itself is no license to practise. Therefore please class us with the 'banner' States, making the list seventeen. I have not yet received the report of the Illinois board for 1894. The above facts were sent them, and I shall write the secretary at once. Our courts uphold us in the above rule, under which we have worked for over three years. Please give us notice of above."

Dr. John J. Gannon, one of the apothecaries of Bellevue Hospital, died in that institution, May 23d, aged forty-two. Dr. Gannon had been for seven years connected with the hospital, and had been in the employ of the Department of Charities and Correction a score of years. He was a graduate of the New York College of Pharmacy and also of the Bellevue Medical College.

Dr. George W. Brown, secretary of the New Jersey State Medical Board, whose home was at Long Branch, died on May 29th of consumption at the Trenton House, Trenton, N. J. He was a son of Ex-Mayor Brown, of Long Branch, and was thirty-six years of age. He was graduated at the College of Physicians and Surgeons. New York City, about fourteen years ago.

Medical Students in France.—Statistics prepared for the Budget Committee of 1894 show that the total number of students of medicine in France on January 1, 1893, was 6,470. Of these, 3,634 were registered in the Paris faculty and 2,836 in the various provincial faculties.

The New Mydriatic Scopolaminine.—Dr. Guttmann (*Therap. Monats.*) gives an account of numerous observations made by him with scopolaminum hydrochloricum in solutions of 1 in 1,000, 2 in 1,000, and 4 in 1,000. In the normal eye the second solution produced mydriasis maxima in ten to thirteen minutes, in the inflamed eye after ten to thirty-five minutes, four to seven days being required for the narrowing of the pupil, and three days for the return of pupillary reaction to light; fifteen to twenty minutes produced some anæsthesia of the cornea. The accommodation became paralyzed after three minutes, this condition reaching its height after forty minutes, when it was more intense than after a one per cent. atropine solution. In practice it was very valuable in keratitis, parenchymatosis, and iritis, but even the 2 in 1,000 solution was no more effective than a one per cent. atropine preparation. Scopolamine, being non poisonous, can be used every hour, and even under these conditions but rarely produced temporary dryness of the throat, which, however, required no treatment. It was thus most valuable in the case of children, in whom it can be used two or three times a day during long periods, and without unpleasant results.

A New Hospital in Iceland.—There appears to be a distinct want for a hospital at Isafjord, Iceland, and endeavors are now being made to meet it. A committee has been at work for some time in order to collect the necessary funds, and the plan is being warmly recommended by several Danish doctors who have visited the locality.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

EXTREME PROLAPSE OF FEMALE URETHRA IN A CHILD — URETERO LITHOTOMY—TUBERCULOUS DISEASE IN CHILDHOOD—ULCER OF DUODENUM—UTERINE CONTRACTIONS IN FIBROMATA, ETC —DIAGNOSTIC AIDS IN PREGNANCY —LAWSUITS—FOREST-GATE-SCHOOL SCANDAL.

London, May 12, 1894.

On Tuesday last Mr. Bryant brought before the Royal Medico-Chirurgical Society a case of extreme prolapse of the urethra in a girl aged six. The child had suffered at intervals of months from a discharge of blood stained mucus and irritation, but the attacks only lasted a few days and advice was not sought for them. When Mr. Bryant saw the case, on the fifth day of one of these attacks, there was a red protuberance which was determined to be an everted urethra. The next day, under chloroform, the urethra was dilated and the bladder explored with the finger with a negative result. The prolapse was reduced by this operation and the case did well. Some other cases, resembling this more or less, were related, one in which the surgeon, thinking he had a polyp to deal with, was about to ligature it, but happily before doing so passed his finger into the rectum, which reduced the prolapse. It is obvious that a protrusion of this kind may lead to error, and the possibility of such an occurrence must not be forgotten.

Two cases of uretero-lithotomy were then related by Mr. Cotterell, both in women, of the ages of forty-four and sixty-one respectively. The operative procedures were described, and some discussion took place in which Mr. Godlee, Mr. Reginald Harrison, and Mr. Henry Morris took part.

The last meeting of the Medical Society for this session was held on the 7th instant, when an interesting paper was read containing an account of some one hundred and twenty autopsies of tubercular disease in children. From this it appears that the disease usually commences in the glands in early infancy, the liability to it decreasing with advancing age. It was stated that it appeared to have commenced in the glands in no less than fifty-eight per cent. It was suggested that disease of the cervical glands might occur by infection through the blood, as in the case of joints, but that the bronchial and mesenteric glands might be affected by infection from the organ with which they are connected without a local lesion marking the entrance of the poison. The disease is more frequent in the thorax than in the abdomen in the proportion of 79 to 29. From the frequency with which caseation of internal glands is found after death this condition must often be unsuspected, and of course cannot be diagnosed. The chief point in management of those liable to the disease is to prevent its supervention. Some objection was taken to the proportion of cases of abdominal infection being considered settled It is often impossible to determine post mortem the point of entry of the poison, and we really do not know much, it was said, about the infectivity of food. Much must depend upon the dose of the poison, and when small there may be no local lesion. It was also remarked that the inflammation of the glands was only an effort to prevent general contamination.

After this discussion a case of perforation of the duodenum, due to a chronic ulcer and setting up acute peritonitis, was related. The ulcer was excised and the duodenum sutured with complete success, but when the patient was about to leave the hospital intestinal obstruction occurred. An operation was performed and the obstruction found to be due to a band of fibrous tissue. The patient sank, and after death other perforations and necrotic patches were found in the neighborhood of the fibrous band.

Are intermittent contractions of value in the diagnosis of pregnancy and uterine fibromata? Dr. B Hicks once again brought forward this subject at the last meeting of the Obstetrical Society. He attaches great importance to these contractions, and even holds that by their aid a diagnosis can be made between intra- and extra uterine fœtation. In the difficulty that sometimes presents itself when a single girl complains of stopping of the menses, he says the question of pregnancy can be decided without exciting suspicion by placing the hand on the abdomen and feeling a tumor with characteristic contraction and relaxation. So in a fibroid of the wall of a pregnant uterus, the organ will be found hard and firm on the one side and soft on the other during relaxation, but in contraction the whole becomes firm, proving the tumor to be uterine. So further, in twin pregnancy the uterus is of irregular form and like two tumors, but on contraction it becomes globular and is evidently one.

Some differences of opinion as to this sign were expressed and some scepticism displayed as to whether anything so precise and rhythmical as has been described could often be detected. Perhaps only those with large opportunities of practice can be expected to attain the required skill in manipulation, and I fancy few general practitioners would like to accuse a single girl of pregnancy after merely laying the hand on the abdomen in the manner mentioned. Even if he thought he detected the sign he would be doubtful whether his opportunities afforded him sufficient practice to be sure of his *tactus eruditus*. How few can form exact estimates of temperature or other sensations unless they are continually practising, and even then how often are they deceived.

Another case in the law courts illustrates the dangers of practice. A surgeon was sued for malpractice, and although his defence was triumphant the costs were heavy, and a subscription was raised to defray them. We are sadly at the mercy of dissatisfied and unscrupulous patients.

The scandal of the Forest-Gate school to which I have already alluded, has been the subject of a question in the House of Commons. The president of the Local Government Board replied that the irregularities, "though grave, were not fraudulent." Much dissatisfaction is felt at the answer, and the president is likely to hear more of the matter unless some decisive measures are adopted to protect the children from grave irregularities, though not fraudulent.

ON THE VALUE OF REST AND FASTING IN THE TREATMENT OF TYPHOID FEVER AND OTHER DISEASES.

To the Editor of the Medical Record.

Sir: In your columns of March 8, 1890, is an article from my pen under the head "On the Value of Absolute Rest and Starvation in the Early Stage of Typhoid Fever," in which I claimed that, by means of perfect rest and the withholding of all nourishment from the patient for a certain time, typhoid fever may be aborted in from eight to fourteen days; and that, thus treated, it becomes a comparatively mild disease, exhibiting none of the serious symptoms so prominent in that disease when it runs its usual course under the customary treatment.

As I therein claimed what no other physician had hitherto done, *i.e.*, a method of treatment by which, if seen early, any given case of typhoid fever may be aborted, I naturally became interested in everything said or written concerning that disease, with the object of learning whether the experience of any other physician or physicians tended to confirm my own.

Of course, I am acquainted with the fact that the ancients, both physicians and philosophers, distinctly taught that water was the only diet for fevers; and also, that previous to the teaching of Greaves, water-gruel only was prescribed under such conditions. I was the first, however, to point out that not only fasting or a water diet, but perfect rest also, are the most important factors in the treatment of typhoid fever and most acute diseases.

Since the writing of my article of March, 1890, from the medical journals at my command I have learned of the following confirmations of my own experience and observation.

In the London *Lancet* of September, 1890, is a very thoughtful and suggestive article from Dr. I. B. Nias, of London, on "The Value of Emaciation." In it, Dr. Nias, after demonstrating how, in many chronic diseases, emaciation is a conservative process, expresses himself thus on the treatment of fevers: "It would be well to consider the phenomena of waste in fever by the light of an assumption that they are salutary. The brute creation, when suffering from fever, eat nothing, yet they do not die, but recover. Great responsibility rests with those who supersede this instinct by an artificial method. Greaves, who fed fevers, at the same time bled his patients. The most evident of natural remedies for any kind of fever are starvation and emaciation. However indulgent appetite may be in health, it returns in disease to the strictest authority. Obedience to its dictates may shatter superstitions, but will not jeopardize the cure."

As bearing out the above remarks about animals abstaining from food when suffering from fever, I may state, that not long ago I had a marked proof of it in a little dog of mine, which absolutely starved itself for over five days, when suffering from an inflammation of one of its organs. Its treatment of itself—I interfered in no way—consisted of starvation for that number of days, a drink of water occasionally, and rest. This little incident, trivial perhaps to many, to me was very significant, as it served to prove that my line of treatment in such conditions is parallel with that manifested by instinct.

A second, or rather third, verification of my views I learned from reading a debate on typhoid fever at a society somewhere in a central State of America, I forget name and place. However, near the close of the discussion two aged physicians got up and calmly stated that they never found any difficulty in curing their typhoid cases, but that they never allowed any kind of nourishment to their patients until the appetite returned, a statement confirmed by one of them in a letter in answer to one I wrote him.

Again, about twelve or eighteen months ago I received a pamphlet from Dr. Laelbach, of Jersey City, a reprint of an article he had previously written in the *Medical News* on typhoid fever. The pamphlet being lost, I have to quote from memory. However, therein Dr. Laelbach plainly demonstrates that the amount of nourishment capable of being assimilated by the typhoid patient must be very small indeed, and remarks: "Actuated probably by that fact, Dr. Licorish, of Barbados, has urged in the New York MEDICAL RECORD the method of withholding from the patient all nourishment until the fever has subsided," and quotes several passages from my article bearing out his statement.

To come to later evidence. In your columns for November, 1893, Dr. G. Elliott, on an article in the treatment of typhoid fever, put in a very strong plea for the recognition of perfect rest in the treatment of that disease. As the doctor very pertinently remarks, physicians will say to themselves, "Everyone, unless he is a fool, knows that." But if they do know it, they do not put it into practice, for I maintain the rest contended for by Dr. Elliott and me is not that one sees in the ordinary treatment of typhoid fever by the vast majority of physicians, else they would value it and contend for it more than they do.

Again, in the last number of your journal received by me, that of February 24th, is an article by Dr. C. E. Page, of Boston, on fasting in typhoid fever and other diseases, which, except in the matter of the value of rest, bears out everything I urged four years ago; and certainly the doctor speaks in no uncertain tone.

Dr. Page, in his article, claims the experience of the forty-day fasters as bearing out his statements. In a paper of mine, published elsewhere, on the abortion of pneumonia by rest and starvation, I have this remark to the same purpose: "If the forty day fasters serve no other purpose than emphasizing the fact that starvation does not result in death within a little more than a week, as physiologists have hitherto taught, this must have a practical bearing on the treatment of disease, one which my treatment of acute diseases, especially typhoid fever, demonstrates."

It has certainly been a surprise to me that no practical lessons have hitherto been learned from the courage and fortitude first exhibited by an American physician.

As regards my method of treatment in other acute diseases, in none are its good results so manifest as in acute dysentery, the worst cases of which are brought under control within a week.

Analyzing, now, the evidence herein brought out in support of my views, it will be seen that it is chiefly on the side of starvation or fasting, as Dr. Page prefers to call it, and rightly so; I believe, though, for the other side, as to the value of rest, we have the experience of Dr. Elliott, an experience which must appeal to every thinking physician. Now, manifestly, the observations on either side are confined thereto, because the observers have only had their attention directed to one factor in the abortion treatment, whereas my observations, from the first, have been directed to both fasting and rest.

Since writing, four years ago, my further experience goes to confirm in every way what I then stated. I have, therefore, again to urge on physicians the practicability and benefits of my treatment, especially in the light of the experience herein mentioned in its support; for I am sanguine enough to believe that, when the value of rest and fasting in disease is recognized by the profession, it will constitute one of the greatest advances in treatment, and is destined to become of permanent value.

I may here state that two of my *confrères* in the island have tested the value of my treatment and proved its truth.

In justice to myself, however, I must draw the attention of Drs. Elliott and Page to my prior claim in enunciating the value of both rest and fasting in the treatment of disease, especially typhoid fever; a claim which, I have no doubt, they will hasten to recognize.

I am, sir,

Yours obediently,

R. F. LICORISH, M.D.

BARBADOS, W. I., March 20, 1894.

MEDICAL PRACTICE IN VAN, ASIA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: After reading several articles on "The Taxation of the Incomes of Medical Men," "The Abuse of Medical Charity," etc., it occurred to me that a glimpse of practice in Turkey might, by comparison, lighten the dark places in American medical work.

As far as the written law, Turkey is perhaps the best governed land on earth; as far as the acting upon that law, she is certainly the worst. All doctors are supposed to be graduated or examined by the Imperial Medical College at Constantinople, whose officers are men of thorough training, and whose course is according to the German system, severe and searching. Once graduated, the young doctors are connected with some army corps, or made Belledier doctors, in charge of some city. Aside from these two classes Turkey has the benefit of certain quarantine doctors—German, French, Greek, Italian—as the case may be, who are sent out by the International Quarantine to protect Europe from cholera, etc. The men of these three classes are all educated, skilful physicians, and could the people enjoy their services there would be little need of medical missions or of foreign commiseration. But the doctors are few, their official duties are heavy, they are paid liberal salaries, and they do not care for work among the people. In this city of forty thousand inhabitants, with an immense outlying

district reaching to Persia, Russia, and Mesopotamia, there are four Turkish and one Italian quarantine doctors. The troops in Van alone number seven thousand, and after them and the small Turkish population comes the mass of the people, the wretchedly poor Armenians, who fall a natural prey to jugglers and old women.

For twenty years Dr. Raynolds, of the A. B. C. F. M., has done what he could for the people amid the pressure of his missionary work. In November, 1892, Dr. G. N. Kimball came to Van as a medical missionary, and I accompanied her as a free lance in search of experience. Every day since we reached Van, in the midst of a cholera epidemic, my opinion of the blessings attending practice in America has risen.

There is no dearth of material in Van. The records of 1893 run as follows: Individual cases of

Acromegaly	1	Otitis	20
Addison's disease	120	Respiratory tract disease	120
Bone disease	12	Rachitis	1
Disease of circulatory system	107	Rhinitis	3
Diabetes	2	Rheumatism	33
Dirt-eating	10	Skin disease	80
Eye disease	251	Surgical cases	14
Glandular disease	4	Syphilis	24
Graves's disease	1	Tuberculosis	23
Gynecological and puerperal	83	Tumors	22
Intestinal tract disease	254	Urinary tract disease	37
Liver disease	19	Zymotic disease	30
Nervous disease	50	Unknown	30
Total			1,419

Thus it appears that the line of cases is similar to that found in New York. Functional digestive derangements and malaria lead the list, with inflammatory diseases of the eye. The first is accounted for by the utterly irregular method of living, the fact that the main diet is "tonia" bread—thin, glutinous sheets—nutritious, but very trying when made the almost exclusive diet from one year to fifty, and finally, the half-starved condition of multitudes of the people.

Malaria would hardly be expected at home at an altitude of five thousand six hundred feet, but it revels in Van and in the mountain villages around. The pernicious type we have not seen, but we have had thirty cases of children under eight years whose abdomens were distended with a hard spleen that met the iliac crest and extended to or beyond the umbilicus. The tertian type of fever is most common. Our routine treatment is quinine sulphate, but in twenty cases we have used Warburg's pills, which have not failed thus far.

The prevalence of inflammatory diseases of the eye is explained by the intensity of the light on the wide plains and snowy mountains, the irritation of the smoke of the dung fuel that fills the houses each morning on lighting the tonia, and the universal and unthinkable filth of the people.

Of diseases not commonly met at home we have had a few cases of leprosy, occurring sporadically in distant villages, the disease being unknown to the people; and in two instances attacking young men who had never left their village homes.

Van contains one rare and perfect case of acromegaly, now fast succumbing to complicating diabetes. Hydatid cysts abound because of the dogs. Every native is the abode of lumbricoids that respond to calomel and santonine by the fifties and hundreds. By means of pumpkin seeds a tænia saginata over three yards long was removed from a boy of eighteen months, though the head was retained.

The frequency of dirt eating is hard to explain, unless it be due to the dirt that pervades all food here. Victims among the children may be told at a glance by the yellow, waxy skin, the anæmia being intense. Cases also occur of people who adopt the habit in middle life. Once acquired, dirt-eating has the tenacity of the opium curse.

Cholera raged in Van for six weeks at the close of 1892, being ended by severe cold weather. The infection was almost always to be traced to contaminated water; contagion was absent, and treatment by opium and stimulants was unsatisfactory. There may be more opportunity for treatment the coming summer.

A doctor sees few of the common zymotic diseases, the people thinking it foolish to call him for scarlet fever, etc. Small-pox rages unhindered, but as three thousand children died of it in 1892, there were few cases in 1893. The people expect an epidemic once in three years. The disease is almost unknown among adults, all having it in childhood. To it the city owes its many blind beggars.

For diagnosis Van compares favorably with New York as a field of practice. Beyond diagnosis all is vexation of spirit. It is almost impossible to follow a case. The people seldom call a doctor until they feel that the patient is dying. In five cases of prolonged disease we have been called just in time to see the patient die. If called earlier, and health does not return the day after medicine is begun, not one house in ten will summon the doctor the second time; and it is contrary to custom and etiquette and possibility to visit a patient without definite summons. Many patients are brought in from villages one to six days' journey away, and once seen, they return home. Chronic cases of office practice are somewhat more satisfactory, eye patients being especially willing to continue treatment. Even when fortunate enough to follow a case for some time, treatment is a hard matter.

Intelligence to act on instructions is found neither among Armenians, Turks, Syrians, nor Kurds. Bekir Effendi, one of the Turkish doctors, tells of giving a man a prescription for twelve powders of quinine. The man divided the paper into twelve parts, used some himself, gave others to his village friends, and finally returned for more paper, as that had worked so well. No surgical interference is possible, the people refusing even intubation for a child dying of diphtheria. On the other hand, accidental wounds, burns, frost-bites, etc., invariably heal with a rapidity almost miraculous.

The market-place tells one day of the doctors having taken out eyes, boiling them, and replacing them with vision restored; the next, how they gave a typhoid patient a powder that made him bleed to death before morning.

The question of diet they consider entirely outside the province of a doctor. If a typhoid convalescent craves "hartz-banir," the bread and cheese are given him. Babies revel in dried apples and nuts. A woman with phthisis refuses all animal food during the seven weeks' winter fast. A man with gastritis drinks arak before eating.

Finally, all you who sigh at the poor pay of American practitioners, read of medical fees in Turkey. An office call is 5 piastres, *i.e.*, 22 cents; a city call is 10 piastres; a village call—six to ten miles' horseback ride—is 20 piastres. At least half the work is charity, and even the half that pay the above rates pay only after long attempts to drive an Oriental bargain. All who pay do so in advance of any service rendered, for, once in receipt of the service, an Oriental laughs at an attempt to collect a fee.

But if picturesque and vividly colored thanks and blessings are desired, Turkey is the place in which to find them.

Louise Russell Smith, A.M., M.D.

Van, Turkey in Asia.

Clemen's Solution.—The following is the mode of preparation of the liquor arsenici bromatus used in the treatment of diabetes mellitus: Carbomate of potassium and arsenious acid, each one drachm; distilled water, ten ounces: boil until a clear solution is formed, and when cold add bromine, two drachms, and water, twelve ounces. This is allowed to stand until the color disappears, when it is ready for use. The dose is one to five drops once or twice a day.

PRESERVATION OF THE TEETH OF THE NEGRO.

To the Editor of the Medical Record.

Sir: After several years' residence in Central Africa I am of the opinion that the well-known excellent condition of the negro's teeth is not so much due to any peculiar physiological characteristic he may possess, or to his diet, as to the care which he bestows on them. That this condition of the teeth is not accounted for by the partial or total absence of meat from the diet of some is proven by the fact that others live almost entirely on meats. However dirty a native may be in other respects he always keeps his teeth scrupulously clean. It is well within bounds to say that a man will average forty-five minutes a day in doing this. On arising in the morning and after each meal he gives them a thorough washing, and at frequent intervals through the day they will be washed or scrubbed with dry sand or the "tooth-stick." This tooth-stick is a piece of root about six inches long, pared down to the desired thickness and one end chewed until well frayed out. They use it by rubbing it up and down the teeth, taking special pains to clean the interdental spaces. The native generally has one of these within easy reach. If he is travelling he usually has one stuck behind his ear; if not, he can borrow one from his companion. If he is at home, there are several sticking in the thatch of his low roof; while the stranger will find plenty in the village caravansary, ready for public use: after using, it is returned to its place without washing. I have frequently used the tooth-stick (not a public one) with complete satisfaction; the natives assure me that they improve with use. I am compelled to take their word for it, as I am not sufficiently communistic to borrow one from my neighbor or to use a public one. As the rural New Englander aids his imagination by whittling a stick, so the Central African will sit meditating (or vegetating) for hours at a time, all the while rubbing his teeth with a tooth-stick.

C. J. Haffin, M.D.

Batanga, Kameroons, West Africa, April 1, 1894.

DR. SCHUMPERT'S CASE OF LOCOMOTOR ATAXIA

To the Editor of the Medical Record.

Sir: I noticed in your last issue an article by Dr. Schumpert, of Louisiana, upon locomotor ataxia, with report of a case which recovered from the disease. While I am pleased to see that he has endeavored to find a cure for the disease, yet I think he would not be justified in calling his case one of tabes from the symptoms presented in the article; which are "anæmia, heart disease, dimness of vision, and vertigo; for last two years tingling sensations and numbness in arms and legs, muscular weakness and girdle sensation. Still later he had paræsthesia of the four extremities and the gait was slow, faltering, and ataxic; pupils were dilated and knee jerk obtuse."

It seems to me that the only symptoms that can have any diagnostic value of tabes are, first, numbness and tingling sensations in arms and legs, which are also found frequently in other spinal diseases with cutaneous sensory disturbance. The girdle symptom is found in different forms of acute and chronic myelitis, especially when the cord, its membranes, or spinal root nerves in the dorsal segment are diseased, other than the posterior columns. Paræsthesia is a symptom common to other cord lesions as well as tabes.

I am unable to understand how the gait may be slow, faltering, and at the same time ataxic. The sharp, darting pains are not localized and therefore lose to a certain extent their diagnostic value. There is but a single mention of the so called patellar reflex, which was that the "knee-jerk was obtuse." I apply the meaning of obtuse as "not acute," that is, the foot subtended less than the normal arc, which would imply, at least, the presence of myotatic irritability in some degree. Most all authorities have agreed that the knee jerk phenomenon must be abolished in order to make a diagnosis of locomotor ataxia. I think, even when all the symptoms are grouped, the diagnosis of tabes extremely uncertain.

To summarize, the points of doubt of the diagnosis in this case are as follows:

1. The absence of syphilis as an etiological factor. 2. The few and uncertain tabetic symptoms. 3. The fact that the case recovered from the disease.

Sincerely yours,

L. Pierce Clark, M.D.

Connecticut Hospital for Insane, Middletown, Conn., May 22, 1894

ANSWER TO FAIR PLAY.

To the Editor of the Medical Record.

Sir: Anonymous letters should, I suppose, be always ignored, but as a matter of interest to those who may have read in the Medical Record of May 19, 1894, Fair Play's letter, I decided to relate Dr. C——'s side of the case.

Two weeks ago, on Sunday, about 2 P.M., I was at dinner with my family and one or two friends, and was called downstairs to see a well-known gentleman, who said: "My aunt is very sick, and the doctors who have seen her have decided that an operation is necessary to save her life, and I want you to get your instruments and assistants and come down prepared to operate." I asked him the names of the doctors.

He mentioned two; one, Dr. B——, I had met once and had heard of him, but knew nothing of his ability. I also asked the gentleman if the family wanted me to operate. He said yes, and besides, as he was the nearest male blood relation, there could be no question. Without saying more on the subject, as I had friends dining with me, I asked him to come up and take something to eat, as I knew him very well. The subject was not mentioned again till after dinner, when he found it nearly three o'clock, and he said he must hurry off to meet the other doctors. I said: "I'll have my assistants get everything ready, and I'll then follow you, and if I think an operation is necessary, I can send for them."

Now, nothing was said about a consultation, and I took it for granted that the other doctors had been told not only that I was coming, but that the family had decided to have me operate. A few minutes later I started for the patient's home. When I reached there I was introduced to the son in-law and a daughter or niece, and without a word of explanation was shown into a room where, to my astonishment, sat Fair Play and the two homœopaths. After shaking hands I sat down and listened to the two homœopaths give an account of the case; then, with Fair Play, I went and examined the patient, and returned to the other doctors and gave my view of the case. Then, to my surprise, the homœopaths began to get ready their instruments.

I saw that there was a misunderstanding, so I went out to see some member of the family and found the nephew, son in-law, and someone else. Without hesitation they all insisted that I must take charge and operate. I said, "Then you must explain this to the doctors," and the only advice I gave was for them to speak to Dr. Fair Play, as she was a relation, and would know what would be best to do. The two gentlemen saw the doctors, and when they came out they walked up to me, and in a very formal way, and asked me to assume entire charge of the case. I went in and spoke to the doctors and invited them to remain and see the operation. Dr. B—— said he had lost much time and could not remain, but the other homœopath did return and see the operation. I certainly did not mould the family or do anything unfair, or at least intend to do anything of the kind. I heard no objection from anyone; even Dr. Fair Play seemed perfectly satisfied, and she volunteered to go to her office and get a stomach-pump, which I thought

might be needed, as there was fecal vomiting, and the patient was seventy-four years old.

In talking to Fair Play before she left the house I said I would not have assisted Dr. B——, for I did not believe in assisting any operator, except in case of dire necessity, for any man to-day who is an expert in abdominal surgery should have his own assistants or he is not prepared to operate and give the patient the best chance. Well, the outcome was, Fair Play returned with her stomach-pump. I did not ask her to assist me, and when the patient was under ether I discovered that Fair Play had gone out. I sent one of the nurses for her, but she had left the house or refused to come in. This was the first inti nation I had that she might be offended, and I did not even suspect that I had done anything out of the way toward the other doctors till a letter came to me from her saying she had stayed away from the operation as a protest against my treatment of the two homœopaths, etc. As to Fair Play's statement, that I am "famed for obliging readiness to meet homœopaths," with many others of the regular profession. I consider it very poor policy to refuse to meet any doctor legally practising medicine. But, as a matter of fact, excluding the homœopaths I have seen when they have brought their wives for treatment, I cannot count all met in consultation on the fingers of one hand.

Now, Mr. Editor, if I had been called in consultation by either of the homœopaths, and had I gone, I certainly would not have operated, nor taken charge of the case; but I was called by the family, and according to the old Code I had a right to take charge of the case. I do not believe in homœopathy, yet my conduct in this case was not influenced by that fact; had all three been regular physicians I would have done the same. If I was wrong I would like to know it According to Fair Play, I don't see just how a patient is ever to get rid of a doctor.

As to proving the above facts about the case, I will produce the witnesses and appear before any tribunal that Fair Play may name. In her letter to me she admits a bitter feeling toward me about the only other case I ever met her in, and this must have influenced her judgment in this case. Strange to relate, meeting her in this other case was also a great surprise to me, for I had been told that she had been dismissed by the patient. Fair Play herself informed me she came to meet me in spite of the letter from the patient, for she knew it was all due to a meddlesome friend of the patient. I honestly tried to turn the patient back to Fair Play in this first case after the operation and danger to life was past, but I failed.

I still have faith to believe that Fair Play was blinded by prejudice and did not mean to be unfair. "Dr. C."

EXSECTION OF THE RIB NOT NECESSARY IN PYO-THORAX.

To the Editor of the Medical Record.

Sir: In your issue of May 19, 1894, Dr. Carl Beck refers in his paper on "Pyo-thorax and Its Treatment," to an article written by me and published in the St. Louis *Clinique*, with the remark, "The St. Louis *Clinique* does not disdain to draw classical rules from the observation of even two cases." The article alluded to distinctly states, in its text as well as in its title, that these two cases were appended simply as illustrative ones, their histories being published in full. Dr. Beck evidently failed to understand this, if he did me the honor of reading the paper. Should we reason from the doctor's paper in his own way, we should have to say he has not disdained to proclaim resection of a rib as the only successful method of treating pyo-thorax, from an observation of fourteen cases.

From the figures Dr. Beck gives us, it must be admitted he has had an exceptional number of these cases during his eleven years of practice in this country. The number can be better appreciated when it is known that St. Francis Hospital during the last seven years can only record seventy-four cases of empyema.

The method of treating empyema by free incision described in the paper published in the St. Louis *Clinique*, is that practised and taught by Dr. J. H. Ripley, and is the result, I venture to say, of a more extensive experience than even that of Dr. Beck. In the discussion following the reading of Dr. Beck's paper, at the meeting of the County Medical Society, the general opinion was that free incision with good drainage was all that was necessary in the great majority of cases, and only when this failed should exsection of a rib be practised. Our experience on the service of Dr. Ripley, at St. Francis Hospital, has been so favorable with the free-incision method, that up to the present exsection of a rib or ribs has not been found necessary.

Arnot Spence, M.D.

70 West Seventy-first Street, May 21, 1894.

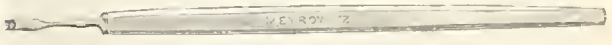
New Instruments.

TYSON'S TATTOOING NEEDLE.

By H. H. TYSON, M.D.,

New York.

This instrument is designed to prevent the needles entering the anterior chamber of the eye, from any sudden movement of the patient's head, or too great pressure



from the operator's hand. The needles are 0.5 mm. in length (a trifle less than one-half the average thickness of the cornea), and set with a curvature equal to a radius of 7.7 mm., about the average radius of the curvature of the cornea. The handle being made of aluminum, is light and durable and easily cleansed.

47 West Fifty-first Street.

A NEW PORTABLE AIR-COMPRESSOR.

By JOHN NORTH, A.M., M.D., Ph.C., F.S.Sc. Lond.,

Toledo, O.

Professor of Diseases of the Nose, Throat, and Lungs, and Clinical Rhino-Laryngology, Toledo Medical College; Surgeon in Charge of Nose and Throat Department of Toledo Hospital; Consultant to St. Vincent Hospital.

Having been at a great disadvantage in attempting to make satisfactory spray treatments outside of the office, with the hand bulb and other devices to be used at the bedside, I set to work to devise some form of a portable air-compressor. I had examined and used the various appliances put on the market for that purpose. They all proved cumbersome and unsatisfactory.

The idea presented itself that the foot of the operator might be made to compress two rubber bulbs alternately, and thus produce a steady and constant current of air. After several attempts I succeeded in having constructed the portable air-compressor shown in the following cut:

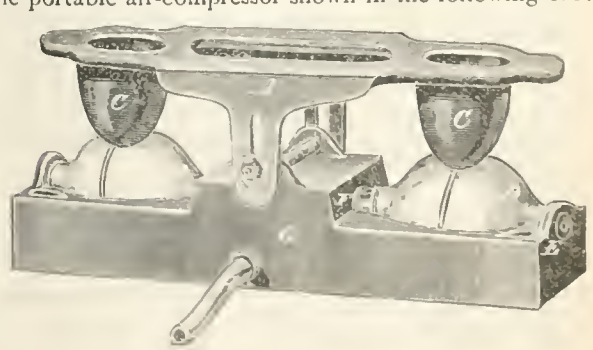


Fig. 1.

The machine is 10 inches long, 2½ inches wide, and 4 inches high. It is made of rubber and metal, and weighs five pounds. *A* is a pedal for the foot of the operator, with roughened top and heelplate (not shown

in cut), so that the foot will not slip. *B*, the arm of the pedal passing down on either side of the base of the machine. It has a long slot in it, so that the plungers will be raised off the rubber bulbs when the foot is removed from the pedal. The weight of the foot is sufficient to press the pedal down to the proper position. By alternating the pressure upon the pedal with the heel and toe, the bulbs are compressed and relaxed; while one bulb is being emptied, the other is being filled with air. *C*,

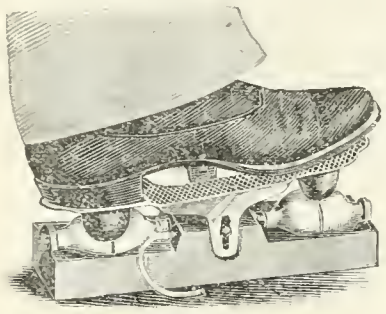


Fig. 2.

the plunger attached to the lower side of the pedal to compress the bulbs. *D*, represents two heavy double-necked atomizing rubber bulbs. *E*, a metal valve to allow the air to enter the bulb when the plunger is raised. *F*, a metal chamber valve which permits the air from the bulb to enter the air-chamber, and prevents the air from passing back into the bulb while it is being filled at *E*. *G* is an air-tight chamber to contain the compressed air, so that a steady and constant current can be produced. *H* is a rubber tube to conduct the compressed air to spray-producer, or for whatever purpose the machine may be used.

As the rubber bulbs and valves are strong, any desired pressure can be produced at the will of the operator. It is simple in its construction. It is always ready, and not liable to get out of order. It is convenient to use in the office, or can be carried to the bedside, being operated and controlled by the foot, which gives the use of both hands, an advantage that everyone will appreciate that has attempted to use a hand-bulb to produce a spray. It gives sufficient force to produce a constant and steady spray, with either oils or water solutions. Will operate any form of spray-producer. By means of it local anæsthesia is easily produced. Gives the operator the use of both hands in operating Paquelin's thermo-cautery, doing away with one assistant.

It is useful in operations when antiseptic sprays are desired. By attaching the rubber tube to a wash bottle sufficient force can be used to wash out the stomach, bladder, vagina, rectum, or any other cavity or portion of the body where a continuous stream of pure or medicated solution is required. By its use a steady blast of air can be produced to run a blow pipe. The ingenious physician or surgeon will find a great many other uses that it can be put to.

One great objection to air-pumps and air-receivers is the contaminated condition of the air produced by the rancid oils used in oiling the pump, and the decayed leather and rubber used in packing them; also the change and decomposition of the air that has been stored for a long time in the receiver.

This machine does away with all these objections, and a great many others that occur to those that have used the old methods. O. R. Bonnewitz & Co., of Toledo, have succeeded in constructing the machine for me.

I have had one in constant use for several months, and find it indispensable. I would be at a great loss without it.

HALE'S LIFTING COLUMN.

By C. A. PEABODY, M.D.,

SUPERINTENDENT OF CITY HOSPITAL, WORCESTER, MASS.

Among the many appliances and forms of apparatus that have been devised for changing the position of bed-ridden patients, and facilitating the application and renewal of dressings, etc., the one here illustrated answers the purpose better than any other with which I have had experience, and has points of excellence which merit the attention of the physician and the surgeon. Some of its points of excellence are:

1. It can readily be set up and taken down in any ordinary room without leaving a scratch or mark behind on floor, wall, ceiling, or furniture.

2. Its operation is very easy and safe. A young girl can handle a heavy man with it, changing his position or lifting him from one bed to another, which is all much easier and better than "calling in the neighbors to help."

3. The patient experiences no pain or discomfort in the movements made to change his position.

4. When extension is in use it need not be disturbed in moving the patient or changing his position.

There are many minor features which cannot well be described without taking too much space, but the essential characteristic of this apparatus is that which has given it its name, *i.e.*, the column or standard which, as will

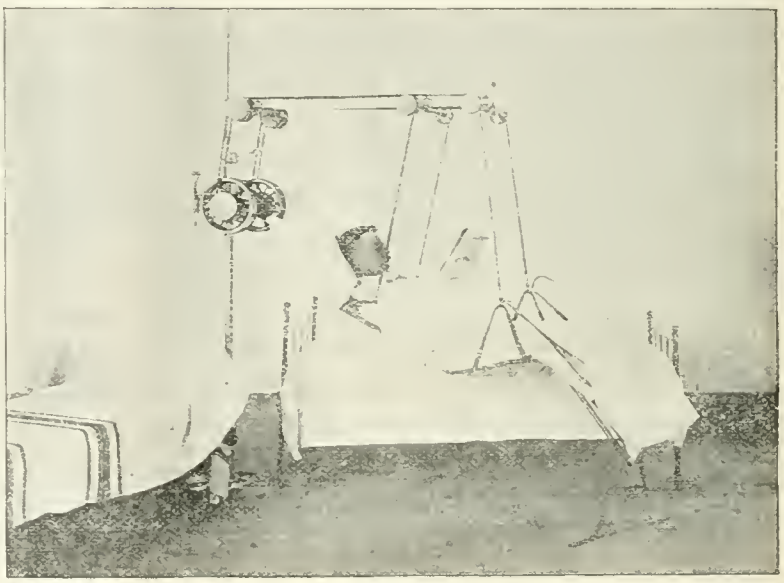


Fig. 1.

be seen in the cut, extends (on the principle of a jack-screw) from floor to ceiling, and supports a swinging crane by which the patient is lifted. The extremities of this standard are so broad that it is impossible to tip it over or displace it. The crane is secure against slipping or any accidental movement that would jar the patient, and it is sufficiently strong. It has been thoroughly tested in this regard by several men weighing from 225 to 260 pounds.

In use the patient lies upon a canvas-covered and jointed stretcher, which is placed upon any ordinary bed and covered with a sheet. The column stands behind the head-board (preferably), which should be low enough (say five feet from the floor) to allow the crane to swing over it; the whole apparatus then can be out of the patient's sight except when in actual use.

The straps which depend from the crane carry snap-hooks by which they may be quickly attached to the stretcher or detached from it. They are wound up on drums carried on the standard, by means of cranks and wheels, in such a manner that the stretcher (and patient) is entirely under the control of the operator, who can lift one side, one end, one corner, or the whole together, and put the patient into any position that may be de-

sired. The mechanism is very simple, and is not likely to get out of order or to need repair.

It was designed by the inventor for use in his own family, where it answered so good a purpose that it attracted the attention of several physicians and nurses,

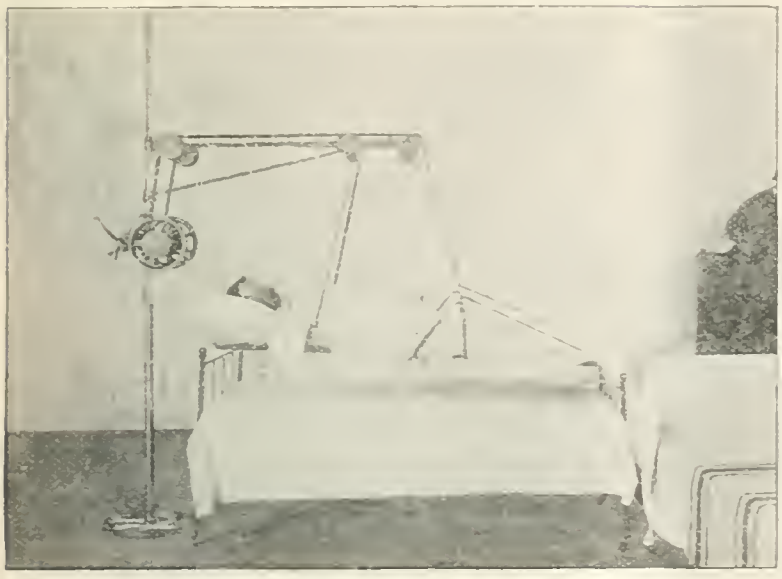


FIG. 2.

who urged him to arrange for putting it upon the market. He accordingly took measures to protect his invention, and has placed it in the hands of the Hartford Woven Wire Mattress Co., of Hartford, Conn., of whom the apparatus can be obtained.

Medical Items.

Contagious Diseases — Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 26, 1894.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	5	3
Scarlet fever	151	15
Cerebro-spinal meningitis	5	5
Measles	133	8
Diphtheria	245	56
Small-pox	34	4
Cholera	0	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0

To Keep the Babies Quiet.—An English contemporary says that colliers' wives, in North Wales, gives morning doses of laudanum to their infants which suffice to keep the unfortunate little creatures unconscious until their own return from work in the evening.

Spanish Prizes.—The Spanish Royal Academy of Medicine offers its annual prize for the best essay on the following subject: "Clinical and Therapeutical Study of Chronic Affections of the Intestine." The A. E. G. Cano Prize will be awarded for the best essay on "Infectious Endocarditis." Essays may be written in Spanish, Portuguese, French, Italian, German, or English, and must be sent to the secretary of the Academy, 22 Montera, Madrid, before September 15, 1894.

Olive Oil is a popular domestic remedy in the south of France for nephritic colic. It is taken in tablespoonful doses every half-hour for six hours or until the pain is relieved.

The Necessity for a Well-paid Medical Profession.—In a recent address before the Southwest London Medical Society Mr. Thomas Bryant urged the importance of physicians being well paid for their services. He said (*The Lancet*): "Let us never forget that our patients' interests are those we should always primarily consider, and that in all our practical and scientific professional work the public good is its ultimate object; but at the same time let us bear in mind that in order to realize this leading purpose it is all-important for the interests of the public, as well as for the due exercise and dignity of our profession, that every practitioner of medicine should hold a perfectly independent but responsible position, and that in his professional work he should be left perfectly free from lay control, although amenable to lay censure. It is also equally necessary that he should be adequately paid for his professional services by all classes according to their means. Under these circumstances all measures, whether under the guise of charity or called 'provident,' and all hospitals, general, special, or private, which encourage the public to seek professional advice for little or nothing, are to be discouraged as helping to pauperize and degrade the public at large; and all members of our profession who induce or tempt the public so to do by means of private hospitals, competing private dispensaries, touting clubs, and associations, or who are ready to accept at a reduced figure, over the heads of their neighbors, appointments which have been put up by laymen, as it were, to auction or competition, adopt the surest means within their power to lower the position of their profession in the estimation of the public, and at the same time do injustice to the profession and public by not giving to the latter the best services the former can supply, while they must, in addition, lose their own self-respect, even if they happen to gain cash by their unworthy actions. For, let me ask, how is it possible for a man who is ill-paid or overworked, or both, either to give, in the interests of the public, the professional attention it is essential for him to bestow on every case he has undertaken to attend: or to maintain, in the interests of the profession, the position to which he is entitled and his own self-respect? We all know that any measure which encourages, either in a profession or trade, underpay and overwork, leads to bad work. In our profession such deficiencies are no less harmful—nay, they are more so, as its issues to the public are either life or death, health or ill-health, and to the profession either a position of pleasure, honor, and respect, or one of degradation and unrequited labor."

Leprosy in Germany.—According to the investigations of the Imperial Board of Health, whose attention was directed to the fact by a physician, there are at present ten lepers in the District of Mamel, Eastern Prussia. Eight other lepers died in 1877. Six of these eighteen cases were single persons; the other twelve extended over five families. Of those who died, two suffered from the disease eight years, others thirteen, ten, nine, seven, and one year. The first case occurred, as far as can be found out, twenty years ago. Only one of the eighteen had ever left home, so the origin of the disease cannot be found.

The Goddess of Small-pox.—A striking account of the difficulties attending on the attempt to extend the practice of vaccination in India is given by Surgeon-General Sir William Moore. The chief obstacle is superstitious prejudice. The population firmly believe variola to be matter under the control of the goddess Mata, in whose honor temples abound and fairs are held, where thousands of women and children attend with offerings. The

declivities of most of the numerous conical hills present either a reddened stone or temple devoted to Mata, with most probably an attendant Brahmin priest. Nearly every village has its goddess of small-pox in the immediate locality, and in many places a large piece of ground is esteemed holy and dedicated to Mata. The people do not pray to escape the affection, unless in seasons when it occurs with more than ordinary violence. They do, however, petition for a mild visitation. But even the loss of an eye does not appear to be viewed as a very serious calamity. "Is there not another eye sufficient for all purposes?" questioned one of these stoical philosophers. "If it were the leg or hand it would be different; but an eye is immaterial."

Postal Transmission of Small pox.—Dr. Karkeek, the health officer of Torquay, England, records in his report for last year the occurrence of two cases of small-pox in which the infection was conveyed by correspondence from a nurse in a small-pox hospital. One of the cases occurred ten years back, and the other last April, the patient falling ill two days after leaving Torquay. His friends had suggested risk from reception of letters written by a hospital nurse engaged in attending small pox cases, but he had pinned his faith on supposed disinfection of all letters. How far he was mistaken in his supposition was shown by the sequel.

The Medical Profession in the United States.—According to a recent report the total number of medical practitioners in the United States is 118,453. They are distributed among the several States as follows: New York, 11,171; Pennsylvania, 9,310; Ohio, 7,574; Illinois, 8,002; Missouri, 6,178; Texas, 5,288; Kentucky, 4,063; Tennessee, 4,379; Massachusetts, 4,457; Michigan, 4,057; Iowa, 4,434; Kansas, 3,089; Arkansas, 2,586; Maryland, 2,120; Virginia, 2,806; West Virginia, 1,061; Georgia, 2,725; Maine, 1,222; New Hampshire, 720; Vermont, 696; Rhode Island, 654; Connecticut, 1,267; New Jersey, 2,030; Delaware, 292; Indiana, 5,006; Wisconsin, 1,966; Minnesota, 1,584; Nebraska, 1,730; California, 3,300; Colorado, 1,165; Nevada, 66; Oregon, 909; District of Columbia, 831; North Carolina, 1,798; South Carolina, 1,422; Florida, 789; Alabama, 2,117; Mississippi, 1,782; Louisiana, 1,412; Arizona Territory, 108; Idaho, 176; Indian Territory, 416; Montana, 299; New Mexico Territory, 147; Utah Territory, 273; Washington, 910; Wyoming, 75; N. Dakota, 272; S. Dakota, 450; and Oklahoma, 267.

Removal of Bullet Imbedded for Thirty-two Years.—Dr. W. O. Roberts recently reported to the St. Louis Clinical Society the case of a man from whose thigh he removed a bullet which had been imbedded in the limb for thirty-two years. The man, whose age is fifty-five years, was struck by a shot just above the knee at the battle of Shiloh; the wound was probed soon after the battle to a depth of six or eight inches in an upward direction, but no bullet was found. He was in hospital for six months before the sinus closed. He then went back to duty, but becoming lame was again sent to hospital, where again free incision failed to discover the bullet. After this he had no further trouble till he came under the care of Dr. Roberts, who found a tumor about the size of a guinea-fowl's egg just at the outer side of the right inner hamstrings. This was cut down upon, and proved to enclose the bullet, which was covered on one side with a phosphatic deposit.

A Section of Medical Journalism.—The committee having in charge the creation of a Section of Medical Journalism at the next International Congress is chiefly Slavic in its composition. The president is Dr. Wicherkiewicz, of Posen, and the secretary, Dr. Mayzel, of Warsaw. The proposer of the resolution for the formation of the committee was Dr. Dobrzycky, of Warsaw. We decline all responsibility for the spelling of the names of these esteemed colleagues.

London has 5,590 regular physicians; Paris, 2,208; and Berlin, 1,799.

Primitive Comfort for Babies.—"The hygienic treatment to which Dorothy Drew, Mr. Gladstone's little granddaughter, is subjected," says a well-known writer, "extends so far that she always goes barefoot, indoors or out, except in very muddy or bitterly cold weather. Her dress and fare are of the simplest, and she is one of the healthiest, happiest, and most irrepressible of children."—Dr. C. E. Page, on "Summer Comfort for Babies."

Measles and Religion.—Dr. Gryglewicz reports an epidemic of measles occurring in the town of Jutrorchin. The inhabitants of the place are about equally divided between Catholicism and Protestantism, and the curious part of the epidemic was that only the Catholic children were attacked, every one of the Protestants, as far as could be learned, having escaped.

The Medical Women in Great Britain and Ireland number 186, of whom only 20 have thus far been admitted to membership in the British Medical Association.

Italian Cigars as Microbicides.—Dr. Tassinari says that the smoke of the "Virginia," the favorite cigar of the Italians, is inimical to bacteria. We should think it might be! It would kill an ordinary horse.

Insuring the Physicians' Lives.—The inhabitants of the province of Uriatka, in Russia, have recently inaugurated a system of insurance which we commend to the thoughtful consideration of all other communities throughout the civilized world. The locality being threatened with a recrudescence of the cholera epidemic, a resolution was taken by the influential men of the province to provide for the families of those medical men who might die from the disease. According to the terms of this proposition the family of any physician in active practice who may succumb to cholera will receive yearly the interest on 5,000 rubles, or on 8,000 rubles if the physician shall have been in practice in the province for a period of ten years prior to his death. This is an idea that is worth developing, and the insurance might be made to cover the death of a physician from any infectious disease.

The Gala Performance in Rome.—In the evening there was a gala representation at the Costanzi Theatre. The Italians have a novel conception of gala performances. They are a source of profit, being paid for by the members of the congress. The price of admission was doubled, and tripled, in honor of the guests. Even the daily journals were unable to conceal their amazement, and asked pertinently who it was that profited by this arrangement. What does M. Baccelli think of it?—*Concours Médical.*

A Hospital for Consumptives is to be erected in Philadelphia, to be under the care of the Bureau of Charities and Corrections.

Remedies that Cure is the title of a book recently published in Paris. An account of the remedies that do not cure would make a portly volume.

A French Hospital at Constantinople.—The cornerstone of a new French hospital was laid recently in Constantinople. It is to occupy the site of the old hospital on one of the finest squares in the suburb of Pera.

Music as a Healing Power.—The idea that music possesses an actual healing power is about to be tested in London. The Guild of St. Cecilia is about to build or hire a large hall, in which musicians, specially trained to sing and play the very soft music which alone should be administered to those whose nerves are weakened by illness, shall perform by day and night. Telephones will connect this composite and continuous music-room with certain wards of London hospitals. Records and data of conditions and effects are to be kept, and conclusions arrived at.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 45, No. 23.
Whole No. 1231.

NEW YORK, JUNE 9, 1894.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

THE RECENT EPIDEMIC OF TYPHOID FEVER IN MONTCLAIR, N. J., AND VICINITY, DUE TO AN INFECTED MILK-SUPPLY.

By RICHARD C. NEWTON, M.D.,

MONTCLAIR, N. J.

WHILE epidemics of typhoid fever traceable to an infected milk supply are by no means unknown, the origin of few, if any of them, has been so easily and conclusively shown as that of the epidemic about to be described.

Nor in most cases has the epidemic ceased so quickly after the withdrawal of its cause.

Again, it must have been quite infrequent that cases of typhoid have been shown to have come from one exposure to the infecting principles, as happened in several of the cases in the Montclair epidemic. In what follows it is not intended to discuss in their various phases the questions of the etiology, diagnosis, and treatment of typhoid, but merely to give a summary of the cases, dwelling chiefly upon those aspects of the subject upon which the history of the epidemic seems to throw considerable light. Nor does it seem expedient at this time to load down this paper with a history of every case, nor even to print a tabulated statement of all the cases; although such a table could be furnished if necessary, and may be useful later on.

I will begin this paper with a short description of the dairy whose milk created so much havoc and distress in this quiet town, and furnished the daily press with much food for comment.

About a mile and a half from the centre of the town of Montclair is the dairy of G. W. G. It is situated in the town of Verona, upon the Pompton Turnpike. This dairy had a herd of sixteen or twenty graded cows, and supplied milk to about forty-four families in Montclair. The following description of the premises is given by an eye-witness:

"The entire place is in a disorderly and unkempt condition. The yard is filled with broken tools, odds and ends of wagons, sleds, and farming implements and litter of every description. The door-yard is ornamented by the droppings of fowls, and the same material embellishes the old wagons, harness, and tools, which are scattered about or gathered under two or three old sheds or outbuildings. As is the custom in so many country places, the privy is higher than the well. The lay of the land is especially adapted for the fouling of drinking-water, inasmuch as all the buildings are situated near the bottom of quite a smartly rising hill. The privy vault is filled with water to the level of the ground, and a little examination shows that the vault has been sunk in what appears to be a natural water course—namely, the sort of place that well-diggers would select to find water near the surface. About sixty feet below the privy is one of the wells of the establishment. It is not in a direct line below the privy, but is nearly enough so to be easily contaminated by the water, which is apparently nearly always flowing through the privy vault. This well, it is said, has not been cleaned for years, if ever. The water from it (it seemed to be about twenty feet deep) is drawn by a chain-pump, and was the water used in washing the milk utensils, bottles, etc. Another well is situated at the foot of the cow yard and at a lower level. A stream of urine from the cow stables, and excrement in suspension, seemed to be directed almost into this well, which it is alleged was used for watering the cows, when the third source of the water-supply was not so used. The third source is a cistern in the side of the hill, which contains alleged rain-water gathered from the roofs of the barns. This water runs into the cow stable through a faucet, and upon examination had proved to be badly contaminated with organic impurities. The cows were also said to drink from a filthy shallow pool in their pasture, in which they seemed to stand and lie, and which was fouled with their excrement and urine. The house-drain emptied into the surface of the ground near the street, and flowed along the side of the road."

On February 11, 1894, the seventeen-year old son of the proprietor fell sick. Dr. Love, of Montclair, saw this patient for the first time on the 18th. He had then been sick a week, and was not known to have seen a doctor before the 18th. The patient was dressed and lying on a lounge at the doctor's first visit. On the 20th the doctor saw him again and pronounced the disease typhoid. He gave the proper directions for the disinfection of the stools to the father, and also for their disposal—ordering them not to be thrown into the common privy, but to be buried, after disinfection, in shallow trenches.

The health authorities of Montclair were also notified of the occurrence of a case of typhoid fever at this dairy. They in turn notified the State authorities, who sent an agent to visit the dairy. It seems, however, that the sale of milk was not entirely stopped until March 29th. Why the State authorities did not act more promptly, or exactly what their power may have been in the premises, the writer does not know. At all events, an occasional case of typhoid on a farm in the environs of Montclair is no great rarity. And so far as the writer knows, no previous epidemic of any magnitude has ever been traced to milk anywhere in this immediate neighborhood.

So far as can be learned, Mr. G. carried out the instructions about disinfecting and burying the excreta from the sick boy. But his milk continued to be sold. A few days before this milk was entirely excluded from the market, another milkman, H. T., bought some of it and delivered it to his customers, most of whom lived in Bloomfield and Glenridge (communities immediately adjoining Montclair on the east). Inasmuch as G.'s milk was at that time under suspicion, H. T., to prove its innocuousness, drank somewhat freely of it. He subsequently took the fever and died. On March 29, 1894, as said above, the sale of milk from G.'s dairy was entirely prohibited, and so far as is now known, none of it has found its way into Montclair since.

This, however, was, to some extent at least, locking the stable-door after the horse had been stolen. Had the milk been promptly stopped on February 20th, it would have been very interesting to note the effect upon the spread of the fever. It seems probable that the milk was infected before the date mentioned, but in view of the fact that most of the cases of typhoid fever developed more than twenty eight days after February 20th (and twenty-eight days would seem to be the limit usually set to the period of incubation in typhoid), it seems fair to assume that most of those who had the disease would have escaped had the milk delivery ceased on February 20th.

The first case of typhoid in Montclair, and the second in the epidemic, occurred in the person of a little girl, three years old. She was first visited on March 12th, and had then been sick two or three days. So that there was an interval of twenty-seven or twenty-eight days from the beginning of the first case to the beginning of the second. This case ran an uneventful course for about two weeks, and terminated in recovery.

The third case in the epidemic was another son of Mr. G., aged about sixteen years. He was taken sick at the dairy on March 15th. It seems that all the family were actively engaged in the dairy work, and, it is presumed, drank the infected water and the milk also.

On March 16th two new cases appeared in Montclair (one of them, however, could not be traced to G.'s milk); on the 20th, four new cases, and so on until April 12th, two or more new cases appeared on every day, except April 10th, on which day none appeared. Between the dates given, March 12th and April 12th, one calendar month, one hundred and eleven cases of the fever appeared. Three have been reported since, which with the original case gives a total of one hundred and fifteen cases. These are all the cases that, after a careful and painstaking inquiry, are known to have occurred in Montclair, Bloomfield, Glenridge, and Verona during a period of about three and a half months, and all but eight of these were proved to have partaken of the milk from G.'s dairy. From a list of his customers, which Mr. G. kindly furnished, it appears that he regularly supplied forty-four families in Montclair with milk, besides leaving bottles of his milk at two or more grocery stores to be sold. Of these forty four families the fever appeared in twenty eight, or 63.6 per cent. In thirteen of these families there was one case of the fever apiece; in fifteen, more than one case. Of twenty cases reported from Bloomfield and Glenridge, eighteen were traced directly or indirectly to milk sold by H. T., and presumed to have been from the G. dairy. To my mind no series of figures could be more convincing. The epidemic came from just one source and from no other, and probably the first case at the G. dairy infected his own brother, and at least one hundred and seven other people. An analysis of the milk was made by Professor Leeds, of the Stevens Institute in Hoboken, and the following is a copy of his report:

"STEVENS INSTITUTE OF TECHNOLOGY,
HOBOKEN, N. J., April 11, 1894.

"GEORGE W. MCGUIRE, Esq.,
"*State Dairy Commissioner.*

"DEAR SIR: I transmit herewith report on sample marked 'N. J. Dairy Commission, No. 6851,' delivered March 31st by Inspector John C. Tracy.

"The sample was of whitish color and quite acid. Its specific gravity and total solids were quite low, the latter being 12.84 per cent. It contained:

Fat	3.87 per cent.
Lactose	4.95 per cent.
Albuminoids	3.30 per cent.
Ash	0.72 per cent.
Total solids	12.84 per cent.

"Besides the bacteria usually present in milk it had a number of those more especially found in water. The total number of colonies was enormous, being 2,187,000 per cubic centimetre. Though the specific bacilli of typhoid were not found in this particular sample, I regard the milk on the above showing as unsafe, and contaminated with impurities introduced subsequent to milking.

"Very respectfully,
[Signed] "ALBERT R. LEEDS."

Nor does the fact that no typhoid germs were found by Professor Leeds in G.'s milk have anything more than a negative significance. The difficulty of isolating and proving the presence of Eberth's bacillus in a suspected fluid being well known.

It seems that Professor Sedgwick did not find this bacillus in the water which contaminated the milk which was the cause of the Springfield epidemic of 1892, although he did find the bacillus coli communis in abundance. (See Twenty-fourth Annual Report Massachusetts State Board of Health.)[1]

Yet one can scarcely doubt that Professor Sedgwick located the cause of the Springfield epidemic in the well at the Feeding Hill Farm.

It is by no means necessary to prove that the milk is intentionally adulterated with infected water, and is thus contaminated with septic germs. The mere washing of the bottles or other containing vessels in polluted water at ordinary temperatures is quite sufficient. And the water in the cistern and both wells on G.'s dairy was proved to contain organic impurities and to be unfit for drinking. The analyses were made by Mr. D. H. Baldwin, chemist, Montclair, N. J. Mr. Baldwin also submitted samples of the water from these wells to the Health Board in New York City, and was told that under the circumstances the long and expensive process necessary to demonstrate certainly the presence of the typhoid bacillus in these waters was quite needless, inasmuch as there was no reasonable doubt that it was present in the water and had caused the sickness in Montclair. Mr. Baldwin was told the same thing at the Bacteriological Department of the College of Physicians and Surgeons in New York.

If any more proof were needed of the origin of the Montclair epidemic, the fact that but three cases of typhoid have appeared in the town since April 12th, and that this date was fourteen days after the total exclusion of the G. milk, would, I think, convince any fair minded man.

This paper has already transcended the limits to which it was intended to confine it. But the subject is so important that I trust I shall be pardoned for a few more remarks which seem, to me at least, of considerable interest.

Of the 107 cases 14, or thirteen per cent., have died. Upon one of these subjects an autopsy was secured, of which I will give the following brief account: The patient was a young lady, twenty-one years of age; she died after a relapse at the end of the sixth week from the beginning of the fever. An autopsy was made by Dr. R. P. Francis, of Montclair, assisted by the writer. The record is as follows:

May 17, 1894.—Autopsy sixteen hours after death. Body that of a well-developed young woman. Moderately emaciated. No external marks observed on body. Rigor mortis moderate. Some ulceration about shoulders and neck. Head not examined. On opening the body a moderate amount of subcutaneous fat was observed. Thorax: Diaphragm reached the fifth intercostal space on the left side and the fourth on the right. The muscular tissues were firm and free from fat. The sternum was short and the costal cartilages were long and their angles more than ordinarily acute. Pleuræ: No adhesions. Pericardium contains one-half ounce of reddish serum; normal to gross appearance. Heart: Muscles firm but pale. Right side contains some dark uncoagulated blood and had small chicken fat clots. Left heart empty; valves normal. Tracheal and bronchial glands not enlarged. Lungs normal except an infarct in left lower lobe as large as a black walnut. Abdomen: Omental fat present; some flatus in intestines. About four ounces of clear serum in pelvic cavity. There was no peritonitis. Spleen greatly enlarged; cuts like gritty material; "dregs-of-paint" appearance; weighs fifteen ounces. Intestines show spots of marked congestion. In the upper part of ileum a number of small superficial ulcerations, mostly of solitary glands. About one and a half dozen of Peyer's patches were ulcerated. The ulcers increase in area and depth as the cæcum is approached. One Peyer's patch near the ileo-cæcal valve is surrounded

[1] For the extreme difficulty encountered in demonstrating the presence of the Eberth bacillus, see paper on the "Differentiation of the Bacillus of Typhoid Fever," by George W. Fuller (Twenty-third Annual Report Massachusetts State Board of Health).

by a small gangrenous area. The gangrene may have been post mortem. The colon presents a great increase in the size of the solitary glands, so that its inner wall looked like a closely set cobble-stone pavement. Each follicle was about the size of a split pea. There was a considerable accumulation of fæces in the rectum. The appendix was normal. Liver about normal size, soft and pale, with the usual whitish areas observed in fever cases. Kidneys: Small capsules, non-adherent; on section, normal to gross appearance.

Cause of death, typhoid fever.

In conclusion, a few points of interest affecting nearly all of the cases should be mentioned. The oldest patient was seventy-two years of age, and the youngest eleven months.

An eruption was noticed in every case but two. One observer counted one hundred and fifty-seven petechial spots on a child of seven. This child and the young lady whose necropsy has just been related, had a very slight, extremely delicate desquamation over face and hands, which appeared as the fever was subsiding and remained two or three days. In another case the eruption was as profuse as in a moderately severe case of measles. (The petechiæ were innumerable.)

Diarrhœa was generally absent, all the observers agreeing that they had never met with so large a percentage of constipated cases.

Perforation: Only two of the fourteen fatal cases died from peritonitis, probably due to perforation, although autopsies were not held.

Relapses were quite common. Thirteen, or about twelve per cent. of the cases relapsed; one of the relapses was fatal (the case in which the autopsy was made). The longest case was fifty four days without a relapse, and the shortest a week.

There were seven cases of intestinal hemorrhage reported. One "smart pulmonary hemorrhage." One patient miscarried at about the third month with a severe hemorrhage. She recovered. Another case, pregnant about the same length of time, went safely through the fever without a miscarriage.

The average duration of the fever was about twenty-two days in all the cases reported.

The second week remission was generally very well marked. In several cases the temperature fell to 97° F. in the morning at or near the end of the second week, and very soon rose again.

Nine cases took the fever from drinking the milk once. In these the shortest period of incubation was fourteen days, and the longest twenty-seven. The average, 18.8 days.

The last case upon which I will comment is the 110th in the series, and is that of a nurse in the male ward of the Mountainside Hospital. She had charge of only one patient, who was very sick and died early in the epidemic. She was very much afraid of taking the fever, and was especially careful about washing her hands, etc., and was, moreover, naturally neat and careful in her habits. She fell sick with typhoid on May 9th. She had drunk H. T.'s milk on March 29th, or forty-one days before the fever appeared; whether she took the fever from her single patient by inhalation of the germs or otherwise, or whether in her case the incubation was almost six weeks, is an interesting problem. Personally, I incline to the latter opinion.

Only one other nurse is known to have contracted the fever. The case was said to have been a very mild one. Its cause has not as yet been fully investigated.

Of the total number of cases reported, 33 were treated by homœopathic practitioners, and their reports show a total mortality of 8, or twenty per cent. The number treated by the regular practitioners was 76, with a mortality of 6, or 7.8 per cent.

This notable disparity in results is similar to that reported by Dr. Benjamin, of Camden, and recorded in the "Transactions of the New Jersey State Medical Society for 1893," p. 37. Dr. Benjamin stated that the Philadelphia Homœopathic Hospital had reported a death rate of twenty four per cent. in enteric fever, and the Pennsylvania Hospital one of nine per cent. This was one of the higher rates for 1893, since the Cooper Hospital in Camden reported a two per cent. mortality, and another of the Philadelphia hospitals a six per cent. mortality.

My thanks are due to nearly every physician in Montclair and Bloomfield, and to Dr. Whitehorn, of Verona, for valuable aid in preparing this paper.

OBSERVATIONS ON NOSE BLEED AND ITS TREATMENT.[1]

By S. KOHN, M.D.,

NEW YORK.

THE purpose of this paper is to direct attention to the etiology of nose-bleed, and to describe some methods of treatment for which the claim of novelty may perhaps be asserted.

The subject is of fully as much interest to the general practitioner as to the specialist; its importance is attested by the fact that almost every writer on general medicine, from the times of Hippocrates and Galen down to the present, devotes space to its consideration; special articles which have attracted wide-spread notice, to mention only a few, have been written by Cloquet. Friedrich, Störck, Voltolini, Chiari, Bresgen. B. Fränkel, Krause, Duchek, Schech, Kiesselbach, Hartmann, Zuckerkandl, Mackenzie, Bosworth, and Solis Cohen.

E. C. Morgan, in Keating's Cyclopædia, "Diseases of Children," contributes a capital article on the subject; quite a complete *résumé* of the literature is to be found in Bresgen's "Handbuch der Krankheiten des Nasen, Mund, und Rachenhöhle," Wien, 1891.

Nose-bleed is met with under such a variety of conditions that it will be well to take a survey of its etiology before considering the treatment. Its causes may be classified under two headings: 1, Local; 2, Constitutional.

Local causes are, *A*: Traumatisms, which may be: *a*, operative, as for the removal of polypi, hypertrophies, tumors, exostoses, the correction or removal of septal deflection; *b*, blows and falls on the nose, with or without fracture of the nasal bones; *c*, habitual picking of the nose, frequently met with in children, not so frequently in adults; may or may not be due to deflected septum or spina, or septum over which the epithelium is thinned, and upon which crusts form; these are so firmly adherent that, to remove them, the finger nail is dug into the mucous membrane; a loss of substance and bleeding result; the frequent repetition of this procedure finally leads, in some cases, to perforation of the septum.

B. Congestions, active or passive. *Active congestion* is frequently the cause of recurring hemorrhage from the nose in children up to the age of puberty, without any appreciable lesion discoverable in the nasal mucous membrane; and seems to be due, primarily, to the active processes of growth and development at this age; and, secondarily, to the vascularity of the erectile tissue of the nose; about the age of puberty it seems to be more frequent in girls than boys, and is attributable to the establishment of the menstrual function and the developmental activity incidental thereto. Active congestion leading to hemorrhage may be caused by the inhalation of irritating vapors, powders, gases, etc.

The overheated and impure air of school-rooms frequently causes congestion of the nasal mucous membrane and bleeding, much to the schoolboy's delight, as it serves him as a pretext for escape from the poorly ventilated room into the pure air. Vicarious menstruation is recognized by the occurrence of the nose-bleed at the menstrual period. Cardiac hypertrophy may cause active congestion and consequent bleeding from the nose.

[1] Read at the January meeting of the Society of the Alumni of Charity Hospital.

Passive congestion of the nasal mucous membrane leading to bleeding may be produced by a multiplicity of causes; the bleeding is, in these cases, symptomatic; attention is called to the causes, for the purpose of showing the importance of making a thorough physical examination of every patient suffering from epistaxis.

Causes of Passive Congestion of the Nasal Mucous Membrane.—*a*, Valvular lesions of the heart, more or less uncompensated; *b*, diseases and degenerations of the heart-muscle; *c*, diseases of the lungs and pleuræ: chronic bronchitis, emphysema, tuberculosis, pleurisy in all its forms, empyema, whooping-cough; *d*, diseases of the liver, spleen, kidneys, suprarenal capsules; the diseases of the parenchymatous organs may produce nose-bleed by causing congestion, active or passive, or by bringing about such changes in the constitution of the blood, or in the walls of the blood-vessels, that diapedesis occurs, *i.e.*, tuberculosis, jaundice from an alcoholic or cirrhotic liver, Bright's disease; *e*, atheroma.

C. Growths, benign or malignant, adenoid vegetations, vascular polypi, sarcoma, carcinoma, angioma, caries, necrosis, ulcerations, syphilitic gummata, rhinoliths, which may for years erode the mucous membrane and cause recurrent bleedings; foreign bodies, introduced into the nose, such as shoe-buttons, peas, etc., which the young patient is usually afraid to mention, but which remain in the nose months, and in some cases years, causing recurrent bleedings.

Under the second general heading of the etiology, viz., Constitutional causes, are *a*, the continued fevers, typhus, typhoid, relapsing, and yellow fever; the malarial fevers; *b*, the exanthemata, measles, scarlatina, smallpox, in all their varying degrees of severity; *c*, septicæmia, diphtheria; *d*, gout, rheumatism; *e*, chlorosis, anæmia, simple or pernicious; *f*, hæmophila. Finally, mental emotions: fright, rage, may bring on an attack of nose-bleed; coitus, masturbation. Heredity may act as a predisposing cause. Senility sometimes predisposes to it.

It is thus seen that nose-bleed may be encountered under a great variety of conditions, at any time of life, in both sexes; that it may occur in the healthy and robust, or in the course of acute or chronic disease.

It frequently occurs without premonition, during the physician's visit perhaps, as in the course of typhoid fever; in this disease it has been considered by the older writers to be the critical bleeding; it may, however, be so copious as to endanger the life of the patient.

Or again, a patient is brought to the physician with a history of oft-repeated bleedings from the nose, more or less profuse, resulting in enfeeblement of the system; at the time of the visit, however, the patient has no bleeding. The bleeding usually is only from one nostril; it may, however, come from both; the amount of blood lost varies from a few drops to such a large quantity as to endanger the life of the patient.

Treatment.—In considering the treatment, in view of the etiology, it is proper to consider, first, prevention, and secondly, the means for causing the cessation of the bleeding.

Prevention.—In the case of a patient giving a history of repeated bleedings, without any sufficient exciting cause, a most searching examination of the nose and naso-pharynx is essential; if an erosion or varicosity be found, as it frequently is, on the lower anterior portion of the cartilaginous septum, this should first be dried with absorbent cotton, and then cauterized with a saturated solution of chromic acid, as advised by Bosworth and Bresgen; Chiari claims to have found such a lesion in 70 out of 81 cases of habitual nose bleed, and advises the galvano cautery beyond all other measures. The writer has seen the galvano cautery cause nose-bleed so frequently that he hesitates to recommend it, in these cases, to the general practitioner. Angiomatous growths have been the cause, in some cases, of such profuse and repeated hemorrhages, as to bring the patient to the verge of syncope; their radical destruction by the flat galvano-cautery is effectual in checking the recurrence of bleeding. Tumors, vascular polypi, adenoid vegetations, enlarged tonsils, if found in a patient suffering from habitual nose-bleed, must be removed.

If the child be a "mouth-breather," attention should be directed to the naso-pharynx and the adenoids, which in all probability will be found removed.

Under prevention, the treatment of the general conditions named under etiology must be considered, viz., anæmia, chlorosis, hæmophilia, diseases of the heart, lungs, pleuræ, parenchymatous organs, etc., into which it is not the province of the writer to enter.

It is mentioned for the purpose of emphasizing the necessity for a thorough physical examination of every patient suffering from nose-bleed. Suffice it to say, that if habitual constipation exist, the bowels should be regulated by mild salines, that in an enfeebled state of the system, iron, quinine, strychnine, the mineral acids, cod-liver oil, may be administered according to the indications; fresh air, exercise in the open air, and bathing, either fresh or salt water, are to be commended in patients who are debilitated by repeated bleedings.

As has been mentioned under the etiology, there are still left, however, some cases in which the bleeding occurs spontaneously, without any lesion being discoverable. These occur more especially in growing children, who otherwise are in good health. Ergot has been recommended as a preventive in these cases by Morell Mackenzie. The writer has found in the fluid extract of hydrastis canadensis a sovereign remedy in these cases; he has had occasion to use it in a large number of cases of nose-bleed in the German Poliklinik, and has found it efficacious in preventing a recurrence in a large majority of cases. It is administered internally, in ten-drop doses in water, every two or three hours. This apparently simple treatment can be recommended with confidence in the cases above mentioned. The alkaloid hydrastinin, in the form of a hydrochlorate, has been put up in tablet form in one-twentieth-grain doses, and in combination with ergotin, by Mr. M. J. Breitenbach, of this city, and is a most elegant method of dispensing the drug. The hydrastis is prescribed, be it understood, as a preventive, for the patient who at the time of his visit is not bleeding from the nose, but who gives a history of repeated bleedings. A five per cent. solution of the fluid extract of hydrastis in water may be used as a spray for the nose; it may also be used with liquid vaseline, albolene, or kindred preparations, as a spray or brushed into the nose. The drug seems to "tone" the mucous membrane; and by reason of its containing a bitter principle it has, when taken internally, a beneficial effect on the stomach, as is attested by the improved appetite following its use; its only drawback is, that it has a tendency to cause constipation, but this may be combated by mild salines.

The thorough examination of the nose and naso-pharynx for a local lesion to account for the bleeding is not the less necessary because of the use of hydrastis, or any other remedy which may produce a cessation of the bleeding for the time being; for if an erosion or vascular growth be the source of the hemorrhage, the only rational course is to attack it locally. It is not always possible to find such a lesion, nor have we at all times the instruments with us for making a thorough examination; in these instances, the fluid extract of hydrastis will be found a most reliable remedy temporarily.

Under the heading of prevention should be considered also the general laws of hygiene—pure air in school- and sleeping-rooms, bathing, assimilable food, etc.—to which it is unnecessary to call your attention.

So many different methods of checking an attack of nose-bleed have been recommended, that a review of them will be in place before the writer describes the simple procedure which he has in most cases found satisfactory. The various methods of treatment which have been recommended may be divided into, 1, non-medicinal; and 2, medicinal.

Non medicinal methods are: 1. External compression

upon the bleeding nostril, either by the fingers, iced cloths, ice-bags, or ice. 2. The hot nasal douche, the water having a temperature of 90° F., injected so long until it emerges from the non bleeding nostril unmixed with blood. 3. Ice in the mouth; cold cloths, ice, cold metals applied to the spine; immersing the scrotum in iced water. 4. Chapman's bags, containing water at a temperature of 105° F. to the spine. 5. Cups or blisters to the hepatic or renal regions; mustard plasters to any part of the body or extremities, for producing counter-irritation.

Medicinal Treatment—1. By astringents, in form of powder, insufflated, viz., tannin and alum; or in liquid form or solution, applied with brush or by means of the spray, viz., the preparations of iron, the muriated tincture, Monsel's solution, diluted with glycerine; glycerite of tannin, solutions of sulphate of zinc, acetate of lead, sulphate of copper, kino, catechu. 2. Escharotics and caustics; in order to properly apply these, the blood must be rapidly touched off with pledgets of absorbent cotton or lint, so as to expose the bleeding point to view; this may then be touched with a saturated solution of chromic acid, a sixty per cent. solution of nitrate of silver, or a crystal of this salt may be fused on a silver probe and be thus applied; nitric acid (which must be used with great care), the galvano-cautery.

Finally, *internal compression* has been recommended: 1. By means of absorbent cotton pledgets, introduced into the nostril until the bleeding ceases; the number of pledgets should be counted, so that none are left behind when they are removed; or they may be connected by a strong thread, which simplifies their removal; they may be saturated with astringents in solution, *i.e.*, tannin, acetate of lead, sulphate of copper, etc. 2. By means of long, narrow strips of iodoform gauze, gently introduced into the bleeding nostril, until this is entirely occluded, leaving the end of each strip visible at the anterior nares. 3. By means of small rubber bags, on the principle of Barnes's dilators, introduced into the nostril empty, and then inflated with air or filled with cold water. Finally, plugging of the posterior nares with Bellocq's cannula; this should be the *dernier ressort*, and under no circumstances should be tried unless all other means fail, as it is itself not devoid of danger; cases of erysipelas, gangrene, sepsis, and even tetanus, have been reported as following its use.

The writer recalls the case of a man whom he saw one week after the posterior nares had been plugged; the physician who had introduced the tampon could not remove it, it had become so tightly wedged and was so fetid that the patient suffered from infection, and said he preferred the bleeding to the treatment. It was with considerable difficulty that the plug was finally removed.

A twenty per cent. solution of antipyrine, a ten per cent. solution of cocaine, applied by means of cotton pledgets, which are allowed to remain *in situ*, have also been recommended as reliable remedies to stop the bleeding.

The varied methods above mentioned certainly form an imposing array.

It has seemed to the writer that the simple rules for the stoppage of capillary hemorrhage are applicable to these cases; the object is, as in any hemorrhage, to secure coagulation at the point of bleeding, and to keep the clot in place.

The first rule, therefore, is to place the patient, and more especially the bleeding part, at rest; nervousness or fright should be quicted with assurances that there is absolutely no danger; the patient should sit upright in a chair, the head thrown slightly backward; all bands about the neck should be loosened, in order that the circulation may be unimpeded; the patient should then open the mouth as widely as possible, and should breathe through the mouth only; breathing through the nose should be entirely suspended until bleeding ceases, and should be superseded by oral breathing; blowing the nose, hawking, and spitting must be strictly interdicted; we all know how prone patients suffering from nose-bleed are to do these things. In following the instructions thus far given, the interior of the nose is placed at rest, and the first indication is fulfilled; whereas, if the patient snuff up cold water, wipe or blow the nose, he displaces clots and favors the continuance of the hemorrhage.

The second rule is to tell the patient, his mouth being kept wide open, to breathe more deeply and more rapidly than he normally does; the respiration may be increased to thirty per minute; the immediate effect of this increased oxygen supply is to increase the force and frequency of the heart's action, and presumably to increase the amount of blood in the pulmonic circulation at the expense of the cerebral; whether it be due to the more thorough equalization of the blood supply to the body and head, or to the increased muscular action incident to the increased respiratory effort, it has seemed to the writer that the nasal mucous membrane is depleted to some extent by this procedure.

The use of opium and digitalis in hæmoptysis is to a certain extent attended by the same result here obtained, viz., a more powerful contraction of the heart-muscle.

As soon as the patient tires of the rapid breathing—which he does very soon, perhaps after thirty respirations—he may breathe normally for a few moments, when, if the bleeding has not ceased, he is told to breathe rapidly again; the mouth is to be kept open constantly, and any blood flowing into the pharynx is to be swallowed.

The fact that blood is withdrawn from the brain by this procedure is attested, in the opinion of the writer, by the dizziness which most patients experience when they resort to it, and by the pallor which the face assumes; the same symptoms have been noted by every physician during prolonged auscultatory examinations of the chest; some patients are apt to faint during such examinations; it seems to the writer that a temporary anæmia of the brain is the cause of these phenomena.

The final rule is, to tell the patient to enunciate the broad vowel "A" with each expiration; the soft palate is thus brought in contact with the posterior wall of the pharynx during each expiration, the posterior nares are separated from the pharynx, and the blood is prevented from flowing into the œsophagus during the expiratory periods.

The three principal factors in this simple method of arresting nose-bleed are, first: to place the nose at rest by suspending breathing through it; second: rapid and profound respiration, acting as a respiratory and cardiac stimulant, more equally distributing the blood throughout the systemic and pulmonary circulation by abstracting it from the head; and third: the occlusion of the posterior nares during the entire expiratory period by the intonation of the broad vowel "A" during expiration.

This method is so easily applicable that after every operation in the nose attended by bleeding the writer makes use of it; it is so much cleaner, and simpler, after the snaring of a vascular polyp or the removal of an exostosis, to make use of this procedure than to apply astringents that interfere with the field of operation, that it is invariably tried by the writer before any other means are applied. Of course it may in some cases of severe bleeding from a larger vessel fail; in these I would then try first the insufflation of tannin; and if this fail the tamponing of the nostril with long narrow strips of iodoform gauze, dipped in the glycerite of tannin, with the ends hanging out of the nostril. It is needless to dwell on the advantages of a method of arresting nasal hemorrhage in which no drugs or instruments of any kind are necessary. A few weeks ago I had occasion to see a severe attack of nose bleed occur during the course of typhoid fever; had I been compelled to send to my office for instruments, drugs, etc., the patient might have succumbed in the meantime; the simple method above described had the effect of arresting the bleeding at once.

Astringents in reality cannot cope with a severe nasal

hemorrhage, as the clot formed by most of them, especially the preparations of iron, does not extend down to the bleeding point; they induce superficial coagulation, and some of them produce such a dirty, grumous compound that the field is obscured, and even though the bleeding stop the patient feels extremely uncomfortable.

In children the aversion to all instruments in the doctor's hands is so pronounced that it is well-nigh impossible to use the nasal speculum, not to speak of the galvano cautery, during an attack of nose-bleed; the method recommends itself for children.

Summary.—Prevention: 1. Improve the general health of the patient by following the causal indications; 2, treat local conditions, "lege artis;" 3, administer the fluid extract of hydrastis canadensis as a specific.

Arrest of the nose-bleed, three methods of treatment: 1. By rapid and deep-breathing through the open mouth, at the same time enunciating the broad vowel "A" with each expiration; 2, find bleeding point, touch with chromic acid, nitrate of silver, galvano-cautery; 3, tampon the bleeding nostril with strips of iodoform gauze, dipped in astringents in suspension or solution.

Every method of treatment described above, excepting that by hydrastis canadensis and rapid breathing, has been advocated in published papers by different writers, some of whose names were mentioned in the first part of this paper.

803 Madison Avenue.

MEDICAL WITNESSES, FROM A PHYSICIAN'S STAND-POINT.[1]

By HUBBARD W. MITCHELL, M.D.,

NEW YORK.

Much has been said and written during the past few years upon the subject of medical witnesses in courts of law. This subject has been the theme of many elaborate papers in which are set forth, sometimes in very pointed and uncomplimentary terms, the unsatisfactory character of the testimony of medical witnesses in courts of justice. Most, if not all, of these papers have been written by members of the legal profession, and none, so far as I know, by physicians. Both the bench and the bar have united in the opinion that medical men, when called to the witness chair, have proved contradictory and generally unsatisfactory. The bench, especially, has declared that it could gain little or no enlightenment from the testimony offered by the medical experts, that their opinions were conflicting, and threw little or no light upon the subject in which they testified. The bar has been equally emphatic in expressing a like opinion, and stating that medical witnesses were biased and partisan, confusing and contradictory. This feeling has increased to such a degree that both the judiciary and the legal profession look with unfavorable eyes upon the medical expert in the witness chair. They have not given him that degree of respect which his professional attainments deserve, and have sometimes withheld it altogether, and if his testimony can be dispensed with in any given trial, he is not invited to give it.

The question naturally arises, what is the reason for this condition of things, why are medical men unsatisfactory in the witness chair, and why is their testimony held in such light esteem—an esteem which is justly due them? The causes are many and difficult of explanation—a few only of these can be touched upon in this paper.

It is true that the profession of law is a high and most honorable one. Our courts of justice are usually pure and above reproach, and in the trial of causes they seek to obtain the exact truth, that they may base an opinion upon which to render a fair and impartial judgment. We can justly boast that there exists a better and purer and more competent judiciary in this country than perhaps in any other. Justice is within the reach of all, and the law extends its strong and protecting arm about the weak, and all men are equal before it. This is the ideal, and it is also generally the fact; but in some cases a different state of things actually exists.

Judges are men, they are human, with the idiosyncrasies, the weaknesses, and the prejudices of other men, and while they mean to be fair generally, and usually are so, yet they are not always above the influences which sway other men; and it sometimes happens that judges are selected through political influence, and the same influence that elevated them to the bench is sometimes exerted to modify or change their decisions. We have had many notable instances of this in the past in our own country, and cases of injustice in other countries have been monstrous in the history of law. It has been a reproach in this and other countries that law is for the rich and not for the poor, and it has been said many times that the rich man cannot be convicted of crime. Shakespeare was aware of this fact when he said, "In the corrupted currents of this world, offence's gilded hand may shove by justice, and oft 'tis seen the wicked prize itself buys out the law."

In modern times the impartiality of the judiciary and its honorable desire to render purer and more strict justice to all, is a gratifying sign of the advancement of higher and better ideas.

When a physician is called to the witness chair the court usually treats him with courtesy and consideration. It recognizes the honorable and learned nature of the profession to which he belongs, and accords him a proper degree of respect.

Not so always the bar.

In a given suit of law where medical questions are involved, the plaintiff calls to his side medical men whom he thinks will testify favorably to him, and the defendant does precisely the same thing. If the medical witness for the plaintiff gives testimony which is damaging to the defendant, the counsel for the defendant proceeds to cross examine him, and sometimes with a license that is truly appalling. The medical witness in such a case is often treated with extreme severity and indignity, and no effort is spared to either confuse him, or to neutralize or render ridiculous the effects of his testimony. This is sometimes so irritating, discourteous, and unnecessary, that medical men hesitate before placing themselves in such a position.

The differences of opinion among medical men are much less, when carefully and impartially viewed, than would at first seem. Medicine is not an exact science. It is a high and honorable art, and sometimes it happens that a variety of methods of treatment answer equally well in the same case; and when physicians are testifying in the witness chair they may give different views upon the same point, and yet the differences are not vital or important in a medical point of view. This is one reason why medical men seem to differ in the witness chair. Another is that where several witnesses are called, one may see the subject very clearly and testify accordingly, while the others do not grasp the situation as completely, and consequently give their testimony in an uncertain and perhaps contradictory way. Outside of a court of law this would not be regarded very seriously, because the better and clearer opinions would prevail, but within a court of law the effect produced is very different.

It is unfortunately true, and greatly to be deplored, that medical men sometimes become partisans in the case to which they are called. Nothing could be more detrimental than this, for it is not the province of the physician to become a partisan in the case where he is giving medical evidence. He should give his testimony in a clear, straightforward, and conscientious way, confining himself strictly to the medical aspect of the case, and give these facts clearly and plainly, without any regard whatever to their effect upon the case at issue. Neither judges nor lawyers ask him or expect him to give a medical homily, nor do they require him in any way to become interested in the case; neither should he pose as an expert, but simply as a learned and dignified physician,

[1] Read before the Medico-Legal Society, May 9, 1894.

giving his opinions to the best of his knowledge and belief, maintaining his dignity at all times, strengthening his opinions with sound learning, and conducting himself generally as an earnest and honest exponent of facts within his knowledge and belief. The outcome of the case is beyond his province, and should in nowise interest him. No one can reprobate this partisan tendency more than myself.

Medical men are, as a rule, honest in their opinions, earnest in their desire to tell the exact truth, and to arrive at a clear and just understanding of the case. They are, as a class, self sacrificing, and think first of the good they can accomplish in the case before them, and I believe it is strictly true to say that when they go upon the witness stand they have a strong desire to tell the truth in the best possible way and without partisanship or bias.

Physicians are easy men to deal with, if proper respect is shown them as professional men, and when a due regard is given to their opinions, which they strive to tell honestly; but when words are sought to be put into their mouths which they do not wish or intend, or when they feel themselves instructed, or when they find themselves mercilessly handled by the cross examiner, simply because they tell an unpalatable truth, they justly and properly resent it. Lawyers do not always comprehend the fine and delicate reasoning physicians are compelled to employ in the difficult problems presented to them in their severe professional work, and when this method of reasoning is made use of on the witness stand, it is not understood by the opposing counsel, and his inability to understand the medical witness is made the theme of a rebuke to medical witnesses generally.

It is often true that the counsel on one side does not always want the truth, and if the defendant or plaintiff is in the wrong, he certainly does not want the truth, if that truth will injure his cause, and hence he will seek to find a physician who will give an opinion favorable to himself.

Another reason why medical men differ is, that the plaintiff will give his medical witness his own view of the case, and the defendant will give his medical witness his own view of the case, and the physician goes upon the stand with only a part of the truth in his possession. This must of necessity lead to a conflict of opinion among the medical witnesses. As an instance of the fact where the prosecutor for the people did not want the exact truth, I will cite a few facts in the case of Brown *vs.* Brown, tried at Long Island City four years ago.

The defendant was charged with an attempt at manslaughter. The plaintiff testified that he had been knocked down and beaten with a heavy monkey-wrench in the hands of the defendant. The medical witness for the plaintiff testified that he had found the plaintiff lying upon the floor with blood pouring from deep scalp wounds, which he had sutured and dressed, and said the plaintiff was exsanguinated from loss of blood. I was called for the defence, and after listening to the evidence, testified that no scalp wound had been inflicted, that no blow with a monkey-wrench could have been struck, that the plaintiff could not have lost an ounce of blood, and that no suturing had taken place. These were the facts which were afterward proven, and my testimony was diametrically opposite to that of the physician called for the plaintiff. The prosecutor had proven his facts to his own satisfaction before I was called to the stand, and my testimony completely upset his case. I was subjected to a cross-examination which for ungentlemanliness, discourtesy, and even brutality, can hardly be equalled. The prosecutor sought to put words in my mouth which I did not mean, and attempted, by ways which seemed to me unprofessional at least, to make my opinion appear ridiculous in the eyes of the court and jury.

It is this kind of treatment, to which a physician is so often subjected, that makes him unwilling to go upon the witness stand. In cases like this I can hardly charge my professional brethren with wilful dishonesty, and yet truth constrains me to say that, in rare cases, medical men do sometimes appear to distort facts in a most unaccountable manner. It may be from a misapprehension of the case, or from ignorance of all the facts, or from a partisan desire to help their own side, but such testimony brings contempt upon medical witnesses, and lowers the respect in which they should be held.

It is sometimes true that, when physicians become successful in the practice of their profession, either through their own real abilities or from extraneous causes, the success they attain occasionally leads them to become arrogant, and this arrogance is sometimes unfortunately shown upon the witness stand. Such men, it must be admitted, are narrow minded, and it is this class of men whose conceits lead them to contradictions which incur the unfriendly criticism of both bench and bar. When men of this character are called to testify in important suits at law, their disagreements with their professional brethren have been deplored by both judges and counsel. Such men are, happily, few, but sufficiently numerous, perhaps, to bring upon medical witnesses the unmerited and unjust criticisms to which we refer.

The question naturally arises, is there a remedy for this condition of things? Many suggestions have been made and many remedies proposed; some of them are good, and some are impracticable and inadequate. It is sometimes easier to point out an evil than to suggest a remedy for it.

Medical witnesses are a somewhat recent institution, and medical experts still more so, and the evils resulting from the conflict of opinion among them are, perhaps, to be expected until a wider range of experience enables them to correct their errors.

As stated above, medical men are, as a class, honest and conscientious, and they desire to give fair and unprejudiced opinions; and it seems to me that a better conditions of things could be obtained in any suit at law where medical witnesses are called, either by the plaintiff or the defendant, if these witnesses could be brought together and the case explained to them before the trial began. They would then be enabled to give their opinion with little contradiction and without partisanship, and if the medical witness, after he has been selected, either by the plaintiff or defendant, could be accepted by the court and placed under its sole control, he would then have removed from him any influence that could be brought to bear to make him a partisan in the case, and he could then give his opinion fully and more freely, without regard to its effect upon the case itself. He should remember that his testimony is medical testimony, purely and simply, and nothing else, and its effect upon the case at issue should not enter at all into his calculation. He should not be made to feel that he is to give testimony to help one side or hurt the other, but he ought clearly to understand that what he says is the plain and simple truth, upon the medical aspect of the case only. Its consequences, he must clearly understand, are beyond his province. He should not feel that he is taking sides, or is in anywise partisan, but ought to appreciate the fact that he is under the control of the court and under its protection also, and his testimony is purely professional, and he should in nowise become interested in its legal aspects. When the physician has been selected by either side as a witness, he ought to be allowed to confer with the physician upon the other side in the case, have all the facts explained to him, and then, when he goes upon the stand, let him give these facts in a plain, concise, professional, and dignified way; and it would be found that much, and perhaps all, of the contradiction and irritation and unsatisfactoriness of medical witnesses, so loudly and deeply deplored by bench and bar, could be very greatly averted.

Let the lawyers also understand that medical evidence is often a delicate matter, that its conclusions are reached only after a long process of difficult, and in many cases obscure, reasoning; that it is the result of arduous experience, but given nearly always freely and with honesty of purpose; and let them avoid undignified, unnecessary,

and discourteous cross-examinations, and they will find that much of the friction they so strongly decry will not be engendered.

747 Madison Avenue.

MODERN ELECTRO-THERAPEUTICS: FROM THE ELECTRICAL STAND-POINT.

By H. NEWMAN LAWRENCE,

NEW YORK.

MEMBER OF THE INSTITUTE OF ELECTRICAL ENGINEERS, ENGLAND; AND FELLOW OF THE AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION.

Electro-therapeutics has now come to be regarded as a distinct branch of applied electricity—a valuable member of that numerous family classified under the head of "Electricity in the Service of Man." As such it naturally possesses much interest for the electrician as well as for the physician. This was not always the case, for the problems connected with other branches of applied electricity are so numerous and so absorbing that the electrical profession overlooked, or at best looked slightingly at, the efforts made by some physicians, whose *bona fides* could not be doubted, to build up a sound system of electro-therapeutics.

Times have changed, however; the science of electro-therapeutics has won for itself the respect of the electrical profession, and the electrical journals frequently publish articles and papers connected with it. Other evidence of the status of electro-therapeutics may be found in the attitude of the leading medical journals. They frequently refer to it, and mark with strong approval all signs of increased attention to the physics of the subject.

One reason for this increased activity in matters electro-therapeutical may perhaps be found in the gradual awakening of the medical profession to the fact that they, as well as the general public, are distinct sufferers through the prevalence of numerous quack appliances. These appliances, though generally absolutely devoid of all things electrical except the name, and applied by people entirely ignorant of pathology and physiology, are foisted upon a credulous public to an enormous extent, so that large sums of money are thereby diverted from their legitimate destination, viz., the pockets of the regular physicians. Other reasons there are, not the least of which may be the present rage for all things electrical or supposed to be electrical. Be that as it may, there can be no doubt that much activity does exist on this matter, and also that America is well to the front in all the recent developments.

It may therefore be well to call attention to certain difficulties which beset the electro-therapist, and to indicate matters which appear to the physicist as possible hindrances to the true development of electro-therapeutics. If the methods by which electricity is applied to the human body for the cure and relief of disease be not capable of exactness and accuracy—in other words, if they be not scientific—they are worth nothing, and their adoption and practice would be a disgrace to the medical profession. Of course, everything of the kind must have time for growth, scientific accuracy cannot be attained in one stride; but, certainly, accuracy should be aimed at and striven for with that persistent earnestness which characterizes all true scientists. The tone of nearly all the modern writers on this subject is most encouraging in this direction, but personal observation goes to show that for some reason or other this desirable accuracy is sometimes overlooked by many of the medical profession. A few months ago one of the leading electrical journals,[1] in England, in an article dealing with the uncertainty of results in electrical treatment said:

"The human body is so complicated and individualized a structure that it is hard to see how we can be quite certain of the results of any form of treatment upon it. Besides, when other things are favorable the faith factor may entirely upset all calculations, for while in some cases it helps, or perhaps entirely performs the cure, in others it may retard, or even prevent it. Other forms of treatment have their uncertainties as well as the electrical, and not always, perhaps, with so good a reason. The main cause of uncertain results is to be found not in the current itself, but in the way it is administered. . . . No measurement, no knowledge of the functions of currents, no idea of the resistance of the body, no attention paid to surface area or to current density, and often even the most rudimentary knowledge of matters electrical entirely absent. If the current be not measured, the dose may be too weak or too strong. Of course it may be just right, but the chances are two to one that it is not. Too great chemical action may easily be not only useless, but distinctly harmful. Nerve and muscle stimulation are valuable to a certain point, but is it not possible to over-stimulate, and so turn good into evil? Who can properly select the form of current in any case when ignorant of the functions of such currents? How can any current be properly applied when nothing is known of the resistance of the body which it is desired to influence, or how to direct the current so that the parts treated shall be really affected by its flow? And, lastly, how, in the name of common-sense, can good results be expected, or serious injury avoided, when an agent so potent for good and evil is applied to the body by persons entirely innocent of the most elementary knowledge of electricity?"

The position was then summarized as follows: "1. On the evidence of some of the greatest medical scientists, electricity is a most valuable curative agent in very many of the known diseases of man. 2. The opinion of these men has been formed, to a large extent, upon the results of loose and empirical methods of application. 3. Enough is now known of the measurement and control of electrical energy to render more accurate and reliable work easy. Therefore it is reasonable to expect that more accurate methods in electro-therapeutics would produce better results."

Unfortunately one of the great difficulties that medical men have to contend with is that a more accurate knowledge of the measurement and control of electrical energy is not easy for them to obtain. Their ordinary course of preparation for their profession does not include it, and, when once launched on the busy round of daily practice, they have little time or opportunity to devote to what is, in itself, a distinct study. Improved apparatus and reliable measuring instruments have done something to remedy this defect, but these are of little use without an accompanying knowledge of the properties of currents, the laws which govern them, and their special functions with reference to the human body. Too much stress can hardly be laid on this point, for a physician attempting to treat disease by electricity without such knowledge would be in a position similar to that of one attempting to treat by drugs without any knowledge of chemistry. His methods must be all chance and guess-work. In saying this the existence of many excellent text-books is not overlooked, but the blind following of text-book instructions can, at best, be but a rule of thumb proceeding, and, seeing the powerful nature of the agent dealt with, may easily result in serious disaster.

If, then, electro-therapeutics is to take its place as an exact science, as it even now is in the hands of some, this point must not be lost sight of; the subject is at least as complicated as any other branch of applied electricity, and can never hold its place without a due attention to its physics as well as to its therapeutics.

A most interesting effort to overcome this difficulty in America has recently been made at the University of Michigan by the establishment of an electro-therapeutical laboratory in connection with its medical department. Here opportunity is given the student "to become personally familiar with the appliances used in electro therapeutics by constructing them out of the raw material, studying their modes of generating, modifying, and controlling electricity and observing the physiological and therapeutical effects they produce." To the

[1] Electrical Review, London.

electrical engineer this seems a most commendable step in the right direction, and, moreover, an example which New York, the metropolis of the United States, might follow with advantage to its medical profession and with honor to itself.

Another difficulty which the electro-therapist has to face is in connection with the selection of apparatus and with its management when selected. The forms of current credited with special powers for special cases are by no means few, and the number of generators of one type or another is legion. Great care therefore is necessary in the selection of apparatus suitable for the particular work the physician desires to undertake. To a large number portability of the apparatus is an all-important feature, to others permanent installations are of more use. The conditions of treatment are such that a battery best suited to one class of cases may be of no use at all for other cases. For instance, if a country physician desires to treat general nervous conditions by means of percutaneous applications he requires a battery of many cells to overcome the high resistance of the body, but they need not be of large size because the current used would never exceed a few milliampères. If he wants to treat gynecological cases he must have larger cells, as more current is generally required for such cases. Or again, should his requirements run in the direction of cautery work, his cells need only be few, but they must be of great capacity, for while the resistance to be dealt with is very low, the current required to heat a cautère is often a hundred times greater than that needed for the first class of cases. The makers of electro-medical apparatus, are, for the most part, honorable men, and do their best to supply their customers with apparatus suited to their needs; but still their business is to sell apparatus, and they are sufficiently human to endeavor to sell that which brings in the most profit to themselves. It cannot be well for the physician to be entirely at the mercy of apparatus-makers, either as regards selection of goods or repairs; but unless he himself knows exactly what he wants and how to correct, at least, simple faults when they appear, he is hardly as independent as he should be, especially when, through living in the country, he has to negotiate by correspondence.

These form some of the difficulties and dangers to which modern electro therapeutics is exposed, but they really form only the reverse side of the position. The obverse is bright and its beauties clearly marked. Eminent scientists lend their direct aid to its developments, and research work of the highest order is being carried on. Edison gives his attention to electrical osmosis as applied in cataphoric medication; Tesla startles the world with physiological phenomena connected with currents of high potential and frequency; D'Arsonval shows that these Teslaic currents may be advantageously used in therapeutics; Gautier and Lerat find new virtues in sinusoidal currents, and Dr. W. J. Morton sets forth the theory of a possible electric polarity of metabolism which, if it stands the test of practice, will place electro-therapeutics in the highest rank of the exact sciences.

A New Medical Grade.—Sir B. Ward Richardson, in the last number of the *Asclepiad*, advocates the recognition, examination, and registration of counter-prescribers. He says, first, that they are honest practitioners in their way; second, they are useful to the public under certain circumstances; third, whether they are or not, they are certain to continue to exist, because it would be almost impossible to put in action any law for their suppression, if it were desirable to do so. But he would not tolerate the counter-prescribers' invasion of visiting practice under any circumstances.

An Impassioned Kiss.—A young woman in New Jersey was kissed so ardently by her lover that the gold filling dropped out of a tooth. He was disinclined to pay for repairing the damage and she has accordingly sued him, and the engagement to marry is broken off.

INTESTINAL APPROXIMATION: PATHOLOGICAL HISTOLOGY OF REUNION, AND STATISTICAL ANALYSIS.[1]

By J. B. MURPHY, M.D.,

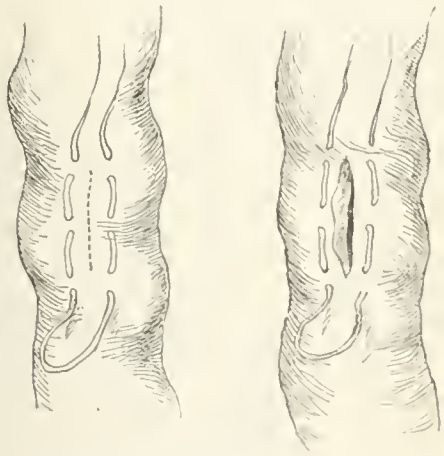
PROFESSOR OF SURGERY AND CLINICAL SURGERY, COLLEGE OF PHYSICIANS AND SURGEONS, CHICAGO; PROFESSOR OF SURGERY, POST GRADUATE MEDICAL SCHOOL AND HOSPITAL; ATTENDING SURGEON TO COOK COUNTY HOSPITAL; ATTENDING SURGEON TO ALEXANDER BROTHERS' HOSPITAL; CONSULTING SURGEON TO HOSPITAL FOR CRIPPLED CHILDREN, FELLOW OF ACADEMY OF MEDICINE, CHICAGO, ETC.

(Continued from page 672.)

APPENDIX.

I HAVE received so many letters within the last few months regarding the technique of the insertion of the button, that I deem it necessary to append it in detail.

Technique of Insertion.—1. *Cholecystoenterostomy.*—An incision is made from the edge of the ribs, two inches to the right of and parallel to the median line, extending downward three inches. The gall-bladder and duodenum are drawn into the wound; a needle with fifteen inches of silk is inserted in the duodenum directly opposite the mesentery and at a point near the head of the pancreas; a stitch is taken through the entire wall of the bowel one-third the length of the incision to be made; the needle is again inserted one-third the length of the incision from its outlet, in a line with the first and embracing the same amount of tissue as the first. A loop three inches long is held here and the needle is inserted in a similar manner, making two stitches parallel to the first in the reverse direction and one-fourth of an inch from it, coming out at a point near the original insertion of the needle (Fig. 2). This forms the running thread, which when tightened draws the incised edge of the bowel within the cup of the button.



FIGS. 2 and 3.—Showing Running Thread Before and After Incision in Bowel.

A similar running thread is inserted in the gall-bladder; an incision is now made in the intestine two thirds the length of the diameter of the button to be used; avoid cutting the running thread when making the incision. The button is slipped in, the running thread tied firmly around the central cylinder; an assistant holds the button in position with the hæmostatic forceps. An incision is now made in the gall-bladder the same length as the one in the intestine between the rows of sutures. The gall-stones and fluid contents of the gall-bladder are removed, the button inserted, and the running thread tied. The forceps are then removed, the button is held between the fingers, as shown in Fig. 4, and slowly pressed together. Note that the edge of the wound comes entirely within the clasp of the button before it is completely closed. A sufficient degree of pressure must be used to bring the serous surfaces of the gall-bladder and intestines firmly in contact and compress the tissues. The elastic pressure of the spring cup of the button produces a pressure atrophy of the tissues embraced by it and leaves an opening as large as the button. When the button is liberated it passes on through the bowel.

[1] Read by invitation before the New York Academy of Medicine, December 7, 1893.

2. *Pylorectomy.*—Having drawn the pylorus into the abdominal wound ligate the greater and lesser omenta and cut them off; then make a circular incision on a groove director with the scissors, cutting through the muscular and serous coats down to the mucous coat, completely around the stomach where it is to be excised; then denude the mucous membrane of its muscular and serous coats for half an inch in the direction of the fundus; excise the mucous membrane at this point; close the mucous membrane with continuous catgut suture, and over this the serous and muscular coats with interrupted silk suture. The end of the stomach is now completely closed. Excise the duodenum an inch and a half below the pylorus, insert a running thread as described under the head of end-to-end approximation, to follow; place the male half of the button in position. The female half of the button is inserted in the posterior wall of the stomach two inches from the line of suture, in the same manner as it is inserted in the gall-bladder. The forceps are removed and the button pressed together. The end of the duodenum is thus joined to the posterior wall of the stomach. The button liberates itself and passes on through the bowel.

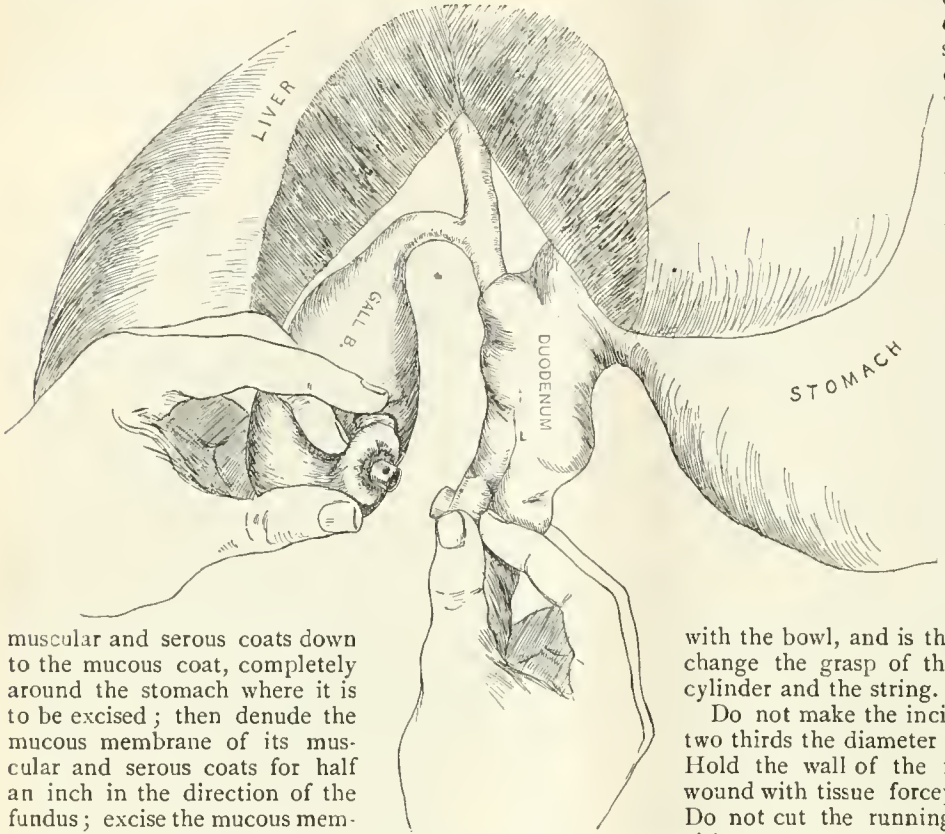


Fig. 4.—Button as Held when Pressed Together, Performing Cholecystoenterostomy.

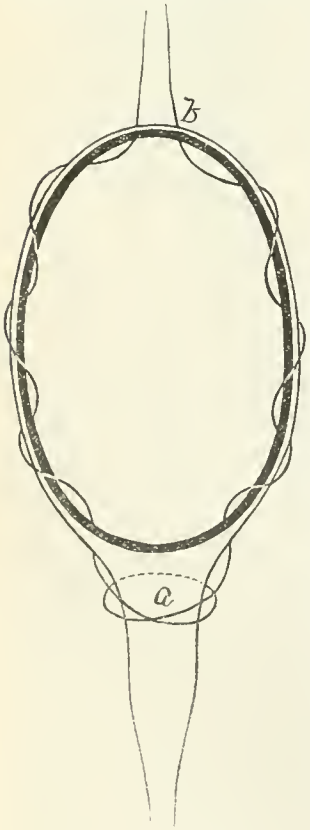


Fig. 5.—Manner of Inserting Running Thread in End of Bowel.

3. *End-to-end Approximation.*—The intestine is cleared of its contents and the intestinal compression clamps placed in position; the mesentery of portion to be excised ligated; portion of intestine excised; running thread placed in position by a top stitch along the incised edge, beginning opposite the mesentery and continuing down to the mesentery; one return over-stitch is taken at the mesentery and then continue the top stitch up the opposite side to the starting-point, as in Fig. 5; this constitutes the "puckering-string," and when tied around the stem of the button, which is then inserted, draws the cut edge within its clasp. Particular attention should be given to the return over-stitch at the mesentery, so that both layers of the peritoneum overlap. The other half of the button is inserted in the same manner and is then pressed together. Close opening in mesentery with one or two sutures.

4. *End-to-side Approximation.*—Half of the button is inserted in the same manner as for end to end approximation and the other half the same as for lateral approximation and is pressed together.

When inserting the half of the button to which the circular compression-ring is attached, compress the ring to the edge of the bowl and grasp both with the forceps. This holds the ring down to a level with the bowl, and is then more easily inserted; then change the grasp of the forceps to the edge of the cylinder and the string.

Do not make the incision too long, not more than two thirds the diameter of the button; it will stretch. Hold the wall of the intestine at each end of the wound with tissue forceps while inserting the button. Do not cut the running thread when making the incision.

Do not inclose too much tissue in the suture. When closing the button be sure that the incised edge is always within the clasp of the button. Bear in mind that the button is not indestructible. Do not use a Lembert suture with the button; it is useless and positively dangerous. It is not necessary to abrade the peritoneum.

Button.—I have seen a number of imperfect buttons on the market, so they should be carefully examined before purchased. The spring should always be made of brass, steel will rust. The edge of the cup should never be sharp, but should have a line of surface.

The Physical Measurements of New York Girls.—The *Gymnasium* publishes the following as the average measurement of 325 New York girls whose average age was 19.4 years:

Weight	117.5 pounds		Inches
	Inches	Girth: Hips	35.2
Height	64.0	Upper arm	9.5
Girth: Chest	29.2	Forearm	8.7
Chest, full	31.2	Depth: Chest	5 9
Ninth rib	26.2	Abdomen	6.1
Ninth rib, full	27.9	Breadth: Shoulders	12.5
Waist	22.7	Hips	13.0
Neck	12.0	Waist	7.0

The measurements show defect in the breadth of the shoulders and depth of the chest. The ideal measurement according to one authority is:

Weight	113 pounds		Inches
	Inches	Girth: Neck	12.0
Height	64.5	Hips	34.5
Girth: Chest, ordinarily	31.0	Upper arm	10.0
Chest, empty	29.0	Forearm	8.75
Chest, full	34.0	Depth: Chest	8 0
Ninth rib, ordinarily	29.0	Abdomen	7.0
Ninth rib, empty	27.0	Breadth: Shoulders	14.1
Ninth rib, full	31.0	Hips	12.0
Waist	25.5	Waist	8.25

New York State has 11,171 physicians; Pennsylvania, 9,310; and Illinois, 8,112.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM WOOD & CO., 43, 45, & 47 East Tenth Street.

New York, June 9, 1894.

THE ASYLUM PHYSICIANS OFFICIALLY EXONERATED.

THE beginning of the proposed investigation of the New York City Asylums for the Insane, by the State Commission in Lunacy, has been postponed, but in the meantime the Grand Jury has been less dilatory. This body did the asylums the very best possible service last week, by calling before it the witnesses who, it was alleged, knew of abuses that would bring the asylum officials within the cognizance of the criminal law. After hearing this testimony the Grand Jury made a report that must be gratifying to the asylum physicians and to all true friends of the insane. This report, having briefly outlined the charges made against the asylum officials, says:

"After a consideration of the evidence adduced we are of the opinion that many of these charges are unfounded. In the main the asylums appear to be properly and well conducted. The system of treatment in vogue is appropriate and competently maintained. The physicians are earnest and considerate in the performance of their duties, and the treatment of the patients is marked with kindness. There has been no evidence before us showing any maladministration on the part of the asylum officials."

Having thus fully and explicitly exonerated the asylum physicians the Grand Jury report goes on to a consideration of the "manifest" evils that do exist in the asylums through overcrowding, lack of sufficient attendants, and the like, and then proceeds to fix the responsibility for these evils as follows:

"The commissioners have heretofore applied to the proper authorities for additional funds in order that the force of employees might be increased by an addition of the requisite number of attendants, but they failed to obtain the necessary sum, and the present insufficiency of the force is due to that fact. We earnestly recommend that the Board of Estimate and Apportionment appropriate the funds necessary for that purpose." It is also urged that the pay of attendants and of physicians be increased, and that "immediate action" be taken to provide more adequate quarters for the insane; all of which matters, of course, are controlled solely by the Board of Estimate and Apportionment.

Thus the result of the investigation by the Grand Jury is to fully sustain the views heretofore expressed in the RECORD, both as to existing conditions and the responsibility for them. The chief asylum physicians are fully exonerated; the Board of Apportionment is officially arraigned. It is high time for that Board to explain its shameless parsimony, if it can. But to those most familiar with the facts, it is no cause for surprise that the members of the Board have thus far remained silent. It is to be hoped that the investigation by the State Commission in Lunacy will, in the interest of reform, still further exploit the shortcomings of a Board whose niggardly provision for New York's dependants has so long disgraced our city.

THE SERUM-THERAPY OF TETANUS.

A REVIEW of recent progress in the serum-therapy of tetanus is contributed by Dr. J. P. Warbasse to the *Annals of Surgery* for June. The experiments and apparent successes of Tizzoni and Centanni have already been referred to in the RECORD. Berger's case, reported to the Academy of Medicine a year and a half ago, is also familiar. Berger's patient was treated with tetanus antitoxine prepared by Roux, about sixteen grammes of serum being used. The patient recovered, but the case is not a demonstrative one, because other remedies were employed. It is doubtful also if so small an amount of serum could be efficacious.

The most careful work in this line seems to be that which has been done by Behring. The experimenter found that he could not only render animals immune, but that it was possible to cure animals after tetanus had developed. After a year's work Behring found that he could obtain from a horse serum which had an immunizing strength of 1 to 1,000,000. That is to say, a gramme of the serum would render 1,000,000 grammes of animal immune. If the disease was developed, however, it took about 1,000 times as much to effect a cure. Rotter has reported a case in which an opportunity was given to make a test of the Behring serum.

A muscular young man received a wound of the hand, which was followed in eight days by tetanus. Thirteen days later the disease had progressed so that trismus and opisthotonos were present. Next day the patient was injected in the back with sixty-six grammes of blood-serum from an immunized horse, to this being added five per cent. of carbolic acid. The only narcotic given during the disease was ⅙ gr. of morphine. On the day following the injection, convulsions occurred as before. A second injection of fifty grammes was made in the pectoralis major with fresh serum, having an immunizing strength of 1 to 1,000,000. Next day the patient declared that he felt better. The muscular contractions persisted, but there were no further convulsions. Forty-five grammes of the same serum were injected on the following day, and the muscles of the face and back were much less rigid. On the fifth day of daily injections a final dose of fifty cubic centimetres of serum was injected. The improvement continued till the patient was up and about; on the ninth day after, treatment was discontinued. On the seventeenth day he left the clinic, and by the twenty-second all rigidity of the affected hand and forearm had disappeared.

Although a very large amount of the blood-serum had been used (250 grammes), no sign of harmful effect had been observed.

Since Richter has shown that in cases of tetanus which develop within six to ten days after the injury, the mortality is 4.4 per cent., the probability that Rotter's case was helped by the serum is very great. Still the experimenters continue to differ, and Büchner denies the validity of Behring's results.

THE FAVORITE DRUGS.

Mr. W. Martindale, F.C.S. of London, has prepared a most instructive little work, entitled "Analyses of Twelve Thousand Prescriptions" (H. K. Lewis, London). These prescriptions consist of 10,000 collected from pharmacies in Aberdeen, Bournemouth, Carlisle, Oxford, Cork, and 2,000 from London. They were all written within the last decade, and reflect quite fairly what drugs the average practitioner is using in Great Britain and Ireland. They include both officinal and non-officinal preparations.

The total number of drugs used we find to be 293, of which 84 are non-officinal. As a number of these are practically the same, but given in different combinations, one may conclude that a civilized nation at the present day requires somewhat over 200 drugs to soothe its pains, solicit its appetites, control its peristalses, and in general to promote eubiosis or insure euthanasia. This is, after all, not such an appalling number, especially when it is found that only 99 were used over one hundred times, the numbers sinking gradually to end ignominiously with 10 for "tinctures laxativæ." The list is headed with "spiritus chloroformi," of which there were 1,117 prescriptions. This addiction to spirits of chloroform is undoubtedly a prescription habit on the part of the English doctors, since the compound has no such popularity elsewhere, and since spirits of chloroform is only a comforting menstruum of little remedial value. The prescriptions for pure chloroform were only 54.

Next on the list comes tincture of nux vomica, of which there were 991 prescriptions. If to this we add those for strychnia in its other forms, the total becomes 1,536. It is clear that the sheet-anchor of the English practitioner is strychnine. One must conclude that his patients are a debilitated lot, and also that he himself is poor in expedients, since this one stimulant stands out so prominently. Quinine, to be sure, is given a good deal (598 prescriptions), but iron, administered in the form of the tooth-destroying tincture, is low in the list (249).

Bicarbonate of soda is a mighty factor in controlling the diseases of Great Britain, for it ranks next to nux vomica, 807, in the list of popular drugs: wine of ipecac, 504; bicarbonate of potash, 463; chloroform water, 437; bromide of potash, 365; nitro-hydrochloric acid, 357; iodide of potash, 356; arsenic, 337; salicylate of soda, 323; paregoric, 316; belladonna, 301; digitalis, 300; mercury, sulphuric acid, and bismuth, complete a list of the drugs which may fairly be considered as most frequently used.

They tell a story of asthenia, dyspepsia, rheumatism, syphilis, and bronchitis.

Opium in some of its forms is prescribed 849 times—a rather formidable percentage.

Sir James and Lady Paget celebrated their golden wedding on May 23d.

PEN-PICTURES IN ST. LOUIS.

St. Louis does not seem to be in perfect harmony as regards its candidates for the presidency of the American Medical Association. The *Weekly Medical Review* promised to give its readers a "pen-picture" of a supposed candidate, Dr. I. N. Love. But this latter gentleman, learning of the purpose, sent a letter to the editor, who very wisely printed it in place of the pen-picture. Dr. Love declares that he is not a candidate, and adds some paragraphs which form a contribution of solid value to the subject of pen pictures and brotherly love. He says:

"The tone of the editorials appearing in your publication, followed by the specific announcement that a faithful pen-picture will be presented in the next issue, is noted. I desire to give you, in the most emphatic manner, fair warning that in presenting any pen-picture of my personality you must have a care. When it comes to a matter of pen-pictures or personal journalism, I can assure you that I can hold my own with any Richmond that has yet appeared in the field or is likely to; and if I desire to enter into any such work, considering the vulnerability of the owner of the *Weekly Medical Review*, and the extreme vulnerability of the chief of the editorial staff, I do not think that there will be any question but that I can present some very readable matter, and if I am forced to the issue, I will do it in a manner to suit the queen's taste. There will not be a grease spot left of those whose pen-pictures are presented; but such matters are not agreeable to me. I am not in favor of personal journalism; and I give you this notice, that it is not my intention to engage in it; but, that I will hold you personally severally responsible for the utterances of your journal."

We rejoice that no breach in editorial amenities has occurred, and that the threatened extinction of the *Review* editors, even to the inclusion of the *locus adipis*, has been made as unlikely as it would have been deplorable.

AN APOLOGY FOR CHARLATANRY.

Massachusetts is a fine historic State, and one that keeps well in advance in most political and economic matters. But the solidity of its progress is now and then picturesquely, if not seriously, weakened by the activity of its more than average percentage of cranks. The anti-vaccinationists have been having very high jinks at the State House this past winter, and the quacks and mind-curers have until lately more than held their own in the legislative halls. Nothing, however, more curious, and we might add more characteristic, has appeared of late than the extenuation of a learned professor in Harvard College as a champion of mind-curers and the unlicensed and illiterate in medicine.

Professor William James, M.D., is known, admired, and esteemed as a professor of psychology, but he has developed for himself a new *rôle* by contributing a long letter to the *Boston Transcript* attacking the medical registration bill. The ground taken by him is equally unique and narrow, considering the fact that the man who takes it is an educated and, presumably, intelligent man. It is, that the regular medical profession does not devote itself enough to therapeutics, and that by allowing a free field for everyone, unhampered by tradition or technical

knowledge, new discoveries are more likely to be made and richer remedial results to flow. We are told that physicians, as a class, are too much interested in the scientific side of their profession, and too much trammelled by custom, to do all that is possible in the way of therapeutic advance. Therefore we should give the old women a chance.

One can hardly read this pleasing apology for the charlatan with patience; for the writer shows himself ignorant of medical history, out of touch with every-day medical work, and in sympathetic *rapport* only with psychic healers and the telepathic humbug which seems to thrive so freely upon the baked beans of Boston. We know no way of judging the future but by the past, and the past surely tells us that it is through the medical profession that therapeutics has been advanced to its present state. Every practising physician is daily a student of this branch, learning and contributing to it. Every patient is a new stimulus to effort, which is effective in accordance with his previous training and natural aptitudes; while with the quack it is in accordance simply with his natural aptitudes and the prospect of money.

But the broad question, after all, is simply this: Is not a community safer when it is supplied with educated or qualified practitioners of medicine, than if there is along with these a considerable percentage of ignorant and fraudulent medical men? These latter may sometimes cure, it is true, when the others fail. But we must be guided by general results, not by special cases.

The Massachusetts bill has passed the Legislature, and we trust by the time this appears that it will have become a law.

News of the Week.

Cook County Hospital.—The event of the year among the large body of senior medical students has just occurred, namely, the County Hospital examinations for internes. The outcome of the strike is that three were selected from the graduating class of Rush Medical College, two from the Northwestern University Medical School, and one from the College of Physicians and Surgeons. These internes serve eighteen months in the County Hospital, the period being divided into three divisions, allowing of six months' service on the medical side, six months' on the surgical, and a corresponding time in practical obstetrics. These positions are eagerly sought by the new graduates. The experience obtained is certainly a rich one.—*British Medical Journal.*

A Medical Centenarian.—Dr. Salmon, of South Wales, is the oldest doctor and Freemason in the kingdom. He attained in April the ripe age of one hundred and four. He joined the "mystic Masons" over eighty years ago, and he is the *doyen* of that body as well as of the Royal College of Surgeons. He has been a justice of the peace for forty six years, and he is also a deputy-lieutenant for Glamorgan. Within two miles of Dr. Salmon's residence there is a lady who was born the day after Dr. Salmon, and who is consequently also in the one hundred and fifth year of her age.

Recent Appointments at Jefferson Medical College.—At a recent meeting of the Board of Trustees of Jefferson Medical College, Dr. W. Joseph Hearn was elected Clinical Professor of Surgery; Dr. Edward P. Davis, Clinical Professor of Obstetrics; and Dr. S. MacCuen Smith, Clinical Professor of Otology.

Dr. Julius Althaus has resigned his post as senior physician to the Hospital for Epilepsy and Paralysis, Regent's Park, which he has held for the past twenty-eight years, and has been appointed consulting physician to that institution. Dr. Cagney has been appointed physician, with charge of in-patients.

"Phthisin" Crystals.—It was lately announced that Professor Schrön has been for some time engaged in attempting to isolate from the cultures of pathological micro-organisms and from the organs of patients dying from infectious diseases the poisons which are characteristic of each affection. According to some of his published researches it would appear that each micro organism secretes a particular poison, and that in the cultures of specific micro organisms and in the organs of patients and animals dying from specific diseases, certain crystals appear which differ according to the microbe which is the subject of investigation. Thus in phthisis particular crystals are found to which Schrön has given the name of "phthisin" crystals. It is difficult to form an opinion as to the value of Professor Schrön's researches, and we look forward with interest to their full publication. It would appear, however, that the so-called "phthisin" crystals have been seen by other observers, but have been designated by them under other names, having been previously described as altered blood pigments, or even as charcoal particles which had been absorbed from the lungs. It is hoped that Professor Schrön will not long delay the publication of his interesting memoir on this subject.—*British Medical Journal.*

Guilty of Assault for Vaccinating a Sick Man.—Dr. Henry L. Schelling, of Brooklyn, employed in the Department of Health as a vaccinator, on April 26th vaccinated one Emil Schaefer while the latter was ill in bed and despite his objections. In the Police Court last week Dr. Schelling was arraigned on the charge of assault. Mrs. Schaefer, in her testimony, said: "We argued with the doctor, but it was of no avail. I told him how sick my husband was, and that he wasn't expected to live, but the doctor said he would vaccinate him before he left the house." Dr. Schelling said he was acting under instructions of the Department of Health and was not violent. Justice Connolly found Dr. Schelling guilty, but suspended sentence.

The Woman's Medical College of the New York Infirmary held its twenty-sixth annual commencement on June 1st, and graduated a class of seventeen.

Death of Dr. Samuel T. Hubbard.—Dr. Hubbard, for many years one of the best known physicians in this city, died on June 1st in his eighty-seventh year.

Dr. Hubbard was born at Haddam, Conn., February 19, 1808, and received his early education at the Garfield Grammar School, Middletown, and at Suffield Academy, in Connecticut. He studied medicine with Dr. Amos S. Miller, of this city, and was graduated from the College of Physicians and Surgeons in the Class of '35. He was married in 1850 to Mary H., daughter of Benjamin Hustace, of this city.

Dr. Hubbard was a member of the County Medical Society, the New York Academy of Medicine, the Medi-

cal Journal Association, the Medico-Legal Society, the Society for the Relief of the Widows and Orphans of Medical Men, and the Physicians' Mutual Aid. He was President of the County Medical Society from 1866 to 1867, and held various offices in that and the other societies thereafter.

He was at one time physician to the Presbyterian Hospital, and consulting physician to the New York Dispensary, and was a Trustee of the College of Physicians and Surgeons.

The French Medical Press Association.—The French Medical Press Association held its second annual dinner on May 11th, in Paris, Dr. de Ranse in the chair. Seventeen members were present. A letter from the Czar, acknowledging the courtesy paid to the medical officers of the Russian squadron, was read by the Secretary.

A New Device.—Dr. Byron Robinson, of Chicago, announces a new device for intestinal anastomosis. It consists of two metal discs around whose circumference there is a groove. In the groove is placed a hollow rubber tube. The two discs are clamped together with a ratchet or spiral screw. The principle on which the device works is the same as Dennan's cylinders. The gut is gradually necrosed through by slow elastic pressure. The rubber tube and pressure can be so controlled that the circular line of union may be of determined width. The elastic pressure avoids lateral fistula from too rapid or too violent force. The device is called the "rubber-faced disc."

Freckles and the Red Parasol.—The fashionable "fad" in Chicago of the red parasol is now defended on the ground that it is an efficient freckle preventer—the actinic rays of the sun, which it is claimed are the cause of the pigmentation, being intercepted in passing through a red medium —*Journal of the Amer. Med. Association.*

A New Hospital for Male Tuberculous Children is to be opened at Ormesson, Villiers sur-Marne, France. It is intended to accommodate eighty patients. The heating apparatus and ventilating and other arrangements will occupy the basement. Above this are the wards, nearly forty feet high, around which run galleries in which are the beds, leaving a central space. The cubic space will be 120 cubic metres per bed. A very complicated system of ventilation is to be adopted, and medicated air is to be supplied to the wards both morning and evening. A similar hospital for female children exists at Villepinte.

The Classics Again.—The recent agitation in France concerning the reform in medical education and examinations turned principally on the question whether the study of classical language should be included in the curriculum. A commission, comprising the rector of the Faculty of Medicine and five professors, returned their answer to the following intent: The physician is obliged to use a terminology which is derived from the Greek and the Latin. Although he may—without having been instructed in the classics—in the course of time acquire a superficial knowledge of the expressions, still there will remain in such a case a sentiment of inferiority, because he does not know their origin. In the interest of the profession the sentiment should be spared the future physician. Though there is a certain indirectness in this reply, there can be but one reading of the decision. In addition to the above, the commission wisely suggested the expediency of the medical faculty being conversant with at least one modern language. Indeed, as a contemporary points out on this subject, considering the present condition of medical science, deriving as it does its elements from all parts of the world, every physician should be somewhat of a polyglot.

Child Crying in Utero during Version.—Dr. E. Grandin (*New York Journal of Gynecology and Obstetrics*, April, 1894) observed this phenomenon during turning. The child was large and the pelvic brim contracted. As the foot appeared at the vulva, the child's head occupying the upper uterine segment, a distinct cry was heard resembling that of an angry child. With each traction of the foot the cry was repeated, being heard by Grandin, Marion Sims, and two nurses. With emergence of the trunk the crying ceased. The child was born asphyxiated, but speedily revived. The air-passages contained no liquor amnii. M. McLean has recorded a similar case. The explanation was simple: Air obtained entrance into the uterus during the first step in podalic version. S. Marx, in a case of contracted pelvis, attempted to deliver rapidly by introducing the hand and seizing the leg. The child cried during this manœuvre, as though smothered under a pillow. It was born asphyxiated, and could not be resuscitated. H. L. Collyer heard a child cry several times when traction was being made on its head with forceps. At once turning was performed, but the child was born dead.

The Offspring of Young Mothers.—At the Congress of Hygiene, Dr. Korosi, of Buda Pesth, stated that the proportion of deaths among children from weakly constitutions, or maladies traceable to the mother, was twice as large among the children of mothers under twenty as among the children of mothers over thirty. The author of this statement seemed pretty sure of his facts, since they were consequent upon a comparison of several thousand cases. His investigations on the subject showed further that the healthiest offspring was born of mothers between twenty and thirty, united to husbands between thirty and forty. In Hungary fifteen per cent. of the number of marriages shows that the brides are under twenty years of age, and in England twenty per cent.

A Dietetic Experiment.—The medical department of one of the infantry regiments of the Guards stationed in Berlin is engaged in carrying on gastronomic experiments, not on the usual patient laboratory animals, but on medical students (candidates for the army surgeon examination) who volunteer to serve as subjects of experiment. These young martyrs to science undertake to eat and drink nothing beyond the regimental rations during the period of observation, which lasts from a fortnight to four weeks. Daily they may be seen in full equipment marching out with the regiment sharing its fatigues to the full. Immediately on their return to barracks every day they turn into the Charité Hospital, where their temperature is taken—pulse, body weight, amount of perspiration, etc., registered, and even the stomach pump used on some of the most devoted. These experiments, which are carried out with true German thoroughness, are to furnish data for further improvement in the nutritive value of food supplied to soldiers on the march.—*British Medical Journal.*

Fatal Ivy-Poisoning.—Five school boys died during the past week at Tarrytown, N. Y., the result of eating the root of the Rhus Toxicodendron. The symptoms of the poisoning were: stupor, dilatation of pupils, nausea, thirst, feeble irregular pulse, tremors, convulsions, and finally collapse. We are not aware of any similar cases resulting in death.

A Circumcision "Specialist."—The trials of paternity, says the *British Medical Journal*, are evidently increased in no small degree by announcing the important event in the papers. Some men receive the congratulations of their friends in a meek and subdued spirit, appreciating full well the gravity of the occasion and the responsibilities thereof. Others seem to revel in the proud position, rushing quickly to the newspapers to announce the glad news—and they have their reward; specimens of soaps, night-lights, and puff-powders, with circulars advertising basinettes, dressing-gowns, perambulators, and every possible description of condensed milk and rickets-producing food are poured upon him by the dozen. Among the advertisers of the less pleasant sort who play upon the anxieties of the new-made parent is the "specialist operator" for circumcision! We have received the circular of one of these gentlemen which straightway followed an announcement of the birth of a son, in which the advertiser—although greatly hampered by bad grammar—endeavors to show the importance of the youngster being circumcised without delay, and offers to do the operation within half a minute in an ordinary case and within a minute even in the most difficult. Among the moral and physical reasons for its performance he somewhat obscurely says that "Every Circumcised person have always been so hardy and thereby escaping obscure nervous disorders, the facts of which are acknowledged by highest medical authorities.". Possibly he hopes that the father also may like to be performed upon, as he goes on to say: "Every invalid or victim of some obscure nervous disorder should not neglect this, as it will materially assist in restoring him to health." Perhaps, however, the attraction may not prove irresistible after all, for with better grip of grammar but less idea of sense, he continues: "What are the benefits derived therefrom? Predisposition to and Exemption and Immunity from disease"—which seem somewhat mixed advantages.

An Interesting Theory of Depopulation.—In an elaborate essay on the "Origin of Neoplasms in General, and of Cancer in Particular," now in course of publication in the *Progrès Médical*, M. A. Wassilieff formulates the following "general law:" "Living matter reproduces itself more readily the more inferior it is, other things being equal." In this formula, we are assured, is contained the general theory of the development of all new growths. But the "law," according to our author, has a much wider application than this. It explains, among other things, the depopulation of France, which is causing some alarm to French statesmen. M. Wassilieff's view is that "what is erroneously called 'the depopulation of France,'" is, in fact, a conclusive proof of the innate superiority of that nation to all others. While inferior countries like England and Germany are increasing and multiplying like the lowly organized bodies they are, the French race is dying of its own greatness. Whether the French people will find consolation for their approaching absorption into the infinite in the consciousness of their superiority may be open to doubt.

"Mushroom" Colleges.—Moved thereto by the apprehension that the degree of M.D. "is in danger of being greatly reduced by the organization of mushroom colleges in various parts of the State as well as in other States," the State Board of Medical Examiners of Iowa adopted the following resolution at its recent meeting:

"*Resolved*, That no medical college shall be recognized by this Board as in good standing until it has maintained a reputable existence for five years, provided this regulation shall not apply to colleges already so recognized."

A similar resolution of the Illinois Board, adopted in July, 1892, was rescinded at its January, 1894, meeting. —*Journal of the American Medical Association.*

Why There are Eleven Medical Colleges in St. Louis.—The Chancellor of Washington University, of St. Louis, Professor W. S. Chaplin, made these remarks regarding medical education in Missouri at a recent meeting of the Standard Medical Alumni Association. He said: "Don't think for a minute that these many medical schools in the West have been established for purely pecuniary reasons. The doctors do not make enough out of them certainly to pay for the work which they put into them. They might make more money, probably, by sawing wood the same amount of time. They do it in order to establish themselves as specialists. They have no other reason. Is this not a case where you have put on too much restriction in one direction? And that has produced an abnormal growth in another direction. If you look into the history of these medical schools you find that there was a time when there was but one medical school. Some fifty years back, in St. Louis, I believe, there was just one. Then, by a process which the naturalists understand perfectly, by the growth of a kind of septum across the medical school, suddenly there were two medical schools, equipped fully, and those two medical schools were running in the most violent opposition. Here, in the East, I understand the medical profession have none of these differences and troubles; but in the West every medical school means a new set of mutual admirers. The professor of ophthalmology sends all his cases of surgery to the surgeon who is connected with his medical school. Go into St. Louis to-day, and you find just eleven sets of men who generally recommend and send all their patients to the men connected with their own schools. I do not despair of medical education in the West. I hope there will be constant and rapid deaths among the medical schools. The condition is certainly a disgusting one, when viewed from the point of education."

Dr. Albert Day, for nearly forty years identified with the Washingtonian Home for Inebriates, Boston, as its superintendent, died recently.

Another Missouri College.—The Central Medical College of St. Joseph, Mo., has been organized to replace the Northwestern Medical College of that city, suspended because of the refusal of the Missouri State Board of Health to recognize its diplomas.

Society Reports.

American Medical Association.

Forty fifth Annual Meeting, held in San Francisco, Cal., June 5, 6, 7, and 8, 1894.

(By Telegraph to the MEDICAL RECORD.)

THE forty-fifth annual meeting of the American Medical Association was held at I. O. O. F. Hall, San Francisco, and was called to order at 10 A.M., Tuesday, June 5th, by President James F. Hibberd, of Indiana. On the platform were seated Dr. I. N. Love, of Missouri, Second Vice-President; Dr. William B. Atkinson, of Pennsylvania, Permanent Secretary; Dr. H B. Ellis, of Los Angeles, Assistant Secretary; Dr. J. Simmons, President of California State Society; Dr. R. H. Plummer, Chairman of Committee of Arrangements. Prayer by Rev. Dr. Robert McKenzie. Governor Markham and Mayor Ellert were unavoidably detained.

Addresses of Welcome.—Supervisor J. G. James, on behalf of the Mayor of San Francisco, extended a hearty welcome to the members and tendered the freedom of the city. Dr. J. L. Dimmons, of Sacramento, followed in behalf of the California Medical Society, and delivered the Address of Welcome.

DR. R. H. PLUMMER, Chairman of the Committee of Arrangements, offered instructions and information to delegates and visitors. After which he presented a gavel to President Hibberd. The handle was of orange-wood, which is the State color—yellow; body of manzanita wood, peculiar to the Pacific slope; sides, gold, inscribed "A. M. A., 1894;" on the obverse was "James F. Hibberd, President."

The physicians of Oregon, by the courtesy of Dr. W. G. Owens, sent one dozen gavels for use in the various sections; the handles were of yew-wood, and the body of myrtle.

President JAMES F. HIBBERD prefaced his address with the following remarks: "Some of the pleasantest surprises of my life are occurring at the close of my career; the sentiment which prompted the gift is more appreciated than the gift itself. I will endeavor to use it discreetly and properly. I can stand any number of such surprises."

He then continued as follows: At every annual meeting the Permanent Secretary and the Treasurer have difficulty in appeasing delegates who are not received, because the credentials presented by them have not been issued by a society entitled to representation in the Association. The difficulty lies in the fact that some of the State societies are not representative bodies, and consequently the constitutional provision cuts off all delegates from such States except those commissioned by the State Society itself. While this is the letter of the law, it is not the spirit that animates the organization of the Association. The constitution should be revised in this particular, at least; every County Society in each State should be represented in its State Society. In this connection I desire to lay before you some thoughts touching the arrangement of subordinate medical societies in their relation to the American Medical Association.

Every medical man who belongs to any medical society should belong to a county, or an equivalent, medical society, and every member of a County Society should be *ipse facto* a member of his State Society, and this should be an open sesame to the American Medical Association. By this arrangement all reputable physicians in the United States would be brought together in the common fold, whose power for good within its legitimate sphere would be limited only by its aggregate wit and energy. Such a consummation would elevate the American profession to a plane for useful work the highest conceivable for the disciples of scientific medicine. A sentiment seems to be current among some of the members that indicates a misconception of the character and personnel of the sections, as I view them, regarding the propriety of conferring on the Business Committee the functions of the Nominating Committee. They say, "The Business Committee is made up of the ex-chairmen of sections; the sections are in the hands of the specialists; the specialists reside in the greater cities, and consequently the Business Committee will be constituted of special practitioners who hail from the cities, some of which are large enough to furnish half-a dozen chairmen at once. This will not only exclude general practitioners from a voice in the selections of officers of the Association, but may, by chance or design, place the general business of the Association under the management of specialists from a few important cities of the country."

The error of this representation is the fact that its entertainers fail to recognize that the aggregate membership of the sections at each annual session is the total membership of the Association in attendance. True, in each section there will be members of the special society whose work is the same as that to which the section is devoted, and there will be others whose engagements are limited to the same line of practice; but these combined, except in two or three sections, will not number more than a small minority, probably not a tenth of those enrolled in the section. The other nine-tenths will be general practitioners, whose professional proclivities have directed them to the section; and these general practitioners have the power by their votes to elect the best man in the section to its chairmanship, without inquiry whether he lives in a big city or in a hamlet; and in so doing will make it patent to every thoughtful mind that the personnel of the Business Committee will be selected under conditions to insure as intelligent, as well distributed, and trustworthy a committee as the Association can secure. Moreover, the function of a Nominating Committee is to nominate, not elect; confirmation or substitution is in the authority of, and always exercised by, the Association. I am led to present this subject in this light and to this extent, because I feel that a majority of the members recognize the imperfections of our present mode of selecting the Nominating Committee, and realize that the welfare of the Association calls for a committee to exercise the important functions of the Nominating Committee, which has elements of permanency in its organization, and whose personnel has been selected with something of deliberation. The Chairman of the Committee on Military Affairs at Washington has concluded there is a surplus of assistant surgeons, and in his report to the House reduced the number from one hundred and twenty-five to ninety. This recommendation has passed the House, and if it should be approved by the Senate will greatly embarrass the medical service of the army, and in the end be a detriment to the country. Let the American Medical Association at once call the attention of Congress to the mistake threatened. An effort should be made by this Association to restore a part of the appropriation for the support of the National Medical Library, which was dropped by the last Congress. For twelve years the appropriation was $10,000, but the last Congress reduced it to $7,000, and the present Congress proposes to continue the reduction still more. The desirability of supervision of public health by the general Government has been recognized by this Association for many years, and manifested in various ways. Various sanitary organizations have entered Congress with petitions, asking that the general Government be clothed with authority to execute measures to assist in protecting public health. The outlook at this time for securing a Bureau of Public Health during this session of Congress, is not encouraging. At present there is no measure formulated in this behalf.

So worthy of support is the New York Academy bill now in Congress, it seems to me the reasonable duty of this Association at this time to declare and proclaim its unabated faith in the virtue of vaccine to protect from small-pox, to render persons as immune against variola as an attack of variola itself, and that it is innocent of all

mischief when the vaccination is done by a vaccinator who is competent judge of both the purity of the virus and the fitness of the vaccine.

Much has been done in advancing the extent and character of the collegiate instruction of medical students. Certainly the Association has ground to congratulate itself on the fruits of its persevering labors to secure more thorough medical education. The Congress of Medicine in the immediate future must be along biological lines; the microscope has revolutionized our knowledge of the world of living things, and to us have been discovered the generators of the most extensive, persistent, and malignant epidemics that periodically decimate the earth, as well as intractable and fatal disorders that are always with us. Another line of biological workers have carried us back through the morphology of organs, tissues, and cells, to the origin of vital activity in protoplasm, and still more important in being. So have given us glimpses of the origin and development of the somatic mind that will, when the scheme of nervous organization and function shall be clearly portrayed, dissolve the mystery that has in the past obscured our realization of the true nature of hypnotism, Christian science, and other anomalous neuroses which the sciolists, and in an especial manner those claiming to be doctors, are promulgating and practising, to the discredit of true scientists and the injury of the weak-minded and ignorant classes.

We should apotheosize protoplasm, the dividing line between organic and inorganic matter, itself at once the result of the law of perpetual motion with which the Creator endowed the atoms of elemental matter, and the beginning of that phase of energy known as vital activity which constitutes the entire vegetable and animal kingdom. No one people or class of people can claim exclusively to have opened the way into this more primitive arcana of nature. The physicists of all nations, botanists, zoölogists, anatomists, physiologists, and their congeners, have all participated in this progress. The distinction of Schawn, Virchow, Ferrier, Jackson, Pasteur, Koch, and Sternberg is due to their advanced study of biology.

It is apparent to all who have given attention to the matter of remodelling the constitution, that there is much feeling among the members who have been active in working up the changes that will be offered as a substitute for the constitution as it now exists. It is right that a fair and unbiassed expression of the will of the Association, according to the method prescribed by our laws, should be secured; and in so doing there is nothing to excite passion nor interfere with that calm deliberation that distinguishes the proceedings of an assembly composed of cultured and refined people seeking the welfare of the guild to which they belong. And so with the code of ethics; for years there has been a feeling among many most excellent and intelligent working members of the guild, that the code did not fairly accord with the demands of the advanced profession in their intercourse with each other, nor with the proper reciprocal relations between the profession and the public; while, on the other hand, many members, equally intelligent and devoted to the Association, have felt that the code of ethics that has guided the Association through nearly half a century prosperously and honorably, and which is still a reliable guide in every advanced thought and action, cannot be bettered for our present status, and should not be disturbed.

Touching the sufficiency of the constitution and code of ethics of the American Association as they are now, I have well settled convictions, the result of many years' observation, experience, and reflection; but I am not here to proselyte my opinions. As I interpret my mission on this occasion, it is to exercise my influence and use my authority to secure to those here entitled to vote a clear expression of untrammelled judgment, and to encourage a cheerful acquiescence of all parties in whatever conclusion may be reached.

On motion of Dr. W. T. Bishop, of Pennsylvania, the address was referred to a committee of five for consideration. The following committee was appointed by Dr. I. N. Love, acting president: Drs. W. T. Bishop, of Pennsylvania; Lyman Beecher Todd, of Kentucky; R. Deverly Col, of San Francisco; Fred W. Mann, of Michigan; and J. P. Woodbridge, of Michigan.

Dr. N. Quimby moved that a committee of five be appointed to especially consider the danger of a reduction of the number of surgeons of the army. The following committee was appointed: Drs. I. N. Quimby, of New Jersey; J. Copeland, of Alabama; J. B. Hamilton, of Indiana; E. E. Montgomery, of Pennsylvania; and J. M. Duef, of Pittsburg.

On motion, Dr. Edward C. Ingalls, of Chicago, was elected a member of the congress by invitation. On motion, the delegates from the Pharmaceutical Association were invited to seats.

The Treasurer's Report was read by the permanent secretary, owing to the illness of the treasurer. Dr. Ingalls presented the treasurer's report in detail, endorsed by Drs. E. E. Montgomery and E. Fletcher Ingalls. On motion of Dr. Hume, the report was received and filed.

The Report of the Secretary Regarding Revision of the Code.—The report stated that the States opposed to change were 21; in favor—Nebraska, Vermont, Indiana, 3; laid on table—Wisconsin, Florida, 2; not yet considered, 3; no reply, 11.

The Report of the Pan-American Medical Congress has not yet been received.

Election of Delegates to the Nominating Committee was then proceeded with. A resolution was offered by Dr. L. D. Dulkly, of San Bernardino, on behalf of the business committee:

Whereas, Each section should have three members on the business committee of the association, and

Whereas, A considerable number have signified their inability to be present this year;

Resolved, That the officers of the various sections be hereby instructed to appoint from the members in attendance, alternates to act at this meeting for those who are unable to be present.

Resolution No. 2:

Whereas, Dr. R. J. Dunglison has been for seventeen years a faithful, energetic treasurer of this Association without any compensation; therefore be it,

Resolved, That the hearty and unreserved thanks of this Association be cordially extended to him for his efficient and laborious duties on behalf of this Association, and a copy of this resolution be forwarded by the secretary to Dr. Dunglison.

Amended by Dr. Montgomery, to present to Dr. Dunglison $300 as appreciation of services.

The meeting then adjourned.

Second Day, Wednesday, June 6th.

The General Session was called to order by President Hibberd at noon.

Report of the Committee of Arrangements.—The following resolution was offered by Dr. Quimby, of New Jersey:

Resolved, That the American Medical Association urge upon Congress the advisability of preserving and promoting the efficiency of the Army Medical Department.

Resolved, That any reduction in the present membership of the Army Medical Department, or of its appropriation, would be prejudicial to the interests of the army and of the country. And be it,

Further Resolved, That the Secretary be instructed to thus inform Congress by telegraph.

The resolution was carried.

The Nervous System in Disease, and the Practice of Medicine from a Neurological Standpoint, was the subject of an address by Dr. C. H. Hughes, of St. Louis.

In this age of pre-eminent progress in every department

of human research, I congratulate you on the onward march medicine has made, and is yet making, toward the mitigation of human misery and the mastery of disease; and especially on the part American medicine has taken in the scientific triumphs of the closing century over the encompassing elements and environments adverse to man's health and strength, and consequent happiness and efficiency in the affairs of life. As our father Hippocrates drove the devotees of superstition from the Temple of Hygeia, and taught the people that offended gods could neither bring nor propitiate God's direful diseases; and as Andreas Vesalius dared the popular prejudice and the ecclesiastical power of his day to make his first human dissection; so we, his professional descendants, continue breaking down the barrier of ignorance, of prejudice, and superstition in the way of man's happiness and prosperity; unlocking the secrets of nature's arcanum, and setting the captive mind and organism free from the enthralment of disease. Substitutive inoculations, for establishing tolerance and immunity from other diseases, are spreading the rescuing power of the profession. Consumption, with its one hundred and sixty-five thousand annual victims in this country alone, will soon be a thing of the past, through wisely applied antisepsis. Electroscopic and other explorations now penetrate the dark and otherwise hidden places of the human body, making it a glow of light to the diagnostician. But little, if any, of the human anatomy is absolutely beyond the reach of our science or relief. The abdominal cavity is no longer a *terra incognita* to the resources of surgery, thanks to Joseph Lister, of London; McDowell, of Kentucky; Battey, of Georgia; Lane, Gross, Agnew, Frank Hamilton, and John Hodgen.

The once hidden recesses of the brain also are now with impunity penetrated to where our ancestors dared not go, saving lives and minds formerly doomed to destruction. Thanks to Fritsch and Hitzig, of Germany, Ferrier, Horsley, and Macewen, of Great Britain, and Bartholow, of America, the latter having been the first physician in the world to explore and prove the truth of cerebral localization by demonstrations on the living human brain. Science now penetrates to the very dwelling-place of thought and volitional motor impulses in the cerebral cortex, saving by modern neurology and cerebral surgery. The grip and pneumonia is such as might come from sections of the vagi. The vagus largely governs the lungs, the heart, and the circulation of this disease, and toxic irritation and depression of the medulla and pons explain most of its symptoms.

The therapeutic lesson of the neuropathic implications of influenza is rest and reconstruction (pending the search after its causative bacteria and their proper bactericide); rest and reconstruction, that phagocytosis may be promoted in the blood. Chloral as the best antiseptic, hypnotic, and calmative, for even the delirious stage. In the latter, ammonium bromide added for the pain; the coal-tar derivative analgesics, and sweat-producing opiate combinations, the elimination of all disturbers and depressers of nerve-centres entering through the blood, like the rheumatic and malarial or venereal poison. It is through the neural connections of the brain and stomach that the acknowledged apepsia of neurology is a clinical fact. The brain influences the stomach, and the stomach influences the brain, but the power of the former over the latter is far greater than the latter over the former. To concede this influence of the nervous system over the digestive processes, we need not ignore any fact of chemico-biological research; the liver, the kidneys, the bladder, and the bowels are similarly influenced by emotion, and the lymphatic system is likewise under nervous control, like the arterioles by the vaso-motors.

A centre in the medulla also influences through the chorda tympani nerve, and probably the sympathetic, the salivary secretion. A centre there also influences the action of the kidneys.

Salivary secretion is induced reflexly by mastication and the irritation of the presence of food in the mouth and stomach, and by the vivid remembrance of certain foods whose eating has made an agreeable impression, and by emotion. We swallow, we digest, we sob, we vomit by means of vagus fibres; and its fibres go to the cœlic plexus, the spleen, the liver, the kidneys, and the small intestine. Œsophagismus, gastrodynia, or cardialgia, tachycardia, palpitation, and angina pectoris, and spleen, intestines, liver, and kidneys, are influenced by this wonderful nerve, as well as asthma and exophthalmic goitre and many affections of the larynx and lower air-passages. Notwithstanding, the complete pathology of this wonderful nerve, and of many of the interesting diseases connected with it, may be said to be yet somewhat obscure. The vagus and the vaso-motors influence or govern circulation, respiration, and digestion.

The dominion of the nervous system over the spleen is one of the concessions of the physiology of our day. Stimulation of the medulla leads to contraction of this organ; not only its arteries, but the organ as a whole, is maintained in a state of tonic contraction, to a certain extent, through the agency of the nervous system.

Hysteria illustrates, in an especially forcible manner from the standpoint of clinical observation, how suddenly and how extensively nearly all the organs of the body may be profoundly disordered in function by morbid impression through the nervous system. There is a suggestive practical lesson in this "neuromimesis," or mimic neurosis, as to the relation of the nervous system to diseases in general. As the study of this disease led Goodell to discern and portray the nerve counterfeits of uterine diseases, and to say "the crying error of the day is the mistaking of nerve diseases for womb diseases," so I say of disease in general, the crying error of the day is the ignoring of neuropathic implications, concomitants and sequences of organic, visceral, and general diseases, and the mistaking of nervous and other diseases.

The *vis medicatrix naturæ* resides in the nerve-centres, and in their power to maintain, under stress of invading disease, the normal metabolism in the various organs, and as I believe, though this is not yet susceptible of scientific proof, of the furnishing and multiplying of the phagocytic hosts of conservative destruction in the healthy blood.

The Importance of Early Recognizing Neurasthenia.—Neurasthenia, or general functional neuratrophia, shows itself chiefly in the brain, and is psychically characterized by timidity of conduct, nervous irritability, and morbid fears, bordering on, but not becoming delusions; and physically by functional atonicity of the viscera, especially of the stomach, heart, bowels, and motor and psychical areas of the brain. It is the cause and source of apepsia nervosa and of cerebro-spinal irritation, and differs from hysteria, with which it is sometimes mistakenly confounded, in being continuous and not paroxysmal, and in being far more common in men than in women.

The question of the parasitic origin of this disease was left *sub judice* at the last International Congress at Rome, at the close of the most interesting and learned discussion ever held upon the subject. The same light has lately dawned on gynecology and every department of medical practice. We are approaching an era when the whole patient is to be treated; no more only a part or organ solely; and neurology will have a paramount place in general clinical medicine, notwithstanding the recognized and merited advances of bacteriology in pathogenesis.

Certain heart affections proceed from the brain. What is true of the influence of the nervous system over the stomach in dyspepsia, and the lungs in the pneumonia of influenza, is also true of its influence in the production of certain diseases of the heart. They come from states of the brain. When the heart is severed from the central nervous system by section of the vagus nerves, a destruction of the vagus centre takes place by traumatism or disease. Profound changes in the heart's structure ensue; this points to central trophic influence

through the vagi, and to the often central nervous origin of heart disease.

The regularity of the heart's rhythm from and strengthening of its beat through vagus stimulation and central stimulation, as well as by certain volatile and internal stimulants, is suggestive. As we recognize psychic influence over our physiological life, over physical and mental habits, so must we come to acknowledge it the more generally in our dealings with disease. The physiological law that habit in the psychical life develops a tendency to recurrence is also exemplified in the disposition of certain diseases to recur; and the inter-relation between muscular and mental tonus suggests the importance of maintaining the psychical tonus in the treatment of all diseases, and the successful therapeutics of hypnotism proves it in many.

Hæmophilia and the Vasomotor System.—The neuropathic source of hæmophilia in the vasomotor system is more probable than any asserted dyscrasia of the blood. It is through the nervous system that we may understand how the hair turns in melancholia and may thicken in chronic mania or dementia of the less distressed and more stupid and inactive forms; how its color may turn from dark to white and back again to dark with the access and recovery of recurrent insanity; how it may gloss and dry, erect or flatten, be lost and regained under mental states; how the teeth may decay, the bones and nails grow brittle, and the skin harsh from the same cause; and how, from neuritis, the nails transform and the limbs waste as well as fail in sensibility and mobility, besides the œdematous, pigmentary, and horny changes of the skin from nerve-injuries.

Bad Temperature and Fever Dependent on the Conditions of the Nervous System.—That remarkable phenomenon, the uniformity of the temperature of the human body at all altitudes and all seasons, is due to regulating adjustment through the nervous system, and when temperature is disturbed it is due to irritation, mechanical, chemical, or toxic, of the nervous system, as in traumatic violence, microbic, septic, or drug disturbances the nervous system is the supreme ruler in the organism. When disease enters, it is weakened; when death takes place, it is dethroned. The germs of malaria, tubercle, cholera, typhoid, tetanus, etc., or the living virus of any fever make no fatal inroads until they break down and destroy centres of neural control and resistance. Whatever view we may take of bacilli, bacteria, or cocci, which eye or glass may reveal to us in the damaged organism; whether we regard them as carrion about a carcass, rats forsaking a sinking ship, thieving, destroying, or scavenger parasites, one thing is certain, disease becomes manifest only after the mechanisms of neural sensation, emotion, ideation, or control reveal it; for, as I have elsewhere said, the nervous system is the central executive and universal sentinel system of the organism. It governs and legislates for the physiological body, exercising moving, restraining, regulating, or inhibitory power over organic processes in health and in disease. It has its subordinate tributary and sustaining forces in the glandular, vascular, osseous, and other systems. A change in the weather or a certain exposure sends one man to bed with rheumatism, another with pneumonia, and a third comes down with intermittent or remittent fever or phthisis. We say uric acid in the first case, pneumococci in the second, malaria in the third, and tubercle bacilli in the fourth.

And now in the sunlight of advancing science, and of the approaching twentieth century, I proclaim that neuriatry and the practice of general medicine are practically one. The practice of medicine is rapidly becoming one of neurological methods, of neuriatry and psychiatry; and the best neurologist, all other attainments being equal, must of necessity make the best general practitioner. The boon of hypnosis and narcosis under the many methods for its induction known to our art, saving the insomniac from the precipice of mental overthrow or neural failure in the lower centres of the cerebro-spinal axis or peripheral nervous system; the power of antisepsis, and through it the wonderful procedures and possibilities of modern surgery, and this *fin de siècle* hygiene; the many and marvellous therapeutic and hygienic advances in promoting the phagocytosis of the toxic bacteria, the destruction of the ptomaïnes, and in other directions of relief and cure: the discoveries of pathology, histology, medical chemistry, biology, neurology, psychology, psychiatry, and the contributions of surgery, gynecology, ophthalmology, otology, laryngology, proctology, and the other specialties of study and work, have made the later decades of the present century the most memorable in resourceful discovery in the history of medicine or in the history of mankind. Intravenous injections of immune animal blood-serum promise much for the cure of phthisis and other chronic contagious diseases, and there appears good therapeutic promise for the coming years in mycodermic medication.

Dr. Didama, of New York, moved that thanks be extended to Dr. Hughes for his paper read. Carried.

A resolution was offered by Dr. Marcy, of Boston, recommending the appointment of State examining boards. Carried.

The report of the Journal was adopted as the sentiment of the American Medical Association. The Association then adjourned to meet at 10.30 A.M., on Thursday, for special consideration of the constitution and code revision.

Dr. Dunglison tendered his resignation as treasurer yesterday.

The Course of Bullets.—Professor Victor Horsley read a very interesting paper before the Royal Institution recently on the effect of modern small projectiles. In the course of his remarks he said: "Some people seem to think that a small bullet at a very high speed will pierce the tissues of the body without doing much general damage. This, however, is erroneous. The bullet hurries forward with it particles of the substance through which it is passing and thus practically becomes a larger projectile. If a bullet be fired through a book, it cuts out disks of increasing diameter as it traverses the pages. Hence, too, it is plain that the greater the sectional area the greater the damage. As to the heating of the bullet, it has certainly been much exaggerated, and its effects, if indeed it has any, may be safely neglected. The physical constitution of a body has a most important bearing upon the behavior of a bullet entering it. Why does a bullet of certain size and travelling at a certain rate simply perforate some substances, such as wood or iron, while in others, such as clay, brain, etc., it exercises a bursting and disruptive action? The answer is quite simple: the destructive effects vary directly as the viscosity of the body. This was established by some remarkable researches on the effects of bullets on soft tissues made by Huguier after he had observed the results of the wounds inflicted in the fighting in Paris in 1848. He suggested, from observations made on certain dead organs, such as lung, that the reason of the great lateral disturbance was that the tissues contained water in large quantity, and that the energy of the moving projectile being imparted to the particles of water caused the dispersion of these in a hydrodynamic fashion. This suggestion was shown to be correct by Kocher in 1874–1876. If a shot be fired through two tin canisters of equal size, the one full of dry lint and the other of wet, it will simply perforate the former, but cause the latter to burst explosively. In the same way shots fired into dough have more or less disruptive effect according to the percentage of water in the dough, and in general the more fluid the substance the greater the destruction. Now, in life the brain is a more or less fluid body, though in a state of rigor mortis it is practically a solid, owing to coagulation of the blood and protoplasm. Hence, a shot fired into the skull must have a disruptive effect and tend to burst it."

Congress of American Physicians and Surgeons.

Third Triennial Meeting, held at Washington, D. C., May 29, 30, 31, and June 1, 1894.

(Continued from page 699.)

THIRD DAY, THURSDAY, MAY 31ST.

Surgical Aspect of Nephritis.—This session of the Congress was under the direction of the American Association of Genito-Urinary Surgeons, and the subject for discussion was "Nephritis in Its Surgical Aspects."

DR. EDWARD L. KEYES, of New York, opened the discussion. He announced his intention of confining himself to a consideration of that form of surgical nephritis in which suppuration occurred, either spontaneously in the course of suppurative disease of the urinary tract below (ascending pyelonephritis), or originating below as a result of infection by the surgeon, or in the blood (the descending variety)—all the various forms of so-called surgical kidney. His paper was divided into three parts—Introductory, Practical, and Bacteriological. In the first section he demonstrated by a plentiful quotation of authorities, mainly French and German: 1, without microbic infection suppuration of the kidney was impossible; 2, the bacilli found most often were notably the bacterium coli communis, less often the staphylococcus pyogenes aureus; 3, these bacilli found entrance in a variety of alleged ways; 4, the introduction alone of these bacilli did not occasion ascending pyelitis, or even necessarily cystitis; 5, the soil was made receptive for microbic invasion by a variety of local physical maladies, *i.e.*, anything which interfered with the free urinary outflow by over-distention, also by traumatism, or failure of general vitality of the individual, and the kidney was especially prepared for invasion by dilatation of the ureters.

The second part of the paper contained the author's personal views upon urinary asepsis and antisepsis, and detailed his methods of every-day clinical work, the solutions he used, and his method of instituting catheter life upon the old subject with clear urine, atony, retention, thin-walled bladder, dilated ureter, and a kidney which was damaged as regards its vitality.

The third, or bacteriological, part of the paper was based on observations conducted by Professor Dunham, of the Bellevue Hospital College, under Dr. Keyes's direction, with the object of determining the destructive or inhibitive power over the three bacilli under consideration, of a great variety of medical substances often used for local antiseptic purposes in the treatment of vesical suppuration, and also of a variety of urines medicated by the ingestion of a number of different drugs. Altogether, five thousand tubes were examined, and these conclusions were generalized and tabulated. The result was that he showed theoretically what drugs possessed the greater value under varying conditions, *i.e.*, those of direct infection by the surgeons, the tissues not being involved, and those in which, chronic suppuration already existing, the bacilli were protected from the action of the antiseptic. A special effort had been made to reproduce in the laboratory as nearly as possible these conditions, and the results had been very suggestive. The method really consisted in comparing the action of the same drug upon bacteria in group No. 1, where direct infection immediately treated was simulated, with the effect in group No. 2, where chronic inflammation was simulated, the bacilli being more or less protected. This investigation showed that nitrate of silver was by far the most reliable agent we possess in counteracting the effect of local contamination, while corrosive sublimate was more reliable in group No. 2, where the tissues were involved. Salicylic acid was shown to be a very reliable antiseptic, and the author proposed a new solution for its more convenient use. He found that boracic acid had but little or no value, in fact being about as good only as common salt. The various medicated urines showed little or no inhibitive power over bacterial growth.

The following were his conclusions: 1. Healthy urine is sterile. 2. Purulent urine was always microbic. 3. Microbic infection took place from within the body by a number of methods in the course of disease; it was often brought about by instrumental manœuvres on the part of the surgeon. 4. The healthy organism and vigorous bladder could cope successfully with microbic infection, and free itself spontaneously or with a little aid, of all damage arising in this way, and showing little or even no inflammatory response. 5. A suitable condition of the patient's soil was essential to the propagation and perpetuation of the inflammatory phenomena upon the urinary tract after microbic invasion. 6. This condition, intensified by traumatism and physical weakness, notably of the degenerative variety, was most intense when there was physical distention with atony, and when the ureters were dilated and the kidneys involved in the changes incident to tension below—*i.e.*, atrophy and sclerosis above, with or without surface catarrh. 7. Under these circumstances pyelonephritis was most likely to declare itself as a result of microbic infection from below (occasionally from above) in the course of suppurative disease. 8. Asepsis, antisepsis, and sterilization of the urine were ends to be arrived at in genito-urinary surgery, but, like all other greatest goods, was not yet attained in perfection. He thought much, however, could be done by local means in a prophylactic and curative way; little by medication; and possibly as much or more than by any other means, by flushing the urinary passages with natural mineral waters.

The Bacteriology of Pyelonephritis.—DR. GEORGE N. STERNBERG, Surgeon General U. S. A., then followed with a paper on this subject. He said that ascending nephritis or pyelonephritis was very commonly secondary to a cystitis of long standing. Recent researches showed that the bacillus coli communis was found more frequently than any other micro-organism in the so called "surgical kidney." This bacillus was now known to be the cause of peritonitis. It had been obtained in a number of pure cultures, in a number of cases of abscess of the liver, from urinary abscesses, and from the pleural cavity in cases of pleurisy. Injections of a pure culture made into the ureter after tying it below the point of injection, had been shown by Schmidt and Aschoff to give rise to pyelonephritis, and the changes thus induced were said to correspond with those seen in the "surgical kidney" of man. Clado, in 1887, Albarran and Hallé, in 1888, and Rovsing, in 1890, had described non-liquefying bacilli found by them in the urine of cases of chronic cystitis and of pyelonephritis, which appeared to be identical with the bacillus coli communis, and which had been shown, by the subsequent researches of Schmidt and Aschoff, and others, to be very variable in its growth on various culture mediums. Upon gelatine the growths are sometimes transparent and sometimes opaque. Krugius, in 1891, first identified the bacillus described by Clado (his "bactérie septique"), and by Albarran and Hallé ("bacille pyogène"), with bacillus coli communis; and this identification was verified by the researches of Achard, Renault, Schmidt and Aschoff, and others. In twenty-two cases of cystitis studied by him in 1892, Krugius obtained bacillus coli communis fourteen times in pure cultures. Reblaub, in 1892, obtained the same bacillus in pure cultures in six cases out of sixteen cases of cystitis which he examined. The number of cases of pyelonephritis reported by various authors since 1889, in which bacillus coli communis was found and was probably the cause of the ascending nephritis, were twenty-nine; and in twenty of these it was found in pure cultures. The etiological relation of this bacillus to ascending nephritis, the speaker said, seemed extremely probable in view of the fact referred to. Certain cases appeared to be due also to the presence of one or more species of proteus, and possibly to other micro organisms.

Dr. George Chismore, of San Francisco, continued the discussion. He said that the conclusions which he had drawn from his own experience agreed very closely with those given in the paper, yet he differed from the author in some respects. Instead of stone in the bladder being so frequently the cause of nephritis or rendering instrumentation so likely to set up an ascending nephritis, it had seemed to him that under certain circumstances the very reverse obtained. A small stone, growing slowly, seemed to establish a tolerance in the bladder. It had also seemed to him that the introduction of an instrument into the bladder in the young had been more liable to be followed by renal mischief, more particularly of an acute inflammatory character, than in the old subject. Where there was polyuria, with urine of low specific gravity, the danger of instrumentation, as the author had said, was greatly enhanced. The method of attacking microbes by injections into the bladder had seemed to him confessedly faulty, for they certainly could not reach many portions, and the distention and shock connected with the process were not themselves devoid of danger. Moreover, it was often not easy to diagnosticate tubercular affections of the genito-urinary tract, and it was now pretty well understood that when there was a tubercular element the danger of instrumentation was greatly increased. The use of even very dilute solutions of bichloride of mercury seemed to him a means in itself of inflicting traumatism.

Dr. Francis S. Watson, of Boston, said he would refer more particularly in his remarks to the effect of long-continued drainage of the bladder on relieving this form of pyelonephritis. Mr. Reginald Harrison, in a communication published some years ago, had urged this subject upon the attention of the profession. The speaker recalled six cases occurring in his own experience in which pyelonephritis had been greatly benefited by the use of prolonged drainage of the bladder with this particular object in view. These patients were all over sixty years of age, were subject to senile hypertrophy of the prostate, and all their lives were in danger from pyelonephritis. In four of these cases the disease was in the acute stage, and in two in the chronic stage. In four of them the disease had supervened quite suddenly, although catheter life had been instituted a considerable time before. Two of the cases were treated by means of a catheter passed from the meatus, and four of them by a soft-rubber drain introduced through a perineal opening. In everyone there was that most important symptom already referred to—polyuria—with urine of low specific gravity, and the first sign of improvement in these cases was a diminution in the quantity of urine and an increase in its specific gravity. The class to which he thought this treatment especially applicable was in old prostatics, in whom the disease was already well marked or evidently on the point of developing. No one need hesitate to do this operation because of the acuteness of the symptoms. He had had a patient wear a perineal tube, and go about for three years with entire comfort.

Dr. Keyes, in closing the discussion, said that he had emphasized the statement that the bladder was the guardian of the ureter. He was entirely familiar with the method of practice advocated by Dr. Watson, and had practised it with satisfaction. A certain amount of good was obtained in cases of stagnant bladder by the repeated use of the catheter, and still more by drainage through the urethra and perineal opening. The surgical kidney might occur spontaneously. It was an ascending nephritis, rarely a descending nephritis.

The remainder of the session was under the direction of the American Gynecological Society.

The Conservative Surgery of the Female Pelvic Organs was the subject announced for discussion. Dr. William M. Polk, of New York, opened the discussion. He said that his remarks represented an experience with one hundred and sixty-four cases of abdominal section for disease of the appendages. Of this number, sixty-four had been operated upon by the radical process, and one hundred by the so-called conservative process. These cases were taken almost entirely from his hospital practice during the past three and one-half years. There was a lack of unanimity among operators regarding operative procedures on the cervix. In general it might be said that repair of the cervix was preferable to amputation, except in certain cases of hypertrophy or hypertrophic elongation. Among operations on the uterus he would mention three: myomectomy, ligation of the arteries for fibroma, and curettage in all forms of endometritis, whether acute or chronic, puerperal or non-puerperal. The first operation was a promising candidate for popular acceptation. All pedunculated fibroid, fibro-cystic or myomatous growths were favorable for myomectomy. There might, however, be so many such growths as to nullify any attempt at conservatism. The myomata usually had such broad connections with the uterus as to render the operation unsafe. On the other hand, pedunculation and fibrous encapsulation were favorable to the operation.

Ligation of the arteries in the broad ligaments was designed to check the growth of fibroids and the attendant hemorrhages. The operation consisted in a ligation of one or several of the feeders of the uterus, leaving one or more free, according to the exigencies of the case. It appeared to fulfil its purpose as well as, and perhaps better than, oöphorectomy: but our knowledge in regard to it was not yet sufficient to permit us to make any very positive statements.

Curettage and gauze-packing were appropriate in all forms of endometritis, and the most striking results were obtained in the face of acute septic inflammation of the uterus occurring after abortion or labor. Whenever there was any degree of congestion of the uterine wall there was need for depletion, and this could be best effected by the gauze-packing, for it excited uterine contractions, and this affected the circulation in the organ. The operation was a positive advance in treatment, and one which would hold a prominent place in gynecological procedures. It was in the earlier phases of salpingitis and oöphoritis that this treatment showed its best results. Most of the so called cases of recurrent salpingitis, and all of the cases of persistent endometritis, were appropriate for this treatment. Drainage was as useful in inflammation of the uterine appendages as in inflammation elsewhere. Until recently, the speaker said, each one of the following conditions had been considered sufficient ground for the removal of the organs: catarrhal and parenchymatous salpingitis, pyosalpinx, and hydrosalpinx; for the uterus, peri-oöphoritis, ovaritis, ovarian abscess, or purulent inflammation and hæmatoma of the ovary; and adhesions and loculi of pus in the parenchyma proper. He believed that in cases of destructive inflammation the interests of conservative surgery would be best subserved by operating soon after the occurrence of the inflammation. To avoid the occurrence of atrophy of the genital organs in women under thirty years of age, and to retain for them the function of menstruation and ovulation, he had practised resection of the ovaries. In the past four years he had operated upon forty-five patients, and they were in as good condition as any forty-five of ovariotomy that he had ever seen, and mentally they were far better. He had operated on thirty six cases in which the ovaries were the seat of simple cysts, and in all but five the result had been satisfactory both to the patient and to himself.

In conclusion, the speaker referred briefly to a few cases illustrating the occurrence of pregnancy after the practice of this conservative surgery. In reporting these cases he did not mean to be understood that this is the crying issue in this matter; it was rather the mental and moral and physical influence resulting from the preservation of the ovaries.

Dr. William Goodell, of Philadelphia, being too ill to continue the discussion in person, his paper was read by the Secretary.

In his experience few women had perished from

chronic disorders of these organs, even when pus was present. More women died from the radical operation than from the disease itself. Many of these women had been cured by curetting and draining the womb; others he had seen to get well by the use of rest, massage, electricity, alteratives, and by local applications, even when they had been sent to his private hospital to have their appendages removed. In a few instances among his own patients this treatment had been followed by conception and pregnancy. If it became absolutely necessary to resort to operation, then, as little as possible of the appendages should be taken away. If the tubes and ovaries were simply adherent, and not otherwise damaged, they should be merely freed from their adhesions. If they were diseased, only the unhealthy portions should be exsected. He had found that a small piece of an ovary not larger than a bean was ample enough to maintain intact menstruation and sexual feeling. The aim of modern surgery was conservation, yet the glamour of success in antiseptic surgery had so dazzled the modern gynecologist as to make him a spoiler rather than a conservator.

Dr. Luteau, being invited to participate in the discussion, said that he was decidedly of the opinion that a woman under forty years of age enjoyed better health when the function of menstruation was intact. He had never seen Dr. Polk's method of curettage and packing cure a case of pyosalpinx, but he had seen pregnancy follow such treatment.

Dr. Matthew Mann, of Buffalo, said he was very glad that these cases had been brought before the general profession in this way because there was a general idea abroad that gynecologists were a sort of animals who went around with knife in hand looking for opportunities for removing ovaries. It was seen, however, from what had been said in this discussion that the leaders in gynecology did not hold these radical views. He was entirely in harmony with the methods and conclusions of Dr. Polk. He had had women, whom he had treated in this conservative manner, express their gratification to him because he had preserved them from unnecessary mutilation.

Dr. Joseph Taber Johnson, of Washington, D. C., said all were conservative to a certain extent. He thought the radicals would object to have it stated for them that they believed in the total destruction of the woman's genital organs, and in that crowning glory of womanhood—motherhood. He did not know any operator who cut out the ovaries for the cure of a salpingitis, or removed the tubes for a slight inflammation, and where the tube was still patent. Most of the cases operated upon had been already rendered sterile by disease. It was quite likely that the inflammatory process would be set up by the operation itself, and that the last stage of these patients would be worse than the first. Secondary operations were very likely to be demanded after this so called conservative method of treatment. He feared that one result of this discussion would be to return the laity to the position in which they had unfortunately been for ages past, and that many cases really requiring operation would not come to the gynecologist in time for successful treatment.

Dr. Howard A. Kelly, of Baltimore, said that conservation was a better term than conservatism. This discussion had begun ten or eleven years ago at a time when the question of removing both ovaries when only one was diseased had come before the profession. By a study of Sir Spencer Wells's one thousand cases he had found that by leaving in one ovary two hundred and fifty children had been born; about thirteen had had recurrences of the disease, and two women had died. It had formerly been the practice to remove an ovary if a cyst the size of a lemon was found; now we knew that many of these were cysts of the corpus luteum, and they were simply punctured, the ovary not being extirpated. He thought Dr. Polk spoke too confidently regarding the nature of pathological lesions, for we were often unable to determine the exact lesions until the abdomen had been opened. In all cases where there was no inflammation he believed in leaving sound ovarian structure, but where there was such inflammation he thought we would often regret leaving ovarian structure.

Dr. Florian Krug, of New York, said that Dr. Johnson spoke as if there were two camps—the radical and conservative camps. Personally, he felt that he belonged to both camps. He knew of seven cases in which pregnancy had followed partial removal of the adnexa.

The President's Address.—Dr. Alfred L. Loomis, the President of the Congress, delivered his address on the evening of May 31st. The theme was "The Influence of Animal Experimentation on Medical Science." He said that from the beginning of history to the present century medicine had been either absolutely denied a place among the sciences or else branded as inexact, empirical, and laggard in its development and progress; yet to it alone the answer "We do not know" had been denied it. It was possible by experiment alone under control conditions to prove that no involved force had been overlooked, and that the premises were true, and the conclusions in a given case therefore legitimate. The scientific experimenter sought for truth, and truth alone. The science of medicine either stands still or investigates the mysteries of life while its myriad forces were held in perfect harmony; in other words, experimentation must be upon the healthy organism. In widespread epidemics the effect of disease was noticed on perhaps a million of human beings, and with a great sacrifice of human life; whereas in the laboratory great truths were discovered with but small loss of animal life. Every distinct advance, every established principle, and every universally accepted law of medical science had been in the past, and would be in the future, the direct, if not the immediate, result of animal experimentation.

The result of experimentation on animals within the present century had done more than all the experience of previous centuries to raise medicine to the dignity of a science, yet Galen might be said to have laid the foundation-stone of medical science. He showed that the arteries contained blood, that the lung followed passively the movements of the chest, and that the diaphragm, though important, was not the only muscle of respiration. He also demonstrated the nervous control of the voice and explained the mechanics of respiration. In addition to this, he demonstrated the movements of the stomach and intestines and laid the foundation of our present extensive knowledge of the functions of the brain and spinal cord. It was only these portions of his vast labor that had stood the test of modern scientific investigation. From Galen's time to Harvey's great discovery very little experimental work was done, and medicine, instead of advancing to a science, became the plaything of theorists and impostors. Harvey, in 1620, established his great doctrine of the circulation of the blood.

The next series of epoch-making experiments on animals was made by Galvani and Volta, in regard to the condition of the nerves and muscles. The first attempt to continue life for any length of time by means of artificial respiration had been made by Robert Cook, in 1664. This method was now the recognized means of preserving life in cases of asphyxia and in resuscitating the newly born. Boyle, near the close of the seventeenth century, showed that atmospheric air was necessary to animal life. Dr. Christopher Wrenn, of Oxford, was the first to make experiments on injecting substances into the blood-vessels. In 1866 the first transfusion of blood was made in animals. Mr. Boye afterward elaborated this method and showed that death from hemorrhage might be prevented by transfusion of blood. Bell, while experimenting on the facial nerve, established the important fact that the seventh cranial nerve was a nerve of motion and that the fifth nerve was one of sensation. This discovery had been fruitful of practical results both in medicine and surgery.

The great investigations of Magendie on living ani-

mals inaugurated the great work of the present century. The love of knowledge for its own sake was the sole motive of his work. He maintained that the science of life necessitated animal experimentation. By division of the anterior and posterior nerve-roots he demonstrated the existence of motor and sensory fibres. The impetus thus given to the study of the nervous system can hardly be fully appreciated. In addition to this, Magendie established methods of experimentation on the action of medicinal agents, and he was the first to demonstrate conclusively that poisons acted on the spinal cord through the circulation and not through the lymphatics and nerves. We might rightly regard him as the originator of the modern system of animal experimentation. Claude Bernard followed these experiments of his great teacher, and was able to demonstrate that the size of the blood-vessels was under the control of a particular set of nerves.

The speaker said that he would direct the attention of the opponents of animal experimentation to the fact that in all this list of investigations not a single experiment was directed immediately to the discovery of a cure of disease, but solely to the determination of the physiological function and normal action of the vital processes, and to defining the specific influences of given substances on the healthy living organism. The practice of medicine was not by instinct, but by the application of principles. It was not until Claude Bernard applied his experimental methods that the actions of medicinal agents were well understood. It was by such experimentation that modern therapeutics was emancipated from the bondage of empiricism, and no longer wounded friend as well as foe by aimless blows in the dark.

It was worthy of note that all these various investigators were working in one direction—the relief of human suffering. Hunter first learned by experiment on the lower animals that the growth of bone took place from the exterior; subsequently it was discovered that new bone would be developed from the periosteum after the removal of bone. This inaugurated a new era in surgical procedures. The anæsthesia of chloroform was discovered through experimentation on a low form of animal life—the ant. The illustrious Simpson perfected his experiments in the use of chloroform on animals before trying it on the human subject. Hypodermic medication was used on sporting dogs before it was attempted on the human being. All the steps which were necessary to perfect Ambrose Paré's discovery of the application of the ligature on arteries were done on animals. The practical surgeon of to-day values even more highly than these great discoveries the antiseptics which have done so much for modern surgery.

It was, indeed, a significant fact that etiology, which should naturally come first in the study of disease, had hitherto kept in the rear, because it must depend entirely upon animal experimentation for its advancement. Trichinosis was discovered by investigation on animals. It was by laboratory experiments that it had been first proven that tuberculosis was an infectious disease. The valuable studies of Pasteur had introduced us into a new and strange world. No work had ever promised greater results than his. His methods of experimentation had been imitated by investigators all over the world. The crowning glory of Pasteur's work came with the discovery of the attenuation of bacteria. It was not possible to point to work of richer or grander promise, yet it was only possible by experiments on living animals. The time had arrived, the speaker said, when abstract principles were bearing fruit in the prevention and cure of disease.

The discovery of the bacillus of tuberculosis by Koch marked another great epoch in medical history, and it was only accomplished by a continuance of Pasteur's methods of animal experimentation. The light that flashed from Koch's laboratory was the dawn of hope that was already breaking into day when we would hold in our grasp the means of preventing and curing tuberculosis.

Within the past two decades animal experimentation had accomplished more in the field of cerebral localization than in all previous centuries of post mortem study. Looking back over this history of medical discoveries it was evident that most of them had been barren of immediate results. The fatal error of the opponents of animal experimentation was that they demanded immediate results. The only ethical question was, What price should be paid for the benefit received? In the conflict with physical evil, medical science must be the first to meet the foe. No attempt had been made in this address, the speaker said, to conceal the precise methods of investigation. The question was, Does the end justify the means? In answer to this we could fearlessly appeal to all intelligent men for a just criticism. From the ignorant we need expect to receive only censure; but from those who in the valley of the shadow of death had learned what manner of men we were, we could confidently expect the answer, "We have trusted to you the lives of our dear ones; we trust to you God's dumb creation."

Fourth Day, Friday, June 1st.

The first part of the session was under the direction of the American Laryngological Association.

The Surgery of the Accessory Sinuses was the subject announced for discussion. Dr. F. H. Bosworth, of New York, opened the discussion. He confined his remarks to a consideration of ethmoidal disease. He said that while in dealing with these cavities it was only necessary to make an opening for proper drainage, in dealing with disease in the ethmoidal cells, especially where suppuration had taken place, an opening in each of the large number of small cells was requisite. But this was only possible by breaking these down into one large cavity. Ethmoidal disease set up a train of symptoms more or less neurotic in character, such as watery discharge from the nose, sneezing, neuralgias, asthenopia, and especially a peculiar condition in which the sufferer found it impossible to fix the mind upon any subject. He believed a very large proportion of cases of supposed acute rhinitis were really instances of ethmoidal disease. In a previous paper he had described five varieties of diseased conditions of the ethmoidal sinuses. Rhinoscopic examination in the inflammatory stage of the disease showed the middle turbinated body as a rounded mass encroaching upon the middle meatus of the nose. The ethmoidal cells he considered part and parcel of the turbinated bodies. The inflammatory process within the cells resulted in hypersecretion, which materially contributed to the intra-cellular distention and in a closure of the normal orifices. This led to the formation of an abscess. As a general rule, where there was a chronic inflammation of a mucous membrane in a closed cavity the tendency was to abscess formation. A "dropping in the throat" should suggest the possibility of an empyema of the sphenoidal or ethmoidal cells. As a result of persistent suppuration the lining membrane of the cells became softened. He did not attach much importance to the use of the probe in diagnosis, as he depended chiefly on the appearances about the middle turbinated body. The deceptive sense of necrosed bone could be obtained by passing a probe either below or above the middle turbinated body. He favored the use of the douche—one to two gallons of saline water being passed through the nasal cavities by the Thudichum douche at least twice daily, using the water as hot as could be borne. There was no danger of exciting ear trouble if the patency of each nostril were tested previously and the stream made to enter through the narrowed nares. After the occurrence of pus formation the cells must be broken down into one large cavity and drainage established. The cells should be uncapped by means of a snare, and then the dental burr should be used. He had never been able to freely manipulate the curette in the ethmoidal cells. In many cases it was necessary to re-

peat the operations many times over a period of perhaps a month.

Dr. J. H. Bryan, of Washington, D. C., continued the discussion. His remarks were limited to the surgery of the maxillary sinuses. As the indications for the treatment of mucocele and empyema of the maxillary sinus were the same, he wished his remarks to be taken as referring to the latter condition. Empyema of the maxillary sinus was formerly considered a condition of rare occurrence, but now it was known to be of frequent occurrence, and that marked distention of the walls of the sinus was rarely met with. Cysts and other tumors of the antrum were included in the older descriptions of empyema of this cavity. In the majority of cases it might be necessary to make an artificial opening into the maxillary sinus. Up to 1876 there were three methods of opening this sinus. If there were carious teeth present, and there usually was, they should be extracted. If the cavity were not opened by this procedure, communication would have to be established by means of a small trephine propelled by a small motor. The cavity should be perforated at its most dependent part and the opening made sufficiently large to admit of the passage of a small metallic drainage-tube about three millimetres in diameter. This procedure secured excellent drainage, and the patient could carry out a large part of the local treatment. The objections were that a sound tooth might have to be extracted, and that pathogenic germs might pass from the mouth into the cavity and infect it. If it were desirable to enter the cavity through the nose, then some modification of the Mickulicz method should be adopted. A curved trocar should be introduced along the floor of the nasal chambers, then turned outward, and made to perforate the inferior meatus into the cavity. This was not practicable if the nasal chambers were very narrow, or there was marked hypertrophy of the inferior turbinated body, and it had the disadvantage of requiring all the applications to be made by the surgeon himself. In recent cases the intra-nasal operation possessed many advantages; for other cases the alveolar method was more suitable. After opening the cavity it should be frequently washed out with a mild antiseptic solution. The irrigations might be made through a Eustachian catheter, the cavity being filled to its fullest capacity. The simpler and less irritating the application, the more readily would the secretion subside. Owing to the irregular shape of the cavity it was impossible to thoroughly distribute powders over its walls.

The speaker said that he had adapted the endoscope to these cases, and by its aid the cavity could be inspected. Such inspection would frequently show the cause of persistent suppuration. Polypi, supernumerary teeth, necrosed bone might be found to be the cause of the chronicity of these cases.

Benign tumors of the maxillary sinus were comparatively common, although up to a dozen years ago they were considered to be decidedly infrequent. These tumors might consist of cysts, polypi, osteomata, and fibromata. Among the malignant growths found here were epithelioma, carcinoma, and sarcoma.

Dr. J. N. Mackenzie, of Baltimore, said that very little advance had been made for ages in the surgery of the accessory sinuses. The interesting part of the subject under discussion centred upon the manner of reaching the interior cavities. There were several ways of opening the antrum, as had been described by the last speaker. The natural opening to the antrum was not only difficult of access, and painful in spite of the use of cocaine, but the subsequent syringing, which often required to be continued for many months, was also painful. In addition to this it was difficult to secure a free outflow of pus through the naso-antral opening. It had been proposed to remove the middle turbinated bone as a preliminary step, but this procedure did not seem justifiable as long as other methods were at our disposal. It had also been proposed to make an opening through the inferior meatus just below the normal opening, but it was a difficult procedure, and was sometimes attended with quite free hemorrhage. Moreover, the antrum was occasionally so thick at this point that it was impossible to penetrate it with a spear-shaped knife of Mickulicz. It should be noted just here that this instrument was not well suited for this operation; the drill was preferable. Entrance to the antrum through the canine fossa should only be attempted where there were growths in the antrum, or where the walls of the antrum were exceptionally thin. In his opinion the best way of gaining entrance to the antrum was through the tooth. Its greatest advantage was that it secured absolutely perfect drainage, there being a counter-point of drainage through the nose. It had been objected that this operation might involve the loss of a sound tooth, but he did not think anyone would prefer to keep a tooth and lose the middle turbinated bone. The tube could be readily plugged if one feared the entrance of food into the cavity, but as a matter of fact food did not generally gain access to the cavity even when this precaution was not taken. Sometimes a contra indication to the operation would be found in the fact that the bone of the alveolar process would be so very dense that it would be extremely difficult to drill it.

Before operating on a case of ethmoidal disease it should be recollected that where the disease was due to a polypus sufficient time should elapse before operating to be sure that the symptoms would not disappear without further interference.

Dr. John O. Roe, of Rochester, said that the treatment of disease of the accessory sinuses was largely surgical, owing to the irregularity and inaccessibility of these passages. The diseases of these sinuses should be divided into acute and chronic.

The chronic form included empyema, mucocele, tubercles, and growths of nearly every variety. The acute diseases rarely required surgical interference. Empyema from these cavities should be looked upon as a symptom rather than a disease. What was often called was, in his opinion, nothing more than a fetid discharge from an untreated disease of the accessory sinuses. Several cases were cited to illustrate certain points in diagnosis and treatment.

Successful treatment depended on a correct understanding of the seat of the disease and of the pathology. If there were no history indicating disease of long standing, he would begin the treatment usually by injections through the natural passage. When catheterization was impossible, an artificial opening should be made through the socket of a carious tooth, or if the tooth were sound, through the zygoma. If the disease did not readily subside, an opening should be made into the zygomatic fossa and necrosed bone removed.

The remainder of the session was under the direction of the American Neurological Association.

The Influence of Infectious Processes on the Nervous System was the subject for discussion. Dr. James J. Putnam, of Boston, discussed the pathology and etiology. He said that the relation of nervous diseases to infectious processes might be studied from the point of view of the bacteriologist or the neurologist. The infectious diseases which would be generally admitted to cause nervous affections were tetanus, rabies, syphilis, tuberculosis, diphtheria, lepra, gonorrhœa, typhoid, erysipelas, influenza, mumps, the acute exanthemata. the pyogenic organisms, the diplococcus lanceolatus, malaria, actinomycosis. The nervous affections following acute infectious disease were not always due to the primary infection, but to a secondary infection; or they might be only an indirect result. The diseases of the nervous system which were only so far suspected of being of infectious origin were especially beriberi poliomyelitis, Landry's disease, certain forms of myositis, neuritis, myelitis, some of the cerebral palsies of children, chorea, disseminated sclerosis and other cerebro-spinal and spinal scleroses, amputation neuritis, herpes zoster. Finally, there were various affections following in the wake of infectious processes, but hardly to be classed as indicating the action

of specific virus. Such were the constitutional neuroses and psychoses, the adynamic cerebral affections, the results of œdema or of arterio-sclerosis, various forms of sclerosis of the spinal cord, to which the nervous system was always prone, and subacute forms of multiple neuritis of the ordinary type.

A disease would be suspected to be of infectious origin when bacteria were found in the tissues; when the outbreaks occurred in epidemics, or were related to seasons or localities; when it exhibited vascular and histological changes characteristic of the infection, or specific toxicity of the blood and urine; or if it had become much less frequent since the introduction of antiseptics. The arguments were strong in favor of the infectious origin of the different forms of acute myelo-neuritis or poliomyositis. They were certainly due to powerful poisons acting like bacterial toxines. Bacteria had been found in Landry's disease, but were not yet accepted as specific. Myelitis (acute focal or transverse) could be produced experimentally by infection of cultures, or might even follow gonorrhœa. Acute multiple neuritis might follow almost any one of the infectious processes. The meningitis which followed the exanthemata was probably due to secondary infection. In diphtheria and other affections the virus seemed to be almost the equivalent of the organism in its power of exciting local reaction. The specific organisms liable under favorable conditions to cause meningitis were often present in even the healthy pharynx. If we excluded the cerebro-spinal membranes, which were a great breeding place for many bacteria, we might say that the instances of local bacterial action upon the nervous system were few; while on the other hand, the nervous system was especially prone to suffer from toxic agents circulating in the blood. These poisons were sometimes separable into several definite constituents, which varied as regards their volatility, solubility in alcohol, and their physiological action. Several of them had a strong tendency to attack the vaso-motor system, and by thus disturbing the circulation, to prevent the normal vascular dilatation so necessary for the protection of the body against the invasion of pathogenic organisms. In tetanus, the irritability of the spinal cord was heightened as in strychnia poisoning; in diphtheria the cardiac centres were sometimes strongly involved, though gross lesions might be absent; in influenza the tendency of the poison was toward the brain more than in the case of some of the analogous diseases.

The causes which contributed to increase the liability of the nervous system to suffer from the effects of infectious disease might be divided into, 1, those which increased the liability to invasion of the body by pathogenic organisms; and 2, those which lowered the resistance of the nervous system. Of the latter class were hereditary weaknesses in special directions, the presence of other poisons in the nervous system, the effects of trauma, a poorly acting vaso-motor system. Debility of the nervous system might contribute to increase the liability of the body to invasion, by impairing the vitality of the tissues which should resist the germs of disease, besides impairing the efficiency of the vaso-motor reactions.

The most important lines of research for the future were in the direction of classifying the special liabilities on the part of the nervous system to disease, independently of infectious causes; the refinement of our methods of histological research; the more wide spread and thorough study of bacteriology, and of the means of determining the toxic condition of the blood and urine.

The Relation of Infectious Processes to Mental Disease.—Dr. Charles K. Mills, of Philadelphia, then read a paper on this subject. He said that nearly a century ago Rush had declared that certain causes, as gout, dropsy, consumption, pregnancy, and fevers of all kinds produced madness by acting on the brain, in common with the whole body. Among the questions to be considered were, whether the mental disorders of well-known forms of infectious disease were toxæmic, or were due to anæmia, exhaustion, or other causes; and whether particular types of insanity were due to the action of specific micro-organisms.

Regis and Chevalier-Lavaure, in a report at the Congress of French Alienists in 1893, distinguished mental disorders due, 1, to infectious diseases; 2, to visceral disturbances; and 3, those associated with diathetic maladies. While not denying the origin of mental manifestations, and even special types of insanity, from other causes, such as traumatism, anæmia, exhaustion, and emotional shock, he believed they were sometimes due to the action of infectious and toxic agents, and probably to specific micro organisms, although the last could not be regarded as absolutely proved. The question of febrile delirium, and febrile and post febrile insanity, had been especially considered by numerous observers. A special type of confusional insanity had been suggested as following infectious and diathetic disorders. He could recall one case of acute delirious mania with hyperæsthesia, active contractions, and petechial eruption, in which the symptoms were highly suggestive of cerebro spinal meningitis; but the autopsy revealed nothing, and the case was apparently one of toxæmia associated with anæmia. Many other such cases might be cited.

In considering the analogies with nervous affections, not psychoses or insanities, but which were supposed to be of microbic origin, it was only necessary to refer to such diseases as multiple neuritis, some forms of myelitis, and chorea. The teachings of the recent epidemic of influenza were important in this connection.

Pellagra was a disease, doubtless of infectious origin, with marked nervous and mental manifestations associated with lesions of the skin, and in which pathological and microscopical investigations showed combined lesions in the lateral and posterior regions of the spinal cord.

One of the most valuable contributions on the etiology and pathogenesis of acute delirium had been furnished by Rasori, who had described in detail a case of acute delirium with autopsy, and the results of a careful bacteriological examination. The autopsy was conducted with the strictest bacteriological precautions. Two inoculations with subdural fluid led to the development of the same micro-organism. A series of inoculation experiments on rabbits then demonstrated that the bacillus obtained from the subdural fluid produced a toxic substance which destroyed the rabbit with symptoms of septicæmia in a short time.

The toxæmia of pregnancy and the puerperal state sometimes result in a mental disorder. Tuke and Woodhead believed that a considerable proportion of cases of puerperal insanity were due to toxic influence without reference to childbirth, and Olshausen observed eleven cases of psychoses following eclampsia, out of a series of two hundred cases observed. Gerdes had claimed that the eclampsia bacillus was the sole cause of puerperal eclampsia, and that this organism was found in no other disease.

The following are the author's conclusions: 1. Specific infection must be included among the causes of the mental symptoms and disease which precede, accompany, or follow febrile and other infectious disorders, though other causes are sometimes active. 2. Much negative evidence can be adduced in favor of acute delirium or acute mania being due to toxæmia, such as is afforded by autopsies. 3. Analogies with nervous affections which are known or believed to be of microbic origin favor the view that insanities with similar or related phenomena and lesions are also microbic in origin. 4. The evidence afforded by careful bacteriological investigation of cases of acute insanity is thus far meagre, and seems to show that various micro-organisms may induce the same or similar types of mental disease. 5. The mental disorders of pregnancy and the puerperal state are probably, in a considerable proportion of the cases, toxæmic, without reference primarily to childbirth; but it cannot be regarded as proved that a bacillus of either

eclampsia or puerperal mania is the sole cause of these affections.

Dr. F. X Dercum, of Philadelphia, closed the discussion with a few remarks on the therapeutics of this subject.

AMERICAN GYNECOLOGICAL SOCIETY.

Nineteenth Annual Meeting, held at Washington, May 29, 30, and 31, 1894.

William T. Lusk, M.D., President, in the Chair.

First Day, Tuesday, May 29th.

Address of Welcome.—The President, Dr. Lusk, called the society to order at 10 A.M., and introduced Dr. Fry, who read a brief address, heartily welcoming the members to Washington.

Extirpation of the Uterus in Disease of the Adnexa.—Papers in the affirmative upon this subject were read by Drs. J. M. Baldy, Florian Krug, and H. T. Hanks; in the negative by Drs. W. G. Wylie and B. McE. Emmet.

Dr. Baldy read the first paper. The discussion of the extirpation of the uterus in disease of the adnexa would, he said, be confined principally to the pelvic inflammatory diseases, conditions being considered secondarily for the reason that this procedure would be called for mostly in the former class of affections.

Certain general considerations arose in this connection: 1, Is the uterus essential or useful after the ovaries have been removed? if not, *a*, Are all patients cured after an operation requiring double ovariotomy? *b*, Are patients cured after hysterectomy when double ovariotomy has failed? *c*, Does the operation of hysterectomy increase the mortality above that of double ovariotomy? *d*, Is the retention of the uterus any disadvantage or danger to the patient? In reply to the primary question, Is the uterus essential or useful after the ovaries have been removed? the reply was that the uterus has one use in the body, that of containing and developing the human embryo. In the face of the loss of both ovaries it seemed to the reader superfluous to argue that further necessity for this organ had departed, and together with the necessity its usefulness. It was not true, as had been held, that the uterus had anything to do with those peculiarities which went to make up the womanhood of woman; this rested solely in the ovaries. Nor was it demonstrable that this organ had anything whatever to do with the integrity or support of the vaginal vault; as far as the cervix being the keystone to the vagina was concerned there was no necessity for removal of this structure. His own experience taught that there was less sagging of the pelvic floor in those cases in which the uterus had been removed than in those in which simply a double ovariotomy had been performed.

The proposition, Are all patients cured after an operation requiring double ovariotomy? was answered in the negative by a common and universal experience. Many patients returned suffering from pain, metrorrhagia, or discharges of muco-purulent matter from the uterus.

Proposition *b* could be answered only by experience. In four cases in which the patients continued to suffer after removal of the appendages he subsequently removed the uterus, with cure. In one local treatment was tried without for a year removing the uterus.

Regarding proposition *c* he had found hysterectomy with removal of the appendages less dangerous than double ovariotomy in similar conditions, while convalescence had been infinitely smoother and more satisfactory.

Regarding the question, Is the retention of the uterus of any disadvantage or danger to the patient? Dr. Baldy reminded his hearers of the fact that it not infrequently bled, was the seat of muco purulent discharge, caused sagging of the pelvic floor, was liable to undergo tubercular or malignant degeneration. It had been contended that twenty per cent. of all cases of pus tube were of tubercular origin, and a large proportion of uteri were also infected in such cases.

Where the womb was greatly enlarged, infiltrated, or diseased, it was proper to remove it; also where there was good reason to believe it would in future become the seat of disease; where its removal would facilitate an operation or give greater security against hemorrhage.

It was assumed, however, that both ovaries had to be sacrificed. It must not be understood, Dr. Baldy said, that removal of the uterus with the tubes and ovaries was recommended in all cases of pelvic inflammatory disease. He concluded by giving reasons for preferring the suprapubic method.

Dr. Florian Krug read the second paper. We were now in a position, he said, to accurately estimate the benefits derived from the old operation of removal of bilateral purulent disease of the appendages, and to say in how far the operation had failed. Careful observation, devoted to cases for some time, demonstrated that while pathologically they were cured, but few were symptomatically relieved. The cause of the failure rested in not removing the original persisting source of infection, the uterus. Either the cases operated upon by those who claimed that the uterus, when left, was not a cause of further symptoms, and might be rendered innocuous by mild treatment, were not thus cured, or else the gentlemen making these statements had submitted to their skill the most simple cases, as a rule, and in the severe ones had failed to observe the results of their work. The cause of continuance of distressing symptoms was the primary lesion in the uterus; the effect of the premature menopause upon the sympathetics; the irrregular and delayed involution of the uterus; the adhesions formed between the intestines and raw surfaces in the pelvis; the possibility of repeated infections of the uterus, of ventral hernia, owing to the different methods of drainage; and many other lesions and malpositions natural to the uterus, repeatedly inflamed and deprived of its supports. Broadly stated, a continuance of the symptoms is due to retention of the inflamed uterus, which is the primary seat and original cause of every lesion found in these cases, and the effects of its continued influence upon the pelvis, lymphatics, and nerves.

Dr. Krug related some cases, and then said: Such a study substantiated me in the belief and confirmed me in the method I now employ in every case demanding the sacrifice of both adnexa, removing the uterus also. The following reasons appealed to him: The uterus without the adnexa is a useless organ and devoid of physiological function. It is not innocuous; it is, on the contrary, positively a diseased and therefore harmful organ. Histologically the tubes are but parts of the uterus, and their removal is partial amputation of the uterus; therefore, why should we not go a step further and remove the rest of the diseased organ. Is it conceivable—clinically, is it a fact—that those projections of the uterine tissue which we call the tubes are alone diseased, and not the rest of the uterus?

Leaving the uterus merely invited future infection. Did removal of the uterus involve increased danger, some objection might be made to it, but it did not. On the contrary, it lessened the mortality in the hands of those familiar with the technique of hysterectomy.

That I may not be misunderstood, in closing I will emphasize the fact that I am dealing only and solely with those lesions of the adnexa where both are the seat of disease precluding the possibility of cure by all conservative methods.

Dr. H. T. Hanks, of New York, read the third paper. Formerly when patients continued to suffer after he had removed the diseased appendages he had tried to explain the fact on the supposition that he had not made a complete operation; but on further observation he became convinced that this was not the case, at least not often in his practice. Where the uterus was safely removed with the adnexa the patients, he believed, would have greater security against troublesome after-symptoms. Drainage

through the vagina was obtained and constituted the ideal drainage; nearly every patient convalesced without complications. One should not, however, urge removal of the tubes and ovaries and with them the uterus, unless there were evidences of permanent lesion causing the symptoms from which the patient complained. The vast majority of cases of catarrhal salpingitis could be cured without operation.

There were three conditions falling properly under the subject for discussion in which Dr. Hanks thought the uterus should be extirpated in connection with the appendages. First, in old pyosalpinx, with much exudation and purulent endometritis, or chronic catarrhal endometritis. Second, in puerperal salpingitis and ovaritis and probable puerperal endometritis, without evidence of drainage into the uterus. Third, if in removing the ovaries and tubes many adhesions were broken up, the uterus being retroverted or retroflexed and held down.

Dr. Bache McE. Emmet was called upon to read the first paper upon the negative side of the question. His remarks were more especially in reply to points made in the discussion before the New York Obstetrical Society, October 3, 1893, Dr Polk and Dr. Krug having taken the affirmative view on that occasion. Were we, he said, to include in our scope the much larger question, "hysterectomy for suppuration within the pelvis," we would open up quite another line of thought, one which had been well explored. In France, Germany, and Belgium, this operation had won a place.

To revert to our more limited area of thought concerning the question of removal of the uterus with the appendages, once we have opened the abdomen and found the latter diseased so that they call for complete removal. I say advisedly "once we have opened the abdomen," as opposed to the French school. Dr. Polk insists upon this mode of approach to the adnexa. Finding that we have to remove these in their entirety, he recommends and asks our approval of removal of the uterus in all cases. Dr. Polk does not make the distinction of pus sacs which cannot be enucleated, and in which the advantage of drainage derived from removal of the uterus we can appreciate.

Dr. Emmet went on to give reasons for dissenting from the extreme view of removing the uterus simply because on opening the abdomen it was considered necessary to remove the adnexa.

Dr. W. Gill Wylie opened his remarks with the question, When we remove the Fallopian tubes and ovaries should we remove the uterus also in all cases? If he must answer this question by yes or no he would say no. The uterus should be removed with the tubes and ovaries when there were indications of malignancy, of intractable disease within the uterus, of septic disease, in fibromata, and as a rule when the patient was over thirty-five years of age. In the large majority of other cases where the adnexa had been completely removed, subsequent suffering had been slight. Most of those who had suffered would not had the uterus been divulsed, curetted, and drained before or subsequent to the removal of the tubes and ovaries. According to his limited experience women who had had the uterus removed with the adnexa had had less reflex disturbances such as were common at the menopause in those with uterine disease.

We should not be carried away with our ability to remove the uterus with little more risk than to remove the adnexa alone, and allow ourselves to remove that organ in all cases without particular study of the remote and immediate results after a large experience. Dr. Wylie said he was not willing to assert that even in the fully grown woman removal of the appendages did not after a time cause loss of sexual desire and prevent satisfactory consummation of sexual intercourse. The younger the woman the more marked would be the atrophy of uterus and vagina and loss of elasticity and healthy tone.

Although his first hysterectomy was done twelve years ago, until within a few years his operations had been done almost solely for cancer and fibroma, and with few exceptions in women over thirty, usually over forty, so that he was not prepared to say what were the results of complete removal of that organ. It was, however, attended by possible accidents at the time of the operation or afterwards, which made it more dangerous than simple removal of the appendages when there was no special indication for going further.

Verbal discussion being called for, Dr. Wathen, of Louisville, expressed himself as positively opposed to removal of the uterus unless there were some condition in the organ itself calling for it.

Dr. Byford, of Chicago, thought it absurd to say the uterus should be removed in all instances where it was necessary to remove the adnexa. The two conditions in which the uterus should also be taken out were, 1, where it was safer as an operative procedure than to remove the appendages alone; 2, where the uterus could not be cured without removing it.

Dr. G. M. Edebohls, of New York, thought there was both an affirmative and a negative side to the question. In a nutshell, there were two indications for going on to remove the uterus: 1, where the conditions (pus, etc.) necessitated downward drainage; 2, where the diseased condition of the uterus demanded its removal.

Dr. Cushing thought the views of the speakers not so far apart as appeared. He spoke more especially upon the question of the comparative safety of simply removing the adnexa or removing these and the uterus as well. Only few gynecologists could assert that hysterectomy was as safe; in the hands of the great majority it was a much longer and more difficult and dangerous operation, and in view of the fact that in the class of cases under discussion removal of the appendages alone effected a cure, he would rather limit himself to that procedure.and remove the uterus subsequently if it should prove necessary.

Dr. J. E. Janvrin, of New York, thought the only point which concerned us was what diseases of the uterus, and how much, demanded its removal.

Dr. Gordon, of Maine, thought that if the uterus were healthy and in place, there was every reason for leaving it.

Dr. Noble, of Philadelphia, believed in removing the uterus only in case there was a definite object, as incurable disease of that organ itself. He was opposed to taking it out simply because the tubes and ovaries required removal.

Dr. W. R. Pryor thought few conditions existed requiring removal of the adnexa which did not also call for removal of the uterus, nor would he consider it advisable to leave any of the cervix to complete the vault of the vagina.

Dr. A. P. Dudley thought the papers supporting the view that the uterus should also be removed implied that the authors in the past had failed to cure their patients when they had removed the adnexa for catarrhal salpingitis. He opposed hysterectomy where the uterus showed only a catarrhal condition.

Closing remarks were made by the authors.

The Treatment of Face Presentations.—Dr. Reynolds, of Boston, opened the discussion upon this subject with a paper. The following summary was made: When a face presentation is detected before the engagement of the face and before rupture of the membranes, there is always hope for a spontaneous restoration of flexion. Therefore adopt postural treatment and gentle external manipulations. When the membranes rupture early an external or bipolar version should be performed at once in any case in which the condition of the cervix renders manual dilatation dangerous, but in ordinary conditions manual dilatation should be undertaken, the head flexed by the hand and subsequently the appropriate operation should be performed.

When the membranes persist until the cervix is completely dilated an anterior position of chin should be left to nature so long as its progress is rapid and the fœtal heart

is steady: otherwise the patient should be anæsthetized, and the head flexed. The posterior position of the occiput so produced should not be left to nature, but should be either treated by version or, preferably, rotated to the front. It may then be left to nature or treated by forceps.

Posterior positions of the chin should never be left to nature, but be subject to immediate manual flexation. The anterior position of the vertex which then results may either be left to nature or be delivered by forceps. In neglected cases in which manual flexation is contra-indicated version should be chosen if practicable, if contra-indicated apply forceps to face, but chin should first be front.

In cases in which the face presentation is due to some other mechanical obstruction the treatment should be determined by the latter factor. The abdominal methods of delivery are never indicated in uncomplicated face labor.

Management of Face Presentations.—Dr. Charles Jewett, of Brooklyn, said his views of treatment of face presentations assumed two things: 1, the mechanism of face birth is abnormal and may of itself constitute a serious complication of labor; 2, presentation by the face is more frequently associated with other complicating conditions than are vertex births—*e.g.*, small pelvis, large child, prolapse of small parts.

The mechanism tends to dystocia; complete adaptation of the head to the pelvis is impossible in mento-posterior positions.

More important is the difficulty of rotation. Yet in wholly uncomplicated cases of face presentation spontaneous birth is the rule, although the labor is somewhat longer. The mortality of the children is greater. The graver difficulties of face birth arise chiefly from its complications—disproportion between head and pelvis, prolapse of fœtal members, or failure of pains—anomalies which are much more frequent in face than in vertex presentations.

In treatment cases could be divided into two classes: 1, those in which the head is movable at the brim or can be made so by pushing it up; 2, those in which the head is permanently engaged.

In the first, if the chin were anterior and pains failed, apply forceps. If the head were large, cord or arm prolapsed, version would, as a rule, best serve the interests of the child. Like in the former, if the chin were posterior spontaneous birth was generally possible if other conditions were favorable. He preferred, however, to reduce this presentation to a simpler one, the first choice being as a rule to bring down the occiput. Conversion of face to vertex presentation might be tried after the face had sunk some distance into the pelvic cavity by postural methods. For either correction after engagement or for forceps extraction, Walcher's position might lend important help.

Dr. C. P. Noble, of Philadelphia, said that while he was in accord with the readers of the papers, he wished to suggest the propriety of resorting to symphyseotomy in cases of face presentation, head engaged, waters broken.

Dr. Edward P. Davis, of Philadelphia, continued the discussion with a paper.

Statistics showed the best results to mother and child in spontaneous delivery in face presentations. Methods best adapted to secure this result must be based upon early diagnosis, hence the importance of perfecting the knowledge and practice of palpation. The treatment best adapted to secure spontaneous labor consisted in retaining the membranes unbroken until the time of spontaneous rupture, sustaining the patient's strength, and placing her in posture to favor rotation of the chin anteriorly. With face looking to left side, the mother should lie upon the left side, thighs flexed.

As soon as dilation is complete, the obstetrician is to choose between radical interference by version or an effort by the methods of Bandelocque and Schatz to correct the face presentation by converting it into an occipital one. The choice should depend upon the size of head, pelvis, and condition of pelvic floor.

Before concluding Dr. Davis remarked that obstetricians were familiar with the facility with which faulty presentations could be remedied under complete anæsthesia and with a roomy pelvis in the oblique diameters, and suggested that it might be well to secure these conditions, if absent, by symphyseotomy.

The discussion was participated in by Drs. R. A. Murray, Fry, the President, and others.

Dr. Fry spoke of the necessity for several assistants in order to place the anæsthetized patient in the genupectoral position, and recommended Trendelenburg's over a reversed chair.

Dr. Lusk related a case brought to the maternity after the attending physician had injured the uterus, bladder, vagina, and rectum by trying to deliver by forceps. He then performed symphyseotomy and extracted the child with ease, although, of course, the mother, being already moribund, died.

AMERICAN OTOLOGICAL SOCIETY.

Twenty seventh Annual Meeting, held at Washington, D. C., Tuesday, May 29, 1894.

Brain Abscess.—Dr. Herman Knapp, of New York, presented a report of a case of otitic brain abscess, opening of mastoid, tympanum, and skull, evacuation of abscess, hernia cerebri, evacuation of another abscess, and recovery. The patient was nine years of age and had suppuration of the ear following scarlatina. She presented the aural and general symptoms of confined pus, choked disk in both eyes, more marked in left eye, moderate in right. A diagnosis of intracranial abscess was made. She had well-marked homonymous right-sided hemianopsia. An ice-bag was applied, with cleansing with boracic acid, when the swelling of the right optic disk diminished; no other change. Prognosis, perhaps fatal, and treatment by operation was advised. Two weeks later the right optic disk was normal, left much less choked. The memory, which had before been feeble, was now good; pulse, 120; temperature, 100.2° F.; no swelling over the mastoid, large perforation in the membrana tympani; no dead bone was felt; the tip of the mastoid was tender; MacEwan's symptom was present. The operation was performed the following day, Dr. M. A. Starr being present. Parts shaved and cleansed. The mastoid was of compact texture and normal. The lateral sinus was brought into view, blue and pulsating. Schwartze's modification of Stocke's operation was followed, and when the chisel had opened into both antrum and attic, pus suddenly ceased to flow from the canal. The skin incision was enlarged, skull trephined, and healthy dura incised. A hypodermic needle passed into the brain substance brought pus, which was evacuated through an incision made down to the abscess along the needle; the wound was cleansed with 1 to 5,000 solution of bichloride, drainage-tube inserted, and dressed with absorbent cotton and roller bandage. A hernia cerebri resulted, attaining the size of a goose-egg. No improvement resulting, a second abscess was discovered in the hernia and evacuated, when improvement immediately took place; the hernia disappeared by retraction, and the patient was discharged well three months after.

Dr. Carmalt congratulated Dr. Knapp on the happy outcome and on his skill in the diagnosis of the case. He could add nothing to the discussion, and had nothing but respect and admiration for the way in which the work was carried out.

Dr. B. Alexander Randall spoke of a specimen in a case where, in spite of an existing meningitis, he was enabled to suspect cranial abscess, mainly on account of the behavior of the pulse. On post-mortem examination the whole base of the brain was found covered with

thick pus in which were three abscesses, one on either side of the medulla and the third in the cerebellum.

In answer to a question by Dr. Lucien Howe, as to what symptom made Dr. Knapp believe the child was growing worse, Dr. Knapp stated that the principal one was the behavior of the disks. In brain tumor, the disks are choked equally on both sides; in abscess, more on the affected side.

Dr. W. B. Johnson, of Paterson, N. J., spoke of a case which he had seen in its last stage. The purulent discharge seemed to have come from the lateral sinus to the neck, where there was a large swelling and fluctuation. The autopsy showed a large quantity of very green, bad-smelling pus, mostly on the petrous portion of the temporal bone, and along the base of brain, and a point of perforation between the base and the petrous portion, where it had extended from the attic.

Dr. Bacon spoke of having seen Dr. Knapp's case in company with Dr. Blake, and was very much interested in the result.

Suppurative Otitis.—Dr. F. M. Wilson, of Bridgeport, Conn., read the next paper, reporting five deaths following suppurative otitis and two autopsies. In one there was an erosion downward through the skull along the neck and into the mediastinum and left lung. Practically no cerebral symptoms. Perhaps early removal of ossicles or opening of antrum might have prevented the result.

Case II.—Sinus thrombosis with extension through neck and into lung without pain, tenderness, or tenderness in neck.

Case III.—Some pain in auricle, none in mastoid; later tenderness in neck. Mastoid opened and cleansed, with temporary improvement; then recrudescence, afternoon rise of temperature. Pericarditis; death. No autopsy.

Case IV.—Cerebro-spinal lepto-meningitis. Infection of soft parts.

Case V. was most noteworthy, from the amount of pus found in the neck—about a pint.

Dr. Knapp thought the consideration of indications for operation were very important. He had operated and found no pus, and bone healthy, and had also perhaps sometimes waited too long.

Dr. Randall asked whether there were not clear cases of sinus thrombosis causing septicæmia, which later disappear and recover without operation, and referred to a case published in the *Philadelphia Polyclinic*.

Dr. Wilson replied that in the presence of symptoms of sinus thrombosis, and in view of the quickness it was best to operate quickly.

Middle ear Operations for Improving the Hearing.—Dr. E. B. Dench, of New York City, read a paper on the utility of middle-ear operations as a means of improving the function of the organ. After a general classification of the various procedures, emphasizing the importance of diagnosis, the method employed in locating the lesion in the conducting mechanism was described. The operations receiving particular attention were synechiotomy, removal of the membrana tympani, malleus, and incus, with mobilization of the stapes, and the division of adhesions between this ossicle and the adjacent tympanic walls. Special emphasis was laid upon the operative technique and the advisability of employing local anæsthesia in all cases where the operation was performed for improvement in function alone.

The removal of the stapes, both in the suppurative and non-suppurative cases, had not yielded as uniformly good results as removal of the two larger ossicles and artificial mobilization of the stapes.

In all 63 cases had been operated upon for improvement of the hearing, and in 55 the result had been satisfactory.

Dr. C. J. Blake made some comments on the position of the incision, and the possibility of the view being obscured by hemorrhage if done too hurriedly. The healing is very rapid. In a case where bands about the stapes were divided, when the posterior were cut, improvement of hearing resulted, but afterward when the anterior adhesions were divided the hearing dropped.

Dr. S. Theobald remarked on Dr. Dench's experience with cocaine as a local anæsthetic.

The Foramen of Rivinius.—Dr. B. A. Randall, of Philadelphia, Pa., read a paper on statistical studies of the foramen of Rivinius and of the axis of the external meatus in their relations to intratympanic surgery. He described his method of mensuration of 100 skulls. He found the axis of the bony canal in the vertical plane invariably upward, average 10°, and in the horizontal plane generally forward, average 10°, although one was found of 2° backward. He also presented statistics showing that in only 25 per cent. of 260 drum-heads was the foramen of Rivinius present. It appears to go to prove its developmental rather than its congenital origin. He thought it was rather a large load for Trölsch's white cat to carry.

Dr. Randall also exhibited casts of the calf labyrinth, showing the fact that the ear is fully formed at birth.

Stapedectomy.—Dr. F. L. Jack, of Boston, read a paper on this operation. He recited the indications for operation, and stated that in cases operated on early there is much less resistance and more improvement, and quoted a case where two years after the removal of the stapes the hearing was almost normal.

Dr. Jack also reported eleven operative cases where the lateral sinus was opened or exposed and other complications, concluding with the removal of an osteoma from the meatus, and exhibited the specimen.

Dr. Blake had found the consensus of opinion in regard to the removal of the stapes the same as here.

Dr. Gorham Bacon exhibited photographs of the temporal bone and mastoid cells, also of the membrana tympani.

Thrombosis of the Lateral Sinus.—Dr. C. J. Blake, of Boston, on behalf of Dr. Crockett, of the Massachusetts Charitable Eye and Ear Infirmary, reported a case of lateral sinus thrombosis, with operation and recovery. Recovery was uneventful. Patient took five to seven pints of milk daily and plenty of stimulants.

Dr. Dench thought there may have been too much fear of interference with the sinus.

Dr J. L. Adams, of New York, related a case of removal of the malleus and incus with removal of pus.

Dr. Theobald questioned whether it was the removal of the thrombus or the removal of the pus that was the factor in the favorable termination in Dr. Crockett's case.

Dr. Blake thought it was the soft portion of the thrombus.

Statistics on Deafness Wanted.—Dr. Blake introduced Professor Gordon, of the National Deaf Mute College, as the representative of Dr. A. G. Bell, an honorary member of the society, in behalf of the Volta Bureau for the Increase and Distribution of Information in Relation to the Deaf, and solicited papers or statistics of any kind, which the society would store or distribute. He also inquired in relation to instruments for improving the hearing.

Dr. Knapp and others, who had had experience with the vibrophone, found that at first there was an apparent improvement in hearing, yet it soon vanished. He thought the principle wrong, as strong noises were not good for the ear, and referred to boiler-makers' deafness.

Dr. Walter B. Johnson, of Paterson, N. J., exhibited an insufflator, very simple, and which had been in use many years, but had apparently been overlooked.

Dr. Dench exhibited water-color drawings of the membrana tympani in health and disease, executed by Dr. Ward A. Holden, New York.

Russia has a physician to every 6,000 of the population. In the cities the proportion is about 1 to 3,000, while in many of the rural districts there is only one doctor to every 30,000.

Correspondence.

THE OTHER SIDE OF "MUST THE PARSON PAY?"

To the Editor of the Medical Record.

Sir: I beg leave to call attention to the question, Must the Parson Pay? which is discussed in your issues of April 21st and May 19th. I am not very much inclined to controversy, and while there is a shadow of fact in some parts of both articles, there seems to be a broad, deep selfishness in the articles hardly to be expected from the medical profession, notably founded upon science, education, and philanthropy; but in these two articles the latter principle is eminently wanting. In the first place, it should be understood that the average income of the entire ministry of the United States is *less* than five hundred dollars, and I know of no physician, sticking to his professional choice, who does not get more than that. The quotation from the *British Medical Journal* is evidently founded upon the endowed clergy of the Episcopal Church, a condition not found prevalent in this country. Of course the articles are both intended to shame, instead of dignify, the ministry, by the use of the terms "mendicant," "pauper," etc. That a few clergymen get salaries larger than many physicians, I presume there is no doubt; but that the actual average receipts of all the physicians in the United States are three times as much as the average salary of the ministers, I think there is no doubt.

From the meagre salaries of the ministry, there are philanthropic out-goes, unknown to the other professions, in the thousand and one calls of the church, there is no question. And while the physician charges a dollar a call for *his* services, the minister, as pastor, within the borders of his own church and out of it, makes a thousand calls for which he gets not a cent; but in hundreds of cases takes from his meagre stipend to contribute to the needs of the denizens of the cabin and hovel; and even, as I and others have done, pays the physician for going to the homes of poverty, where he would *not* go if we didn't pay. I am glad to admit that such are exceptional cases, and also that I have received warm and cordial favors in my family from physicians not by any means within the borders of my own church, but of the school of my choice without regard to church, so that I am not inclined to believe the two articles represent the coldness of the medical profession as a whole. I have offered to pay my doctors' bills *always*, and in but two instances have they accepted; but the uniform sentiment expressed has been, "Oh, no, I hope I am not mean enough to take pay from a minister, for he has a hard enough time any way." The two exceptions were: in one case, the doctor was a miser, which is an exceptional case; the other was from sectarian bitterness of opposition to the views I advocate, also an exception. As a rule, physicians are not very great payers to churches, although some are both very liberal and very devout, as the study of anatomy, physiology, and physical conditions has a tendency to materialism, not always prominently outspoken. Your correspondent of North Carolina says: "Some of us (Durham doctors) have rebelled," etc. Well, that is nothing new in North Carolina, whether doctors or others; and in his striving to be witty in denominating the M D.s as Israelites and the ministry as Egyptians, it does us marvellous injustice; for instead of being bondmasters, as a whole, the clergy are bondmen, at the bidding of the public. There is great justice in one point of your North Carolina correspondent's letter, and that is his reference to ministers bolstering up the various nostrums called patent medicines. The most of us are ashamed to know that there is too much truth in that.

To close, let me say that when the medical profession pay out as much money in proportion to what they receive as the ministry, and do more for nothing than the pastors of churches, than the advocates of morals, religion, charity, and philanthropy in the ministerial profession, it will be time to call us "mendicants," "paupers," etc.; and hardly until then.

A Minister.

POTASSIC CYANIDE: HOW MUCH IS A FATAL DOSE?

To the Editor of the Medical Record.

Sir: The killing of the vicious elephant with potassic cyanide suggests the question, How much is a fatal dose for a man? I believe that 2 grains may be regarded as about the extent of tolerance. I am reminded of the case of a young lady who took 2 grains and died in twelve minutes; also of a man in whom 4½ grains proved fatal in less than thirty minutes.

The Medical Record of December 5, 1891, contains the report of a case in which 15 grains were believed to have been taken without a fatal result.

Mr. X——, a druggist, was found in his room in an unconscious state, with livid countenance, dilated pupils, stertorous respiration, etc. Physicians were called, who, having no clew as to what he had taken, suggested no antidote, but recognizing the indication for rousing the nerve-centres, administered ammonia, ether, and other stimulants freely, hypodermically and otherwise.

His former medical attendant was wired, but did not arrive till the patient was so far recovered as to be able to give an account of himself. He said he dropped the poison into a glass, threw in a couple of ounces of whiskey, and drank it off. Selecting a piece from his can, he showed it to the doctor as what he thought was about the quantity he put into the glass. This piece was larger than a Lima bean and weighed 19½ grains; hence it was believed he swallowed at least 15 grains. This, too, when his stomach contained little, if any, ingesta. But this is scarcely probable, since the report is so indefinite throughout as to greatly impair its value. It cannot be supposed that the patient in his then half-dazed condition was very exact in his estimate. Then we know that the cyanide is very sparingly or slowly soluble in ordinary whiskey. And if he drank it down immediately, as we are left to infer, much of the poison may have remained in the glass undissolved. We are not informed that an examination was made to see if any residue remained in the glass or had been thrown out upon the floor of his room.

I have quoted at considerable length from the report because the case was a remarkable one if the guessing on the part of the patient and the doctor were even approximately correct. It was a heroic dose to say the least. But such reports, to be of scientific or practical value, should be characterized by precision and exactness of detail.

C. E. Bennett, M.D.

Cortland, N. Y., May 29, 1894

The American Dentist is credited with many wonderful devices, but a London correspondent of the *British Medical Journal* has discovered an especially new and offensive invention. He says: "Some Americans are introducing here the practice of inserting diamonds for vulgar display into the front teeth. It is surely enough that our sense of decency and propriety should be so often shocked by unsightly gold crowns and fillings, without being further offended by this new atrocity. I believe it has only just started here, and this, therefore, is the time to denounce it, and my excuse for troubling you."

Puerperal Eclampsia.—Drs. Rapin and Monnier, of Nantes, claim to have discovered a bacillus in the blood of women suffering from puerperal eclampsia. It is of dumb-bell shape, the central portion staining more deeply by Gram's method than the ends.

Therapeutic Hints.

Furunculosis.—Spray with carbolic solution two per cent.—PIRONDI.

Dysentery.—Milk diet, and one of the following pills every two hours.

Calomel	60	centigrammes
Powder ipecac	40	"
Extract opium	5	"

—MAGET.

Hypodermic Solutions.—

Creosote pure	gram.	1
Aseptic olive oil	"	14
Iodol or iodoform	"	1
Olive oil	"	29
Crystals of phenic acid	"	1
Olive oil or water with a little alcohol	"	49
Neutral hydrochlorate of quinine	"	1
Distilled and boiled water	"	9
Antipyrine	"	1
Distilled water	"	10

—*Journal de Méd.*

Chronic Alcoholism.—Strychnine, $\frac{1}{40}$ grain hypodermically for the first dose. One twentieth grain was injected on the seven subsequent days, and he was then dismissed with one grain of the drug in sixty pills, which were to be taken one a day every alternate week. At the end of fifteen months the patient reported himself completely cured.—JERGOLSKI.

Anæmia.—To meet the digestive defects:

℞ Hæmogallol ..... ℥ ij.
Fel bovis insp. ..... ℈ ij.
Ext. pancreatini ..... ʒ ij.
Strychniæsulph ..... gr. j.
Caffeinæ mur ..... ℥ j.
Ext. colocynth ..... gr. x to xx.
Ext. taraxac ..... ʒ j.

M. et fit pil. XL. Two t.i.d. after meals.

—PORTER.

Snake Bite.—Inject a ten per cent. solution of chromic acid into the subcutaneous tissue around the wound.—KARLINSKI.

Chronic Gonorrhœa.—

℞ Hydrarg. ox. flav. ..... gr. iv.
Lanoline,
Vaseline alba, ... āā ʒ ss.
Ol. olivæ, q. s

Apply to urethra by means of flexible French bougie of suitable size.

—MARCUS.

Piscidia Erythrina (Jamaica dogwood) in twenty drop doses every two or three hours, is preferred to the usual narcotics in dysmenorrhœa by LIÈGEOIS.

Antipyrin mitigates the pains of uterine cancer, dysmenorrhœa, labor pains, aortic aneurism, etc.—MARTIN.

Diabetes.—So long as opium effects a reduction in the amount of sugar we may safely increase the dose. Glycosurics are singularly tolerant. A combination of liquor opii and acetate of morphia in solution is the best preparation.—RALFE.

Syncope.—Inclination of the head downward and backward, transfusion of blood, subcutaneous injection of a solution of common salt, electrization of the phrenic nerve, artificial respiration, when respiration also is affected at the same time as the heart.—BOBROF.

Leucorrhœa, when chronic:

Cupri sulphate	gr.	xv.
Aq.	℥	viij.

Inject.

—GALLOIS.

Diabetic Coma.—Large doses of castor oil.—SCHMITZ.

Osteomalacia—

Phosph.	centig	.05
Ol. morrhuæ	gram.	50.00

Teaspoonful once daily.

—STEINBERG.

Boils.—Apply on compress:

Chloroform	gram.	30
Essence of cloves	"	5–10
Beechwood creasote	"	1–2
Camphorated oil	"	50

—GOURINE.

Constipation in Infants.—Abdominal massage.

Cocillana.—Five to twenty-five minims of the fluid extract given in chronic bronchitis secures expectorant effect without depression, while it increases appetite.—WILCOX.

Chilblains.—

Oxide of zinc	℥	ss.
Glycerine	℥	iss.
Lanolin	℥	j ℈ iij.

To be rubbed in after washing.

—STERN.

Itch.—

Creolin	2.50
Vaseline	50.00

—DE LOLLIS.

Pertussis.—Rectal injections containing two litres of carbon dioxide mixed with a few centigrammes of pyridin, repeated after each access of cough, or at intervals of a few hours. The worst cases yield to treatment in a week.—BERGEON.

Insect Bites.—

Pulv. ipecac,
Alcohol,
Ether, ... āā equal parts.

Apply.

—*El Siglo Medico.*

Infectious Angina.—

Essence of petroleum	gram.	20 00
Sulphuric ether	gram.	5 00
Powdered iodoform	centig.	0.50
Essence of mint	gtt.	xx.

M. S.: Apply.

—DUMONT.

Tic Douloureux.—Agents which act on the vaso-motor system, such as aconitin, nitro-glycerine, etc.—DANA.

Scrofulous Glands.—Anodal diffusion of iodine with aid of negative pole of galvanic battery.—*Virg. Med. Monthly.*

Pneumonia.—Bandage chest in oil-soaked bandages, with dry bandage outside.—PARKER.

In Acute Dysentery, involving the colon high up, enemata containing two or three drachms of subnitrate of bismuth is more efficient than the exhibition of bismuth by the mouth.—WOOD.

Cocaine should be injected into the interior and not under the derm of the mucous membrane or the skin. This is the intradermic method of Reclus, which should be substituted for the hypodermic method. By this means the introduction of a substance into the vein is avoided, and the risk of accidents therefore minimized.—MAGITOT.

Erysipelas Inoculations for the cure of malignant growths is now an established method of treatment. The results in four cases of inoperative sarcoma have been so encouraging that, for the present at least, I have decided to use the toxic products of erysipelas in preference to inoculating the germ itself. The advantages of doing so are very great. The necessity for isolation is avoided and the action of the products can be so carefully regulated that the danger element can be entirely eliminated.—COLEY.

Unpigmented Scars may be improved by tattooing with a skin-colored mixture made with sulphate of baryta, yellow ochre, and water.—PASKIS.

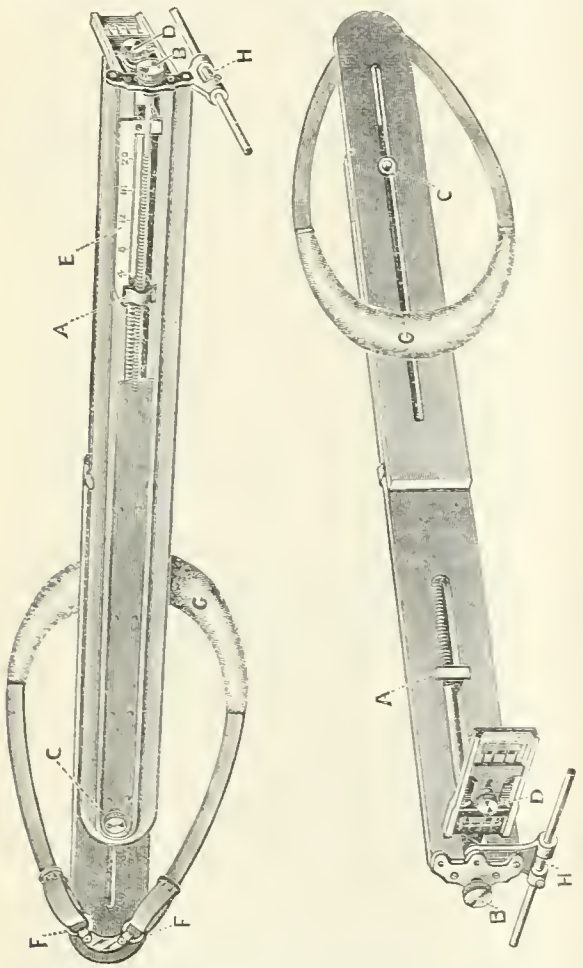
New Instruments.

THE USE OF THE WEED SPLINT FOR EXTENSION OF LOWER EXTREMITY.

By H. A. WEED, M.D.,

LOCKPORT, N. Y.

In presenting the Weed splint for extension of the lower extremity to the profession, I do it after ten years of use in private practice, with the conviction that it will prove a more convenient and efficient means of obtaining continuous extension of the lower extremity than any now in use, and will save the busy practitioner much valuable time and trouble. The splint being attached to the patient only, and not in any way fastened to the bed, makes it far more convenient and easily adjusted than the weight and pulley, for the reason that any smooth, hard bed at hand can be used; while with the weight and pulley a specially arranged bedstead must be obtained, and much valuable time lost in preparing to reduce the fracture. The Weed splint has a spiral spring



so arranged, that it will keep a steady tension on the limb at all times, and of sufficient strength to fulfil all necessary requirements.

The patient may be moved from one bed to another, or his position changed, at any time, without disturbing the dressings, or removing the extension. With the Weed splint there is no tendency of the patient to slide downward in the bed; or should the lower end of splint rest against the foot of bed, it would not affect the extension on the limb in the least. The splint will maintain a steady tension of from one to twenty-five pounds, as the operator may desire.

In reducing a fracture of the femur with the Weed splint where there is much shortening, the tension being applied with a fine screw, the limb will be brought down so gradually that the reduction will be accomplished without pain.

The Weed splint has a long lateral wood support, extending from the bottom of the foot to the armpit, thus giving ample support to the injured limb, and keeping it at all times in line with the body; and in case of hip or knee joint disease, where extension is indicated, keeping the joint as nearly as possible motionless.

The Weed splint also supplies a valuable addition to the appliances for ambulance use. The long lateral wood splint affords facilities for binding and supporting the broken limb, while the ready application of extension at the place of accident prevents the ends of the broken bone from seriously injuring and lacerating the soft parts, and the severe pain caused thereby, while in transit to hospital.

Medical Items.

Contagious Diseases — Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 2, 1894.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	5	1
Scarlet fever	114	12
Cerebro-spinal meningitis	1	8
Measles	152	6
Diphtheria	213	68
Small-pox	44 [1]	6
Cholera	0	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0

[1] Eight of this number were received at hospital preceding week for observation.

Suppression of Italian Universities.—The Government of Italy has decided to close the universities of Catania, Messina, Modena, Parma, Sienna, and Sassari, in each of which there is an average attendance of only a little over one hundred students. The revenues of these universities will be apportioned to the others in the kingdom, of which there still remain far too many.

The Russian Government promises an appropriation of 50,000 rubles to help defray the expenses of the next congress to be held in that country.

Dr. Haffkine is at present in India engaged in his propaganda of anti-cholera inoculation. He has been seconded in his efforts by the members of the Indian Medical Service and the native physicians. The credit of the idea, whatever the ultimate value of the procedure may be, belongs without doubt to Ferrán, of Spain.

Dr. J. W. Ballantyne, of Edinburgh, has brought out the first number of *Teratologia*, or "quarterly contributions to antenatal pathology." This is entirely a new step in medical literature. The contents of the first number consists of a long and interesting paper on the fœtus amorphous, embellished with three plates. Then follows an article on "Fœtal Pathology in the Past," and the concluding papers are taken up with reviews, abstracts from current literature, etc.

"Quacks."—The Lady Morgan of my early days (writes Autolycus, in the *Pall Mall Gazette*) used to quote the following (supposed) correspondence with the late Dr. Jenner:

> I've despatched, dear Lady Morgan, this scrap of a letter
> To say that Miss Charlotte is certainly better.
> A regular doctor no longer she lacks,
> And therefore I've sent her a couple of quacks.
> (With the above note came a couple of wild ducks.)

Lady Morgan's reply:

> Yes, 'twas politic truly, my very good friend,
> Thus a couple of quacks your patient to send,
> Since there's nothing so likely as quacks, it is plain,
> To make work for a regular doctor again.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 45, No. 24.
Whole No. 1232.

NEW YORK, JUNE 16, 1894.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

TWO CASES OF INTRA-CRANIAL NEURECTOMY.[1]

BY GEORGE R. FOWLER, M.D.,

BROOKLYN, N. Y.

CASE I.—M. C——, female, aged forty-five, was transferred to my service at St. Mary's Hospital, from the Neurological Department under Dr. Newton, for surgical treatment directed to the relief of an intractable left-sided trigeminal neuralgia of nine years' standing. Every measure of treatment, both rational and irrational, had been tried in vain, and at last she was glad to avail herself of the advice of Dr. Newton, who urged her to submit to operative interference.

The patient was a rather florid and robust-looking Irishwoman, who did not present the appearance of one who had suffered greatly and for so long a period. She had not acquired any narcotic habituism. Hyperalgesia was excessive and almost constant. During the past three months the frequency and intensity of the paroxysms had increased to a marked extent, so that the patient declared that she could not be considered responsible for any act, even to that of self destruction.



FIG. 1.

The parts principally affected by the pain are shown in Fig. 1.

Operation, August 10, 1893; anæsthetic, chloroform.—An omega-shaped incision, after the manner employed in the Krause-Hartley operation, was made, its posterior leg lying in front of the tragus and its anterior at the external angular process of the frontal bone. In carrying the first-named to the proper depth the trunk of the temporal artery was split, which gave rise to a sharp hemorrhage. In order to secure the bleeding points, it became necessary to detach the soft parts from the bone to some extent. Considerable blood was lost at this stage of the operation. The wider of the gouge chisels of Hartley was then employed to cut a groove in the bone of the same shape and extent as the omega-shaped incision in the soft parts. The groove was first cut to a depth equal to the antero-posterior thickness of the gouge, after which it became wedged and was laid aside for the narrower one of the set. This first cut just entered the diploë, from which the hemorrhage was most profuse, in some parts of the groove escaping in a per saltum stream. All attempts to check this were futile, and it soon became apparent that nothing short of completing the bone section and lifting up the bony flap would permit access to the source of the bleeding. The groove was then rapidly deepened. The extreme thickness of the bone rendered this portion of the operation extremely difficult, and all the time a most profuse hemorrhage was going on. The gouge became wedged rapidly, and it became necessary to complete the section with the corner of the flat, narrow chisel of Hartley's set. The bony flap was finally pried loose, breaking in three pieces. After turning down the flap the bleeding from the diploë ceased. The opening was enlarged by means of Keen's model of the Luer punching forceps. The middle meningeal artery passed through a canal in the bone, and was necessarily torn by the downward displacement of the flap. The vessel was secured at the point of rupture, and the dura carefully separated from the base in the anterior fossa. The frontal lobe was held in an upward direction by Dr. Bristow, my assistant. In approaching the foramen ovale care was taken to keep well in front of the groove in which the middle meningeal artery runs, in order to avoid tearing this vessel at the foramen spinosum. In fact, so far did I separate the dura anteriorly at the cavum Meckelii that the foramen ovale was passed, and the foramen rotundum, with the second division of the trigeminus, reached first. Yet, in spite of this precaution, and the valuable aid furnished by an electric lamp and condenser, whereby the entire field of operation was perfectly lighted up, the middle meningeal artery was torn at the foramen spinosum, and a free hemorrhage took place from this point. This was temporarily checked by the finger, and finally permanently arrested by an aseptic plug driven into the foramen. The second division of the fifth was now divided at the round foramen, and the oval foramen and the third division sought for. This was found lying just to the inner side of the foramen spinosum, instead of the latter being placed a quarter of an inch or more posteriorly to the level of the foramen ovale. With this arrangement of the foramen, it would have been a physical impossibility to have isolated the third division of the trigeminus at the foramen ovale without loosening the dura where the middle meningeal artery leaves the foramen spinosum. Both nerves having been divided, about an eighth of an inch of the second division was resected. Following the section of the third division quite a copious venous flow occurred, and as the patient's condition was most unpromising, further efforts were abandoned and the wound closed.

The time occupied in gaining access to the skull and identifying the two divisions of the nerve was just one hour. The further steps of the operation, including the suturing of the soft parts and placing the dressings in position were completed in twenty-five minutes. The length of time in which the frontal lobe was lifted and compressed was fifteen minutes. During this time the patient gave evidences of compression by stertorous breathing, and finally showed the effects of the displace-

[1] Read before the Brooklyn Surgical Society, March 15, 1894.

ment of the cerebro-spinal fluid from the lateral to the third and fourth ventricles, and thence to the respiratory tract, by the occurrence of progressively diminishing respiratory efforts.

The patient was infused with saline solution by my assistant, Dr. Walter Wood, while I was completing the operation proper. After leaving the operating-table the pulse fell in the course of four hours from 140 to 80. Suddenly, and without warning, however, the respirations fell to below 20; in five minutes they fell to 10, and in five minutes more they ceased altogether. The pulse continued at the wrist for half a minute or more after the respirations ceased. Attempts at artificial respiration were of no avail.

Case II.—M. P——, male, aged forty two, was admitted to my service at the Methodist Episcopal Hospital, suffering from an intractable left-sided facial neuralgia referred to the distribution of the second and third divisions of the fifth nerve. The history of the case extended over a period of thirteen years. During the first year of his sufferings he had consulted me with a view of obtaining surgical relief, but an interview which he subsequently had with one of my patients, upon whom I had operated for trigeminal neuralgia by the method of perforating the anterior and posterior walls of the antrum of Highmore, and removing the second division of the fifth nerve, together with the Meckel's ganglion from the spheno maxillary fossa, resulted in his declining to accept my



Fig. 2.

advice at that time. The reasons assigned for this declination related to the disfigurement involved, and the paralysis of sensation in the area of distribution in the superior maxillary division of the fifth in the case alluded to.

During the intervening twelve years he had suffered almost constantly. An exostosis of the left inferior turbinated bone had been accused by a nose specialist as a cause of the neuralgia. This was removed, but no relief followed. Some of the peripheral branches had been divided with the same result. The patient then attempted to obtain relief by the use of large doses of morphine, but when three grains, administered every hour or two failed to give even temporary relief, he was placed under my care by his family physician, Dr. Fuchs. The area of pain is shown in Fig. 2.

Operation, February 10, 1894; anæsthetic, chloroform.—The external carotid artery was ligated preliminary, at a point just above the facial and occipital, with the view of shutting off the blood-supply to the internal maxillary and its middle meningeal branch. The cavity of the cranium was then opened by the Krause-Hartley method and the third and second divisions of the fifth isolated in turn. About three sixteenths of an inch of the second division was resected; less than this amount of the third was removed. The Gasserian ganglion was so intimately adherent to the dura that it was found impossible to isolate this.

The only bleeding of any account was from small venous branches as the dura was lifted up from the base; and from the two or three small veins which accompany the divisions of the nerves as they pass through their respective foramina. Time from the establishment of narcosis till the removal of the patient from the operating-table, one hour and five minutes. Time from the opening of the cranium to the final replacement of the frontal lobe in position, eight minutes. Most of the latter time was occupied in placing folds of gauze between the frontal lobe and the base and waiting for the oozing, which somewhat embarrassed this stage of the operation, to cease. No violent hemorrhage took place at any time during the entire operative procedure. The middle meningeal artery furnished almost no blood whatever, although it was injured in turning down the flap and separation of the dura from the base. No attempt was made to prevent this.

The patient rallied well from the operation and made a speedy recovery. No further morphia, beyond a sixth of a grain during the first night, was administered, nor was any more necessary. There was no craving for the drug. Union by first intention was secured in both wounds, the patient sat up in seven days and walked about in ten days from the operation. He was discharged cured at the end of fourteen days.

The area of complete anæsthesia following the operation coincided pretty accurately with pre-existing hyperalgesia, while the area of lessened sensation corresponded to some extent to the region to which the radiating pains extended before the operation.

The following are some of the points of interest in connection with these cases:

1. The difficulties in the way of gaining rapid access to the skull. This was particularly noticeable in the case of the woman. A portion of the bony flap was so detached in the effort to secure the bleeding points in the posterior leg of the omega-shaped incision as to require its removal altogether. It was through this portion of the bone that the middle meningeal artery passed, and, as will be seen, in addition to this and the fact that the bone was unusually thick, the vessel itself was larger than is generally encountered in this locality. Professor Keen, of Philadelphia, has recently attempted to substitute the surgical engine and burrs or drills in order to facilitate this step of the operation. The employment of the common trephine and subsequent enlargement of the opening by means of the punching forceps of Luer would probably greatly facilitate this stage of the operative procedure. The disadvantage which it involves of not being able to replace the bone with the flap is probably of less importance than the time consumed in the method of Hartley. In one of Krause's cases this surgeon chiselled away a sufficient portion of the thinnest part of the temporal bone to admit the points of the Luer's forceps, following which, with the latter instrument, the original opening was rapidly enlarged in the required direction and extent. By the aid of a dull raspatory and the ends of the fingers, the trunk of the middle meningeal and the second and third divisions of the fifth were made visible, leading to the ganglion. Krause[1] decided, from his experience in this case, that no harm can arise from not returning the bone. This also agrees with general experience in trephining for traumatism, in which class of cases we not infrequently remove portions of bone much larger in size than the bone flap turned down in Hartley's method. The crunching effect of the Luer forceps is very serviceable in arresting hemorrhage from the diploë. I have not infrequently availed myself of this use of the forceps, applying it to the margins of a trephine opening, not so much for the purpose of enlarging the latter as to force

[1] Deutsche Med. Wochenschrift, No. 15, 1893.

the outer table of the skull upon the diploë and thereby arrest the bleeding from the latter.

In a future case I should turn down a flap of the soft parts, temporarily resecting the zygoma, if necessary; trephine upon as low a plane as possible, enlarge this opening by means of the Luer forceps, and thus enter the cranial cavity at a point in as close proximity to the location of the Gasserian ganglion as possible.

2. The excessive hemorrhage prior to gaining entrance to the cavity of the cranium was a marked feature of the first case. This was due, first, to the fact that the posterior leg of the omega-shaped incision, in its passage in a downward direction in front of the tragus, split the large temporal terminal of the external carotid artery. A most vicious spurt of blood took place at this, which, although temporarily held in check by pressure below the lower extremity of the incision, necessitated the detachment of the soft parts, and consequent delay before it could be brought under permanent control. In the second place, another source of dangerous hemorrhage at this stage was found when the diploë was entered during the chiselling away of the bone to form the groove upon the line of the incision in the soft parts. The vessel proved to be fully as large as the radial. The bone at this point was considerably thicker than the average normal (fully a quarter of an inch), which fact, together with the size of the artery, and the inability of the latter to retract readily within the bony canal through which it passed, was the occasion of vexatious and even dangerous delay, to say nothing of the larger amount of blood lost. These disadvantages were perfectly met in the second case by the preliminary ligature of the external carotid artery. The ligature was placed above the facial and occipital branches, thus cutting off the supply from the trunk of the internal maxillary with its middle meningeal branch, and the temporal terminal of the external carotid. This point was selected because of the free anastomosis of the lingual, facial, and occipital branches with those of the opposite side, and through the medium of which the circulation is restored to all of the ramifications of the external carotid when the ligature is placed below these branches. Not only was the hemorrhage greatly lessened by this procedure, but the further steps were greatly facilitated. No fear of bleeding resulting from tearing the middle meningeal at the foramen spinosum was entertained, and detachment of the dura from the base was proceeded with with comparative rapidity and satisfaction.

3. Prolonged pressure exerted upon the cerebrum in the retraction of the frontal lobe was most assuredly the occasion of driving the cerebro-spinal fluid from the lateral ventricles to the medulla and respiratory tract, in the first case. As a result of experience gained in this case I have concluded that the pressure must be as slight as possible consistent with getting a view of the parts, and that it should always be in a direction to lift the brain from the floor of the skull, just as it is lifted in autopsies by the post-mortemist as he reaches beneath the brain with his fingers before dividing the nerves at the base. With a good electric lamp and condenser sufficient light may be thrown into an opening which may be safely obtained, to identify and trace the meningeal to the foramen spinosum, in doing which the operator is led directly to the ganglion. Preliminary ligation of the external carotid does away with necessity of division of the middle meningeal between the ligations when this is obstructive, as it proved to be in the first case. As the brain is lifted in an upward direction the nerves are brought into view, and the limits of their foramina distinctly outlined. There can be no question that the brain will bear a much greater amount of pressure than is generally supposed, and that the evil effects of pressure arise, not so much from direct actual force applied to the structure of the cortex as to the resultant displacement of the cerebro spinal fluid.

4. Unless the bone chance to break at the very lowest point possible, rupture of the middle meningeal artery is almost certain to occur as the bony flap is turned down, particularly in the cases in which the vessel passes through a bony canal instead of lying in a groove. With preliminary ligation of the external carotid artery, as practised in the second case, this rupture is of but minor importance. Without preliminary ligation the plan of entering the cranium low down, with perhaps osteo-plastic resection of the zygoma, and removing the bone at once instead of attempting to utilize it for the purpose of closing the opening, will avoid rupture of the vessel in so far as it is possible to do so, for the reason that the artery is reached relatively nearer to the foramen spinosum than in the Hartley method.

5. The free venous oozing which took place in connection with lifting the dura mater from the base, as well as when section was made of the second and third divisions of the fifth, is worthy of notice. Even in the second case this was marked, and appeared to come from small venous radicles upon the dura, in the first place, and secondly, from the divided ends of the small veins emptying into the temporal, sometimes two or three in number, which pass, together with the third division of the trigeminus, through the foramen ovale, in addition to the emissary veins, which are sometimes of considerable size and connect the cavernous sinus with the pterygoid and pharyngeal plexuses.

6. The Gasserian ganglion was not removed in either of these cases. In the first case the patient's condition did not admit of further interference after the second and third divisions of the fifth had been divided. In the second case an attempt was made to peel back the dura in order to remove or break up the ganglion. The membrane was found to be so adherent that it was not deemed safe to exert the requisite force for fear of injuring the immediately adjacent and intimately connected cavernous sinuses.

7. The amount of nerve-tissue removed did not exceed $\frac{3}{16}$ of an inch. The extent to which the nerves may be removed must necessarily vary in different cases. Doyen, of Reims, presented, at the last congress of French surgeons,[1] the Gasserian ganglion with its three branches entire, taken from a patient, whom he likewise presented. The portions of the ophthalmic and superior maxillary divisions each measured 15 mm. ($\frac{3}{5}$ of an inch); the portion of the inferior maxillary or third division is stated in the report to have measured 40 mm. ($1\frac{3}{5}$ inch). In one of Krause's cases the entire width of the ganglion was grasped by means of Thiersch's avulsion forceps, after dividing the branches as far down in the foramina as possible, and both ganglion and 20 mm. ($\frac{4}{5}$ of an inch) of the nerve-trunks were turned out and removed.

8. The course of the healing was exceedingly rapid, and this has been a feature of the cases heretofore reported. In one of Krause's cases the patient left his bed on the seventh day.

9. It is to be noted that the area of anæsthesia in the successful case herewith reported is somewhat smaller than the pre-existing area of hyperalgesia, while the area of impaired sensation corresponds rather accurately with the region to which the pains radiated before the operation.

Michael Servetus.—The medical students of the University of Madrid are organizing a memorial function in honor of Michael Servetus, on the occasion of the three hundred and forty-first anniversary of his death, which falls on October 27th. The celebrated philosopher and anatomist, for whom the honor of having discovered the circulation of the blood has been claimed on somewhat insufficient grounds, was born at Saragossa in 1509, and burnt as a heretic at Geneva by Calvin in 1553. Señor Castelar and Professors Letamendi and Calleja, of the Medical Faculty of the University of Madrid, are expected to be among the speakers at the proposed memorial festival.

[1] La France Medicale, April 25, 1893.

STACKE'S RADICAL OPERATION FOR OBSTINATE CHRONIC OTORRHŒA.[1]

By WALTHER VULPIUS, M.D.,

NEW YORK.

ASSISTANT SURGEON TO THE NEW YORK OPHTHALMIC AND AURAL INSTITUTE, AND INSTRUCTOR IN OTOLOGY AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL.

AMERICAN otologists were among the first who fought for the re establishment of the mastoid operation, which had been a forlorn post since the fatal issue of the case of von Berger in the year 1791. This man had died a victim to a wrong indication and the deficient knowledge of the average anatomical structure of the involved parts, as well as of the manifold possibilities of individual deviation in size and shape from this average. For half a century afterward otologists and surgeons were unanimous in condemning the operation, and it required a strong scientific conviction and courage to advocate its more extended execution on the ground of the few scattered—and most of them timidly made—experiences up to the year 1868.

At that time Dr. Jacoby, in Breslau, collected fourteen recorded cases, and added one out of his own practice, in which he had opened the mastoid cells by means of a drill. He divided them into two categories, and gave four different indications for the operation.

In most of these fifteen cases an acute middle-ear suppuration had led to the mastoid complication which became manifest by an abscess behind the auricle and carious destruction of the bone.

But von Troeltsch already, who in the year 1858 had perforated the mastoid cortex after a Wilde's incision by a trembling movement with a probe, suggested in the report given of this case in *Virchow's Archiv* (1861) that the opening of the mastoid process could eventually be considered as a means for healing obstinate chronic middle-ear suppurations. Following this, and another private suggestion from Professor Schwartze's side Jacoby gives as his fourth indication a condition in which chronic middle ear suppuration refuses to yield to other methods of treatment. A similar indication, with the restriction of frequent and painful exacerbations was laid down by Dr. Roosa, of this city, in a paper published in the MEDICAL RECORD, July, 1870.

But it seemed still too dangerous to chisel or bore down through a sound-looking cortex into any depth of the mastoid process without the guide of a fistula or carious defect, or the pressure of threatening symptoms, particularly as even the scarce experiences made hitherto had revealed great individual varieties in the anatomical structure.

Therefore the fourth indication of Jacoby could hardly induce any operator to put it to a practical trial until the excellent studies of Schwartze and Eysell on the anatomy, physiology, and pathology of the mastoid portion of the middle ear were published in the *Archiv für Ohrenheilkunde*, 1873, followed by the report of sixty-three pertaining cases, seventeen of which were operated on by Schwartze himself. Further contribution to the anatomical studies were made by Bezold in the *Monatschrift für Ohrenheilkunde* from November, 1873, to March, 1874. In the following year Schwartze began the publication of his first series of fifty of his own operations, which was followed by a second one concluding in 1883.

Among these hundred cases a number of uncomplicated chronic ones of otorrhœa had been operated on according to the fourth indication of Jacoby; but in his "Lehrbuch der Chirurgischen Krankheiten des Ohres" (1885) Schwartze declares this number to be too small to entitle him to a final decision of the question whether the mastoid operation could be recommended as a means of healing obstinate chronic middle-ear suppurations without apparent mastoid complications. But nevertheless he repeats this indication as his fifth, in the same text-book, and continually fostered the hope that it would in time become more and more justified by a further development of the operating method.

Up to that time the final results of the operation in cases of uncomplicated chronic middle-ear suppuration were so rarely satisfactory, and the after-treatment so long, extremely tiresome for the physician, and painful for the patient, that only in a few places outside of Halle, the residence of Professor Schwartze, was it taken up as a regular method in practice. One pupil of Schwartze, the late Dr. Ferrer, in San Francisco, endeavored to establish the prophylactic mastoid operation—as Schwartze called it—in this country, but does not seem to have found many sympathizers. On the contrary, symptoms of indifference toward this question could be perceived, and from one side, in Dr. Sexton's book, "The Ear and its Diseases" (1888), an utter and uncritical reaction against any kind of mastoid operation was preached. The intense interest and exertions of the American profession had shifted to other surgical procedures, which had been introduced in otological therapeutics, above all to the excision of the ossicles, with the purpose of either healing chronic middle ear suppurations or improving the hearing and tinnitus. When I tried to find out the reason for this predilection, I thought to find the clew in a statistical relation, viz., that the most treacherous of chronic middle-ear diseases, the cholesteatoma, seems to be much less frequent and serious here than it is in Germany and Austria, while here the sclerotic processes, or dry middle-ear catarrhs, prevail considerably, both in frequency and gravity.

I need not enter here on criticising the results of the ossiculectomy made for the relief of deafness; but I have to state that the same operation, if executed for the healing of chronic middle-ear suppurations did here as little as in Germany fulfil all the hopes which had been set on it. For there is a number of cases where the operation cannot be done sparingly and successfully on account of the narrowness or tortuousness of the auditory canal, and a much greater number in which the caries is not limited to the ossicles, but involves the adjacent parts of the middle ear, will further maintain the suppuration and require more radical methods of treatment. While thus the otologists were at work to attack chronic middle-ear suppurations by improving their methods of, and extending and clearing their indications for, mastoid operations on one side, and intratympanic ones on the other, a fresh impulse was given by two German surgeons, Küster and von Bergmann, who broadly applied general principles of the treatment of chronic suppurations within rigid walled cavities to the middle ear, without paying much respect to the sensory function of this organ and the inviolability of the facial nerve. But nevertheless these suggestions of more radical methods of operation were not lost on the otologists, and the same Dr. Stacke, who in the *Berliner Klinische Wochenschrift* (No. 16, 1889) refuted the unjustifiable charges of Professor von Bergmann against our specialty as practising obsolete and unsurgical methods, afterward elaborated an operative method which is as sparing as the otologists and as radical as the surgeons could ever demand.

The first communication of this method was made to the International Medical Congress at Berlin (1890), as an appendix to Stacke's paper on the indications for ossiculectomy. The main principles of it had also been advocated and partly practised by Hartmann, Zaufal, Arbuthnot Lane, and others, but when, in the following year, at the "Deutsche Naturforscher- und Aerzte-Versammlung," in Halle, Stacke described his new and original method of skin-transplantation, whereby it became possible to secure a condition which allowed forever a perfectly free inspection of all the middle-ear cavities, and left no complication of these cavities behind, the superiority of his method became so evident that it was adopted by the most eminent otologists in Germany, and certainly deserves further propagation. It was introduced into the Ear Clinic at Halle, and benefited for its further development from the eminent ex-

[1] Paper read before the Ophthalmological and Otological Section of the New York Academy of Medicine, January 15, 1894, with demonstration of two cases.

perience and sound criticism of Professor Schwartze; two series of fifty cases each have been published from this clinic in the *Archiv für Ohrenheilkunde*, and valuable suggestions have been given for modifications in certain cases.

The Stacke operation is indicated as the final and most radical means of treatment in cases of chronic middle-ear suppuration, which is maintained either by cholesteatoma of the attic and antrum or by caries, if the latter cannot be with certainty confined to the ossicles. I say as a last resort, for I do not think so severe a procedure justifiable before more sparing methods have been thoroughly tried and proved to fail. Only if threatening complications or abscesses over the mastoid region immediately require an opening of the antrum, it is, in most chronic cases of middle-ear suppuration, advisable to make at once the more radical Stacke operation, which shortens the time of after-treatment and gives better chances for a permanent cure of the otorrhœa.

I need hardly say that the operation should never be made in cases of mastoiditis complicating an acute otitis media purulenta.

A description of the technique has been given several times in the American medical literature. One in the recently published hand-book, of Burnett, on the diseases of the ear, nose, and throat, is very short, and corresponds to the first report given by Stacke in Berlin. That of Dr. Allen in his nice little book, "The Mastoid Operation," is largely influenced by transitory views that were held for awhile in Professor Schwartze's clinic at the time when Dr. Allen attended it. He advocates in it a radicalism, which has been given up in Halle on account of its dangers for the facial nerve, and against which Professor Schwartze, in his new hand-book on ear diseases warns most expressly, the same as Stacke had done in his second report. The minute description of Dr. Holmes, in the twenty-second volume of the *Archives of Otology*, represents the most advanced stage of the method as it is now practised in Halle, but only slightly differs in its result from the original Stacke operation.

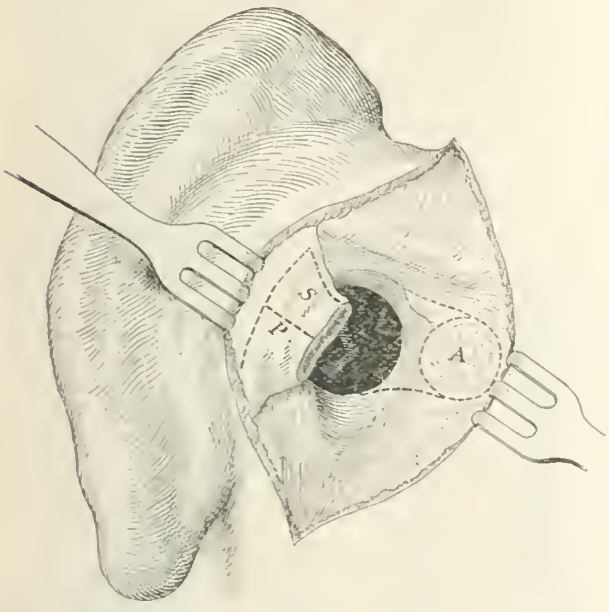


FIG. 1.—Shows the detachment of the auricle and shelling out of the membranous meatus. The dotted lines on the latter mark the cuts by which one (S=Stacke) or two (P=Panse) transplantation-flaps are formed. The vertical cut is the same for both. The dotted lines behind the meatus circumscribe (*a* the region for the typical mastoid operation and for the resection of the posterior wall of the meatus.

With the aid of some illustrations—the same which I drew for Dr. Stacke's lecture in Halle—I can be rather short with my own description of the technique: A long, slightly S-shaped incision circumscribes and detaches the auricle from its insertion ending on the tip of the mastoid process. By pushing back the periosteum, the surface of the mastoid is laid bare behind the meatus, and in the latter its cutaneous coating is loosened, transversely cut as near to the tympanic ring as possible, and entirely drawn out with a blunt hook. Originally the further procedures of Stacke were to pass his curved "protector" into the attic and to chisel off with a bent gouge that part of the upper wall of the osseous canal which prevents a free inspection of the attic and the tegmen tympani from the outer meatus. The carious ossicles —or what is left of them—were then removed, and a curved probe passed backward through the aditus or neck

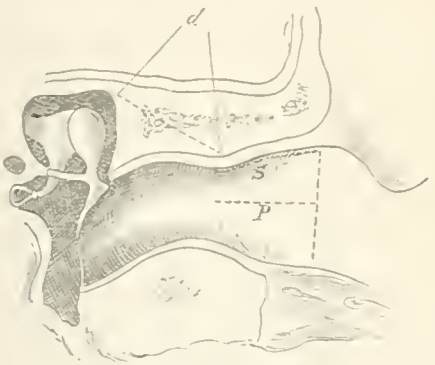


FIG. 2.—Posterior Half of a Frontal Section through the Auditory Canal and Drum Cavity of a Left Ear. Dotted line *d* shows what has to be chiselled off to make the attic and tegmen tympani accessible from the outer meatus; *S* and *P* signify the same as in Fig. 1.

of the antrum, to make out, if possible, whether this cavity is diseased; and if so found, to serve as a guide for chiselling it open through the posterior wall of the osseous canal (Fig. 1). Experience has shown that concurrent disease of the mucous membrane or the osseous walls of the antrum is present in by far the most cases of chronic otorrhœa, and can hardly ever be excluded with absolute certainty. It has therefore been found more convenient first to open the antrum after the typical method, to pass a probe forward into the drum-cavity, and to remove the big wedge shaped piece of bone, which forms with its anterior side the posterior wall of the meatus, laterally the border between the meatus and the wide mouth of the funnel-shaped operative cavity, and with its narrow medial portion the lateral wall of the aditus ad antrum. The removal of this last piece has to be done very cautiously, because right across, forming the slightly protruding "threshold" on the medial wall of the aditus, the facial and the horizontal semicircular canals are situated. Dr. Allen gives the dangerous advice to cut down the ridge, which now is left medially between the drum cavity and the antrum, and thus to make the lower wall of the meatus in its whole extent pass uninterruptedly into the lower wall or floor of the antrum. But there



FIG. 3.—Drum Cavity with Stapes *st* in Relation to the Operative Cavity. *t*, tympanic cavity; *a a*, aditus ad antrum; *a*, antrum; *t.p.*, rest of posterior wall of meatus.

are, as Schwartze points out, varieties in the course of the descending part of the facial nerve, which make it dangerous to use the gouge too liberally beneath the adit (Figs. 2 and 3).

There is much more room now for the opening of the attic and the extraction of the ossicles, and we need not, if the meatus is wide enough, shell out the whole cutaneous coating, but will find it sufficient to detach it only

along the posterior wall and press it with a slender blunt hook against the anterior one. This is a great advantage for the after-treatment; for if the cutaneous coating remains partly fixed to the tympanic ring, it cannot recede and leave the osseous canal uncovered to a great extent, and thus necessitate the slow formation of great streaks of new lining. This valuable suggestion has been given by Dr. Panse in the *Archiv für Ohrenheilkunde*, vol. 34. We finally split the posterior wall of the membranous meatus horizontally up to the concha, cross this section by a vertical one, and form that way one (Stacke) or two rectangular flaps (Panse), which are thrown back and fixed upon the walls of the operative cavity by tampons or loose sutures passed to the posterior edge of the first post-auricular incision.

The after-treatment has the object to bring about the lining of the big, uncomplicated cavity, which comprises the former drum cavity, attic, aditus ad antrum, the antrum itself, and the defect of the posterior wall of the osseous meatus, with a dry and smooth epidermoid membrane. The last-described transplantation serves this purpose excellently, but it can be still more promoted by the implantation of small pieces of fine skin from any remote part of the body, as Dr. Siebermann suggested in his paper on the operative treatment of cholesteatoma in the *Berliner Klinische Wochenschrift*, No. 1, 1893. The struggle with exuberant granulations, which has to begin in the second or third week, by tamponade, cauterization, especially galvano-cautery, or excision, is sometimes very hard and tiresome, for there are cases in which everyone of the just-mentioned measures seems to act as a stimulant for the augmented production of new granulations, checking and suppressing the progress of epidermization. In such cases it is advisable from the sixth or eighth week to leave off the tamponade or other irritating applications for awhile, which will sometimes induce a rapid extension of the epidermoid layer. One of the cases which I am going to demonstrate to you was of this character, and Dr. Gruber makes the same remark in his last paper on the Stacke operation in the *Archiv für Ohrenheilkunde*, vol. 35. Except one or two sutures, which close the upper angle of the wound, the post-auricular opening ought to be kept open for three or four weeks till all relations have become quite distinct and the epidermization is fairly started.

The hearing is hardly touched to any extent by the operation; it is sometimes improved; and I do not know a case in which a serious deterioration has been caused by it.

Of the two cases which I have brought before you one came under my treatment the day when I entered the New York Ophthalmic and Aural Institute, October, 1892. The girl, at that time twelve years of age, had been suffering from a double-sided chronic otorrhœa ever since she had had the scarlet fever in her third year. Almost from the beginning the ear-trouble had been judiciously tended, but without any considerable or lasting success. The hearing in the left ear was practically nil; while with the right one ordinary conversation could be understood in close proximity. There were no pains in the left, but frequent spells of aches and great tenderness against syringing or any other manipulation in the right ear. On both sides the auditory canals were plugged with polypi. These could thoroughly be removed after cocain instillation from the left ear, but required ether-narcosis for the right one. In spite of alcohol instillation and other medications the polypi would obstinately grow up again, and I had to repeat the operation several times in the course of five months. In both ears the drum-membranes were entirely gone and nothing of the ossicles visible; caries was felt if a curved probe was passed into the attic—even this being a very painful procedure in the right ear. The growth of granulations stopped in the left ear in April of last year, and there was no more discharge from the beginning of May. But the condition of the right ear was unchanged, and I was afraid lest the hearing might still further be reduced. I proceeded therefore to make the Stacke operation on May 6th. I opened the attic first and removed from it besides granulations small remnants of the malleus and incus, including the joint. A probe passed into the antrum brought out caseous matter, which caused me to open this cavity after the original Stacke method. The antrum was very small, its communication (or aditus) with the drum extremely narrow, and the outer cortex very thick and sclerotic. On account of the narrow aditus the above-mentioned ridge was left comparatively high and projecting. After a fortnight, which afterward proved to be a little prematurely, I closed the outer wound by secondary suture, but from the fourth week an enormous production of granulations from every side set in, menacing to grow together and thus forming bands and incontrollable recesses. Every conceivable caustic, and the most careful daily tamponade were applied without good effect, and the propagation of epidermis stopped entirely. Therefore I changed the treatment, from August 10th, into a simple cleansing once a day, and was very much pleased to see the epidermis spread out rapidly and cover the whole cavity within two weeks. In one place only, across the groove which leads medialwards into the antrum (*i.e.*, the defect of the posterior wall), a small transverse attachment of granulations had formed, which after complete epidermization grew so thin and unobstructive that I could leave it undivided for demonstration's sake. From the end of August the ear has remained dry; no pains have recurrred and the hearing is somewhat improved, so that the girl, who formerly had to be seated quite near her teacher, is now able to understand him at a distance.

The second case presented itself on July 10th, last year, with the history of a running right ear since two years or so, frequent headache, and periodical attacks of deep-seated pains in the mastoid region. The meatus was narrow and tortuous, the anterior part of the drum-membrane and the hammer looked healthy as far as visible; a granulation of moderate size covered the posterior and upper part. After its removal a cicatrized semicircular defect of the lateral osseous wall of the attic above the short process of the hammer, and a big, dry perforation in the posterior half of the drum-membrane became visible. The granulations had grown from a fistulous opening, which could not be seen, but felt with a curved probe, leading from the inferior posterior nook of the drum-cavity in a backward direction. At the same time the probe gave evidence of a carious condition. After repeated unsuccessful trials to arrest the growth of fresh granulations, and the painful symptoms of obstruction caused thereby periodically, I proposed the radical operation, and performed it on December 7th. This time I first opened the antrum, this cavity undoubtedly being the principal seat of the suppuration. The cortex was of marble-like hardness and nearly one inch and a half thick. The antrum, of about normal size, contained some creamy pus. I tried in vain to pass a probe from there into the attic and was therefore obliged, in chiselling off the medial part of the posterior wall of the meatus, to follow the probe, which was passed from the drum-cavity into the fistula. When I finally laid open the attic, the posterior part of it was seen to be plugged by an osteophyte, which extended from the short process of the anvil along its entire length to the tegmen tympani, and in that way obstructed entirely the aditus ad antrum. I carefully detached this piece from the tegmen, and it came out in connection with the anvil. This explains why the pus produced in the diseased antrum was obliged to seek another outlet, and established a fistulous communication with the drum-cavity. There was no difficulty in extracting the hammer after having shelled the membranous coating out of the very narrow and torturous meatus. Even the cartilaginous part of the meatus was poorly developed and cramped, so that the transplantation flap had to be uncommonly small and was difficult to adjust. When the whole cavity was covered with sound granulations I made two skin transplantations—one from each forearm—at the end of the third

and fourth week respectively, and let the post-auricular wound close itself on January 12th. The case is not yet healed, but in a very good condition; there are no exuberant granulations now, and the steady growth of the epidermoid layer from different centres gives promise of a speedy and complete success.

The hearing in this case is the same as it was before the operation, and the patient, no more troubled by mastoid pain or headache, improved considerably in her general condition.

I selected these two cases for demonstration because they show that by means of the Stacke operation we are able to cure even the most obstinate and the most strangely complicated chronic otorrhœas, in which any of the hitherto practised methods would certainly have failed; ossiculectomy would have been impracticable in the first case, because the carious destruction of the ossicles had gone so far as to leave nothing of them visible from the outer meatus; in the second case, besides there being only a suspicion of caries at the long process of the anvil, the removal of this bonelet would, even from a wide meatus, have proved to be impossible on account of its osteophytic fixation. Likewise a mere opening of the antrum and the tiresome after-treatment with the leaden-nail after the old Schwartze method would have proved inefficacious, because in both cases the disease was not at all confined to this cavity, and nothing but a better drainage and facilities for cleansing would have been obtained.

In the discussion which ensued after Stacke's second report at Halle, Professor Schwartze acknowledged the merits and advantages of the new operation, but at the same time pointed out that the great difficulty and subtlety of it might, for some time at least, hinder its ready and general adoption. It is evident that an operation which shall be radical and sparing at the same time in a region so complicated and variable as the middle ear is, and surrounded by such important organs which might easily be imperilled, requires a most thorough knowledge of every anatomical detail and of all possible variations. But every otologist ought, and is supposed, to possess this knowledge, and will readily be inclined to devote his time and interest to the study of such a promising operation. The greater difficulty lies, methinks, in the after-treatment, which requires great patience, the highest specialistic skill and judgment, and a good deal of experience, to overcome all the innumerable and almost indescribable emergencies which are apt to postpone or defeat the final result.

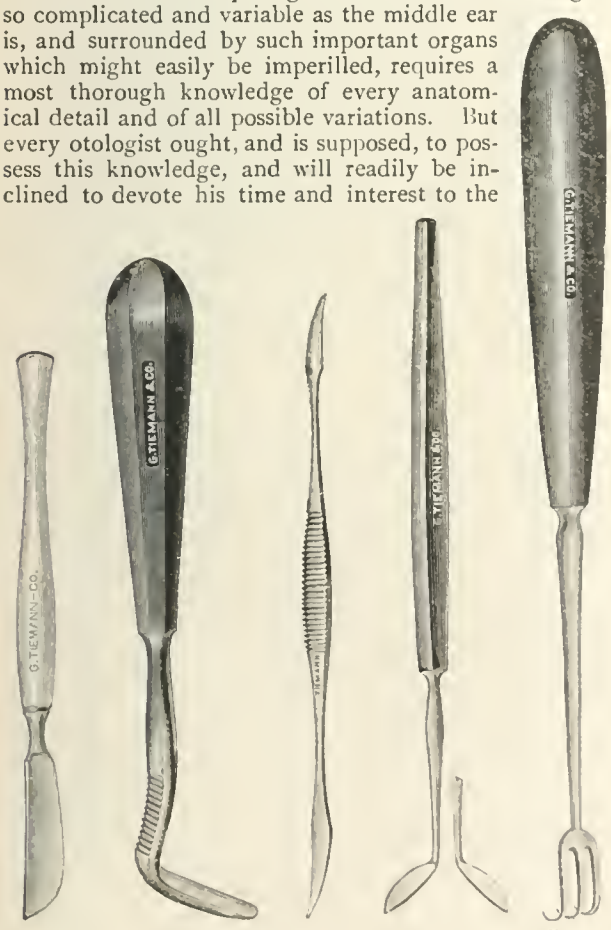


Fig. 1. Fig. 2. Fig. 3. Fig. 4. Fig. 5.

I am indebted to Messrs. Tiemann & Co. for having, after my suggestions, composed a set of instruments which will be found serviceable for the Stacke, as well as for any other kind of mastoid operation. The aseptic case with polished wood-lining contains: Fig. 1. A strong scalpel for the primary mastoid incision, by which the auricle is detached and the periosteum divided. Figs. 2 and 3. A short, strong periosteum-levator for denuding the mastoid cortex, and a double-pointed, slender one for peeling off the cutaneous coating of the meatus. Fig. 4. Two small, angular knives for cutting the membranous canal transversely, for the right and left side respectively. As devised by the writer they seem preferable to those with curved blades which Stacke uses for the same purpose. Figs. 5 and 6. A pair of sharp-pronged strong retractors, and a blunt one with a rounded hook on one, and a slender rectangular arm on the other end. The latter serves to press the posterior wall of the membranous canal against the anterior one, if the operation is done as suggested by Panse, in cases with a wide meatus. Figs. 7 and 8. Four straight and two curved gouges of different sizes. The latter were first made after the author's design, when the straight gouges showed a tendency to slip very easily off the slanting lateral and inferior wall of the attic. They afterward proved to be very convenient for every kind of chiselling work in a greater depth, but have to be handled very carefully in order not to cut deeper than it is intended. Fig. 9. An osteotome-chisel for the excision of the posterior osseous wall of the meatus. Fig. 10. A modification of Stacke's "protector," which is lighter and somewhat more handy than the original instrument. Figs. 11 and 12. A fine angular probe with a loop-formed handle, and a stronger one with a curved and a straight tip. Figs. 13 and 14. An angular dress-

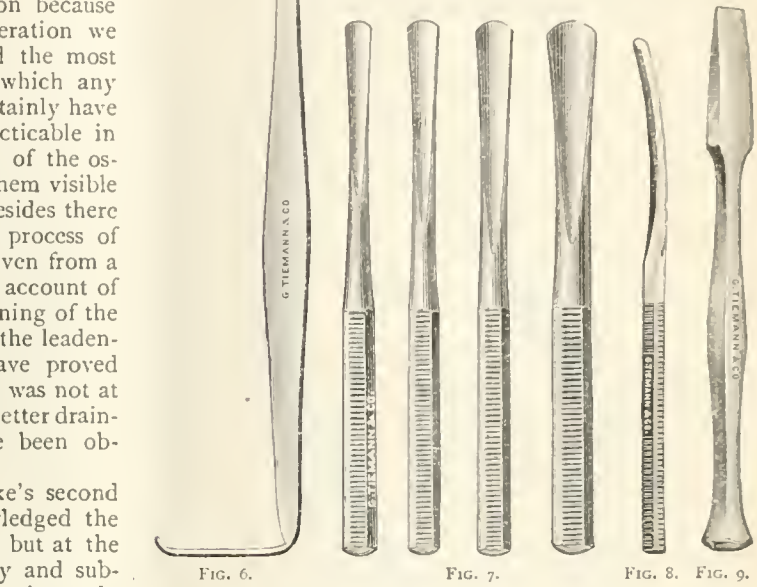


Fig. 6. Fig. 7. Fig. 8. Fig. 9.



Fig. 10.



Fig. 11.

ing forceps and a stronger one (Urbantschitsch's) for the removal of the ossicles and semi-detached splinters of bone. Fig. 15. A double curette for the final clearing of the operative cavity from granulations, caseous matter, etc.

Besides these special instruments a raw-hide mallet, some artery clamp forceps, a small scapel (for the formation of the transplantation flap), a needle-holder and some strong short, curved needles are required from the instrumentarium of general surgery.

A week after the above paper was read, Dr. Blake, of Bos-

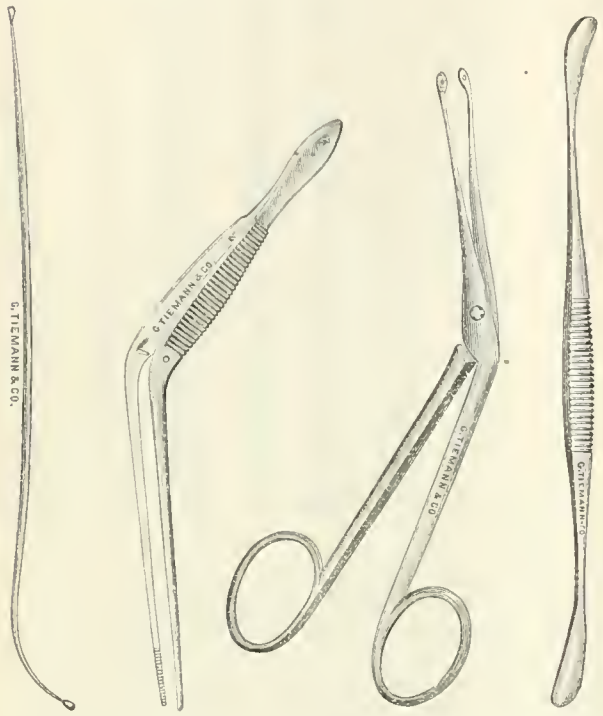


Fig. 12. Fig. 13. Fig. 14. Fig. 15.

ton, communicated, in the New York Otological Society, his experiences and results in intra-tympanic operations, particularly in ossiculectomy and mobilization or extraction of the stapes for functional purposes. His report sounded like a death knell to this long-cherished part of otosurgery. I hope that instead of it the Stacke operation may find favor with the American otologists and be practised in suitable cases. The results will be as satisfactory here, I believe, as they have been in Germany, if the encouragement as well as the warning is truly heeded, which Dr. Stacke expressed in some verses written for the author as a remembrance of their common work:

"Ruestig den Meissel geschwungen in der neuen Welt wie in der alten;
Lass aber neben dem Muth weise die Vorsicht auch walten;
Schone den 'Sinus' mit Fleiss, den 'Facialis' und andres Gelichter,
Denn sonst erntest du nur lange und schiefe Gesichter."

79 East Fifty-sixth Street.

The Abuse of Photography in Medicine.—The truth is, it seems to us, that photography is too much used in medical illustration, quite apart from considerations of decency and of the rights of the patient. It is invaluable, no doubt, within a properly restricted sphere, but most of the conditions that writers wish to show pictorially can be brought out much more tellingly in a sketch, or even a diagram. The most humiliating thing of all about the rage for photographic illustrations, lies in the undeniable fact that many writers resort to them mainly to support their statements, to establish their veracity. In plain words, they say to themselves that their clinical histories are likely to rouse incredulity, and that hence they must fortify them with pictures made with the machine that "cannot lie."—*N. Y. Medical Journal.*

THE DIAGNOSIS OF CHARCOT JOINT.

By WILLIAM B. NOYES, M.D.,

NEW YORK,

ASSISTANT IN THE DEPARTMENTS OF NERVOUS AND CHILDREN'S DISEASES, VANDERBILT CLINIC.

The subject of arthropathia tabica as a separate joint disease, caused by certain lesions in the nervous system, was much discussed some years ago, and much light was shed on its symptoms and diagnosis. The points that still remain to be settled are its real cause in the complex series of pathological changes which exist in tabes. What relation, if any, does it bear to the ataxic symptoms? Can it occur without the other symptoms of tabes, or at a time when it may assist in diagnosing tabes in its early stages?

The following case is of interest because it was necessary to diagnose a Charcot joint in a moribund patient without history in order to establish the diagnosis of the tabes dorsalis which caused it. This is a problem which might more easily occur in the practice of any general practitioner than in the clinics or private practice of those exclusively working on nervous diseases.

The patient was a man about fifty years of age whom I found in the wards of the general hospital of Vienna while taking a course there. He had been brought in the ward in the condition of coma. The urine when drawn was found to be small in amount, full of pus, and in a state of ammoniacal decomposition, indicating an old cystitis, and, there being neither paralysis nor sugar in the urine, the probable uræmic origin of the coma.

Examination of the lungs and other viscera gave negative results. Temperature not elevated. Careful examination of the reflexes proved that the knee-jerks were absent, while the reflexes of the upper extremity were preserved. The pupils failed to respond to light. This and the preceding symptom, while suggesting the existence of a possible tabes, could so easily be due to the almost moribund condition of the patient that little positive credence could be placed upon them.

One more symptom of interest remained. The right knee joint was the seat of a peculiar œdematous swelling, with evidences of fluid within the joint. Motion, especially lateral motion, was abnormally free. A backward subluxation of the joint without anchylosis was present. Crepitus could be obtained by rubbing the articular surfaces together. The joint was proved to be painless, because, while free movement of the same produced no symptoms of pain, the patient reacted promptly to needle pricks and pinching of the skin and subcutaneous tissue.

There was no history except what might be inferred from the fact that the patient seemed fairly well nourished; there was no cachexia nor evidence of severe illness, and the man had evidently recently walked. The extent of the cystitis and its involvement of the kidney proved that he must have suffered some years with bladder trouble. No disease of the prostate or urethra was found.

From these symptoms, but chiefly from the lesion of the knee joint, a diagnosis of locomotor ataxia was made. The patient died soon after, and the autopsy was made in a few hours with the following results: Heart, lungs, brain, and abdominal viscera fairly normal. The bladder was thickened, the mucous membrane giving all evidence of a severe chronic cystitis, abundant mucus and pus being present. A pyelo-nephritis of evidently recent origin, and of an extent sufficient to have caused death by uræmia, was found. Both kidneys were affected. No especial œdema or congestion of the organs.

The right knee-joint was enlarged, and filled with considerable synovial fluid, free from fibrin, pus, or blood. The synovial membrane was thickened, but showed no signs of recent acute inflammation. Ligaments and capsule loose, weakened, thickened, and otherwise changed. No loose bodies. Articular surfaces of bone much eroded, thickened, and bare of cartilage in places. There was a

backward, partial subluxation of the tibia on the femur of long standing. These were all the important pathological changes found in the joint and obviously are hardly sufficient to distinguish it absolutely from arthritis deformans, or one or two other joint lesions.

The clinical history, however, is certainly clear and unmistakable, and the general relaxation and disorganization of the joint were points of value.

To settle the question of the original tabes, I obtained the cord and certain peripheral nerves. After keeping them six weeks in Müller's fluid, I mounted and cut them. The cord had hardened so well and was so fresh that the stains used, Weigert, Pal, and carmine, gave clear indication of the extent of the healthy and diseased tissue in the cord even without a microscope. The posterior columns appeared degenerated and shrunken.

Sacral Region.—The columns of Goll were nearly normal, the column of Burdach diseased. Adopting the recent division of this column as used in Dana's "Textbook of Nervous Diseases," and in other recent works, the anterior portion or anterior root zone was normal; the median root zone showed clearly marked degeneration, increasing to the posterior root zone where the degeneration was complete, nearly all the nerve-fibres being replaced by connective tissue. The oval zone or the portion in the median line anterior to the column of Goll was normal. Lissauer's tract was decidedly affected, Everywhere there were enlarged blood-vessels penetrating the cord where vessels are not often noticed. Complete degeneration of posterior roots in this section was found.

First Lumbar Region.—Column of Goll completely degenerated, the nerve-fibres being replaced by neuroglia. In the column of Burdach, root zone normal, median root zone degenerated, except in its outer portion. Posterior root zone and Lissauer's tract less degenerated. In the lumbar region the posterior roots were less affected; the blood-vessels were still dilated, with abundance of new tissue shooting out from their walls and septa.

Middle Dorsal.—An unsymmetrical sclerosis had taken the place of all except a few nerve-fibres in the column of Goll. The column of Burdach, except the anterior root zone, was more degenerated in this region than in any parts of the cord. The posterior roots were less affected.

Upper Dorsal.—The column of Burdach was now becoming nearly normal except for a moderate degree of degeneration in the middle segment. On the other hand the column of Goll was becoming diseased, forming a wedge shaped sclerosis with hardly any nerve-fibres.

Lower Cervical.—Only the column of Goll was affected and a narrow strip of the column of Burdach, adjacent to it. The rest of the posterior column was fairly normal.

Middle Cervical.—Sclerosis was less marked but continuing distinct to the crossing of the pyramidal tracts. Posterior roots seemed nearly normal. The column of Burdach showed again signs of degeneration even with the naked eye, suggesting a beginning of the same process in the upper extremity. Medulla, pons, and brain sections absolutely normal. Anterior crural nerve sections showed partial atrophy. Optic nerve showed signs of atrophy. To sum up, there was found a fairly typical degeneration in the posterior column of the tabes type, with a certain amount of peripheral neuritis. Posterior roots degenerated in the lower half of the cord.

In looking over the literature of Charcot joint, the following points seem to be especially characteristic. A painless swelling of a joint that has reached considerable proportions in a very brief time from its onset, with no very definite cause or some slight traumatism, showing almost from its onset a chronic, not an acute or suppurative character. The surface gives a brawny, resisting sensation, like an œdema, in the immediate neighborhood of the joint, this œdema being limited to one joint unless there happen to be more than one joint affected at the same time. The skin is white, not reddened, or possibly marked with dilated veins, but there is no local heat. Crepitus is easily obtained unless masked by excess of fluid in the joint, and reappearing and remaining after the fluid subsides. The chief symptom almost invariably present is an abnormal mobility of the joint, and, if the lesion is in the knee, especially noticeable a free lateral movement of the joint.

There may soon develop peculiar deformities, subluxations leading to genu valgus or varus or other changes more or less permanent. And following or perhaps causing these deformities, absorption of the bony articular surfaces and hypertrophy of other portions not far removed, so that atrophic and hypertrophic varieties have been recognized.

Now in arthritis deformans, not unlike Charcot joint in some respects, besides the chronic history lasting for years, affecting a series of joints, especially smaller ones, it is very rare to get the abnormal laxity of joints so characteristic of arthropathia tabica, but rather abnormal stiffness. Effusion, swelling, œdema all appear late, if at all, in arthritis deformans.

There is pain, sometimes very severe, while in the Charcot joint, excepting for the lightning pains running through the entire limbs belonging to the tabes the lack of any pain in the joint is very remarkable and always noticeable.

Fractures are frequent also in the Charcot joint, and not only that, but when present soon produce an enormous excess of callous to compensate for the free motion which the lost pain sense allows the broken bone. In short, it is in the Charcot joint that you look for the rapid complete disorganization of the entire articulation, and in an infinitely shorter time than could occur in arthritis deformans These pronounced cases are rather rare. There are not many in New York to-day.

Jürgens, of Berlin, quoted by Marie,[1] states that frequently when no real arthritis exists, decided changes in the joint may still be found, or what is generally the case, overlooked. In a series of autopsies in case of tabes, he found the ligaments stretched, dilatation of vessels and other tissue changes in the synovial membranes and inter articular ligaments, and this occurring in nearly all the great joints. But in none of these were there joint lesion of an extent sufficient to permit diagnosis during life.

Marie, in the same work, has demonstrated the existence as a rule of marked changes in the bony system. Both of these are present in the average uncomplicated case of tabes, not simply when far advanced Charcot joints are found. These ordinary bone changes, in fact, have been well known for a long time.

Since the discussions of ten years ago, the French and German observers have been finding a great frequency of Charcot joints in the early preataxic stage of tabes, when the chief complaint is of the neuralgic pains, and the inco ordination has not advanced to any great extent.

Charcot in his "Leçons sur les Maladies du System Nerveux" makes the interesting statement that in many cases occurring later the joints involved are apt to be in the upper extremity which has not yet been affected by the ataxia. This is directly the reverse of the common idea. Thus, instead of having to do with peculiar trophic disturbances which occur late in a spinal cord disease, we are finding indications of processes occurring in peripheral cells and tissues, and coming it is possible, prior to any serious and extensive lesion in the cord.

There are no American statistics on autopsies of tabes in which the joint surfaces have been uniformly examined, and it is not impossible that the occurrence of these early joint changes may be found as frequent here as in France and Germany. If so the fact may be important with reference to the ataxia.

Professor James, of Harvard,[2] has made some recent and remarkably thorough investigations on the subject of muscular sense in his "Psychology," following the series of experiments and the lengthy monograph of Goldscheider, of Berlin. They hold as the result of these experiments that the muscular sense and our idea of the position of

[1] Leçons sur les Maladies de la Moelle.
[2] Principles of Psychology. Professor William James, vol. ii., p. 198.

our limbs come far more from the delicate sensations of the joint surfaces than from any other cause.

The old idea of special muscular sense or rather of the seat of this sense of position of a limb located in the muscles themselves, as held by Bell, he absolutely discards, and he believes that the muscles themselves have less to do with this sense than any other tissues of the entire limb. Bastian in his recent work, "Hysterical and Functional Paralysis," holds that the sense of position of limbs comes, 1, from conscious impressions derived from our moving members (proceeding from skin, muscles, tendons, and joints); 2, unfelt impressions emanating from the muscles in relation with their varying states of contraction. But the influence of the skin can always be eliminated by local anæsthesia, which leaves the "muscular sense" still unimpaired. Cases of anæsthesia of the skin or skin and muscles in many careful experiments in hysterical or hypnotized subjects also leave "muscular sense" unaffected. Extreme muscular dystrophies seem to have absolutely no impairment of it. The delicate sensitiveness of joint surfaces is proved by the exquisite pain in all inflammations. Goldscheider[1] pursued a series of experiments, separating the joint surfaces from one another, in normal joints and diseased, with a result of uniformly diminishing the sense of position of the limb. Anæsthesia, by whatever means induced, had no effect in changing the sense of position of the limb except when applied to the joint surface itself.

The slightest passive changes of position of joint surface, without any muscular action whatever, were always detected. But contracting muscles alone give rise to no very definite sensations. If, therefore, those early subtle changes in joint surface on which the French and German authorities previously quoted lay stress are true, this may have more to do with ataxia than has generally been believed and is certainly worth careful study.

In diseases of the cerebellum the ataxia is entirely of central origin. But in multiple neuritis the ataxia, which may be extreme, or indeed about the only symptom of the neuritis, is due only to the lesion in the peripheral nerve, or the peripheral end organs.

The ataxia of tabes is much more like the latter than the former. The more recent work in the pathology of tabes is pointing strongly to the starting point of the lesion being in the roots or peripheral nerves, and only at a later period in the cord. Many cases on record and one complete series of sections I possess in an unrecorded case prove that you can have all the symptoms of tabes extensively developed and lasting for years and yet find the most insignificant changes in the cord.

When a limb is amputated at the thigh and the cord examined some time after, a peculiar degeneration of one-half the cord corresponding to the side of the amputation is found which has a most remarkable resemblance to the degeneration found in early tabes (Kraus and Marie). This is not any ascending neuritis from infection from suppurating tissue at the periphery, but the result of an ascending Wallerian degeneration exclusively in those sensory fibres that have their cell of origin, what Marie calls "cellules ganglionnaire peripheriques," "centre trophique" situated in the periphery in muscles, tendons, skin, or joint surfaces. He says that these ought not to be called end organs, but rather cells of origin. It is the ascending degeneration from these cells that gives the peculiar results in the cord we have mentioned.

In addition to this the areas of degeneration in lesions in the posterior roots have been carefully traced out, and certainly give a remarkable counterpart of the ordinary picture of tabes sections.

That peripheral neuritis is generally present in tabes is undenied, and besides anæsthesia and other sensory disturbances it is frequently the cause of muscular atrophy, skin changes, and similar symptoms. Does peripheral neuritis alone ever cause trophic disturbances, especially of the nature of the joint lesions which we are studying?

In "Familiar Forms of Nervous Diseases," page 214, M. Allen Starr makes the following statement: "Other forms of trophic disturbance" (beside glossy skin, which he states is very frequent) "are rarely met with in multiple neuritis. It is true that inflammations of the joints resembling those appearing in acute rheumatism sometimes occur at the onset of neuritis, but as they disappear quickly while other symptoms remain, it is improbable that they are to be traced to changes in the nerves."

But are there not cases of similar arthritis on record occurring not only at the onset, but later in the course of a simple peripheral neuritis?

Weir Mitchell, in "Injuries of Nerves and their Consequences," gives a series of fifty seven cases of nerve wounds and contusions occurring in the extremities, most of them received during the battles of the Civil War. Eight or nine of these resulted in definite arthritis in the joints supplied by the injured nerves. He states, page 169, "In a certain number of nerve wounds, notably most often in those of the upper extremities, one or more joints in the wounded limb became swollen. The nature of the injury does not seem to influence the case, as I have seen it follow dislocations, ball-wounds, and contusions of nerves, while in one case it was one of the consequences of compression of the sciatic nerve by a tumor. . . . In a case at the Philadelphia Hospital a man developed extensive joint lesions owing to the brachial nerves having suffered during dislocation or upon subsequent reduction of the humerus. . . . I have since met with similar cases."

In some cases the joints of the fingers became swollen and tender, a few days after a bullet wound of the brachial plexus, but usually the swelling appeared much later, and like the glossy skin was frequently the offspring of secondary neuritis. These cases were before the days of antiseptic surgery, and some of them may have been due to simple infection of the joint. But they did not act like pyæmic joints. He states that the swelling was never very great. Redness was usually slight, and there was considerable tenderness to touch or motion. This condition remained with little change during weeks or months, but finally recovery followed in most cases.

In a pure traumatic neuritis as reported by Hausemann[1] extreme trophic changes in the joints and adjacent tissue followed injury of the sciatic nerve and a neuromatous change in the lower portion of the thigh.

In so-called anæsthetic leprosy every possible variety of trophic disturbance may occur in skin, muscle, bone, and joint, developing extreme arthritis following the inflammation of the nerve-trunk.

The *Lancet* (1890) reports cases which are not unlike the following seen recently in the Vanderbilt Clinic. A child, aged ten, who had suffered for eighteen months with a clear diphtheritic paralysis, came to the clinic with a lesion of the knee-joint of some weeks' standing, characterized by swelling, slight pain, and partial immobility. No history of rheumatism or traumatism. At least a year had intervened from the period when an infection by pathogenic element in the blood was possible. The cause was either some unknown traumatism or else the effect of the nerve-lesion, the limb being still paralyzed.

These cases indicate that arthritis may occur as one of the results of injury or disease of the nerve trunks from various causes.

Briefly to recapitulate, a Charcot joint can with a fair degree of certainty be clearly diagnosed from other joint lesions even in an extreme case without history of tabes, like the one described. It may be found so early that it may make a diagnosis possible at a time when some of the most typical symptoms of tabes have not yet made their appearance. Minor changes in the joint surfaces and adjacent tissues occur much more frequently than the definite Charcot joint disease, and probably have considerable influence over the development of the ataxia.

Lastly, it is not impossible that the peripheral nerves are an even more active element in causing the trophic joint changes than the cord itself.

[1] Zeitschrift für klin. Med., Berlin, 1889, xv., 82–161.

[1] Berliner klin. Wochenschrift, February, 1894.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street.

New York, June 16, 1894.

ANNUAL MEDICAL MEETINGS.

THE annual meetings for the year 1894 of our State and National medical societies have for the most part been held. The addresses have been delivered, the papers read, the banquet attended, the Code discussed, and the officers elected. The meetings have been, as usual, pronounced "unusually successful," and we have no doubt that much benefit has accrued to the profession from them.

We note, however, that on the whole there have been a diminished attendance and fewer papers. We presume that the hard times have had their effect and have kept many physicians from taking the brief vacation which the yearly meetings afford. The leisure which comes from a less active practice does not lead the physician to more active writing however—a fact which is not surprising, for, after all, the best and most laboriously prepared articles usually come from the busiest men. The spring crop of papers has not matured in printed form as yet, so that we cannot say how valuable to our science they will prove to be. But writing papers is always of value to the writer as a self-educative process, and few men are so barren in ideas or narrow in experience that they cannot utter some helpful words. Medicine is a science so complex and so full of detail that even the commoner facts may slip from the memory. And often papers which tell us nothing new do at least revive forgotten data and teach us over again those things which we need to have constantly in our mental grasp. We do not, therefore, feel that the yearly production of hundreds of papers which, at first sight, seem to lack originality or to bear the marks of carelessness and haste are entirely without practical utility. The annual meetings are mighty factors in the post-graduate education of the physician.

THE CIVILIZATION OF CHICAGO.

WE should infer from the following notice (*Medical Stand*) that medical banquets in Chicago have not been in the past things of sweetness and light. The editor says:

"The banquet of the Chicago Academy of Medicine, in honor of the election of one of its fellows, Dr. J. B. Murphy, to the American Presidency of the Eleventh International Medical Congress, was the most successful social function which ever occurred under medical auspices in Chicago. The toasts and responses were free from the usual postprandial platitudes. The banquet was equally destitute of the stiff conventional or the boisterous—features common to medical banquets. The responses were free alike from spread eagle Americanism or foreignism, and culminated fittingly in an eloquent tribute to America by the representative of Germany, Dr. J. Zeissler. Dr. Pinckard, the chairman, Drs. G. F. Lydston, Sanger Brown, Moyer, Lagorio, and E. W. Lee deserve the thanks of the profession for demonstrating that medical banquets need neither be priggish nor coarse, but may exhibit humor without obscenity and dignity without pedantic prudishness."

We congratulate Chicago upon its new step forward along the paths of a restraining civilization. The Star of Empire will soon be so far westward that the great city by the lakes will be classed with the effete and conventional East. Plainly, Mr. Stead has not been to Chicago in vain.

THE DOCTORS.

THE esteemed contemporary *Punch* does not always seem funny at this distance from its proper atmosphere, but it is always good-natured and generally just. Its New York imitator, *Life*, is sometimes neither one nor the other, but simply scurrilous. Its recent cartoon on the "Vivisectionist" was a loathsome and cowardly performance, utterly false in its representation, mean in its insinuations and low in its intent.

DOCTORS AND THE WARD MAN.

THERE are few, if any, of the doctors in New York City who have practised ten years without having suffered from the depredations of sneak thieves. The articles taken include overcoats, hats, umbrellas, books, instruments, and table ornaments. It may be that some have been so fortunate as to recover their lost articles, but the number is few. Many have probably sent word to the police station and received visits from well fed individuals who talked vaguely of "clews," pawn-shops, etc., but who never accomplished anything. The investigation of the Police Department by the Senate Committee, now going on, reveals something of the character of these estimable "ward men" who posed as detectives. Their especial business seems to be to collect tribute from saloons and brothels, the impression has been also that they "stood in" with the thieves, and this impression is fast becoming a solid conviction as the investigation proceeds.

One of the daily papers puts the matter in this way:

"Citizens who have had occasion to call for the aid of these officers, in consequence of the loss of silverware, jewelry, or other valuables from their premises, have been puzzled to know why they were never of any use and what it was that they were driving at any away. They have not really understood what the 'ward men' were for, and the testimony before the investigating committee has disclosed that and made everything clear."

The moral is, that for the present the doctor had better watch his front-door and not waste his time on the "ward man."

Dr. Emory Lanphear, formerly editor of the *Kansas City Medical Index*, has removed to St. Louis to take the chair of surgery in the College of Physicians and Surgeons in that city.

News of the Week.

Cæsarean Sections in New York.—During the past four weeks there have been three successful Cæsarean sections by New York gynecologists—Drs. Boldt, Coe, and Dudley—all the mothers and children having been saved. Two of the cases were of unusual interest, as the operations were performed for the second time.

The Society of Alumni of Bellevue Hospital.—The following officers have been elected for the ensuing year: *President*, Dr. C. C. Barrows; *Vice-President*, Dr. Parker Syms; *Secretary*, Dr. William N. Hubbard; *Treasurer*, Dr. Robert J. Carlisle.

Dr. J. B. Hamilton was elected President of the Association of American Medical Colleges, at the annual meeting in San Francisco, and Dr. Bert Ellis Secretary.

Medical Society of New Jersey.—The one hundred and twenty-eighth annual meeting of this Society will be held at Lake Hopatcong on Tuesday and Wednesday, June 26th and 27th.

Death of Dr. Plymmon S. Hayes.—Dr. Plymmon Sanford Hayes, eldest son of the late Dr. Justin Hayes, died at his residence, Chicago, May 14, of pneumonia. Dr. Hayes was born in Ohio, December 1, 1850, and went with his parents to Chicago in 1862. He graduated from Rush Medical College in 1872. He was professor of chemistry in the Woman's Medical College from 1876 to 1883, and also occupied the chair of chemistry in the School of Pharmacy. At the time of his death he was professor of electro-therapeutics in the Chicago Polyclinic. Dr. Hayes was a member of the State Medical Society, of the American Medical Association, the Chicago Medical Society, the State Microscopical Society (at one time its president) and the Doctors' Club. He was an authority on electro-therapeutics, many of his works having been translated into French and German. He was a member of the Sons of the American Revolution. Dr. Hayes was prominently identified with religious and charitable works in Chicago. He was married in 1876 to Miss Hattie Hayden, of Washington, D.C., a daughter of Judge J. J. Hayden. He leaves a widow and three children.

Harlem Medical Association, New York.—The following officers were elected for the ensuing year: *President*, Dr. J. Gardner Smith; *Vice-President*, Dr. E. L. Cocker; *Secretary*, Dr. Henry W. Mooney; *Treasurer*, Dr. David Franklin.

Association of American Anatomists.—The sixth annual meeting of this Association was held in conjunction with the Congress of American Physicians and Surgeons, in Washington, D. C., May 29th to June 1st. The secretary reported that two members had resigned, and that three had died, namely, Drs. William Lee, of Washington; William B. Towles, of University of Virginia; and Corydon C. Ford, of University of Michigan. The officers elected for the ensuing term were: *President*, Dr. Thomas Dwight, of Harvard University; *First Vice-President*, Dr. B. G. Wilder, of Cornell University; *Second Vice-President*, Dr F. J. Shepherd, of McGill University, Montreal; *Secretary and Treasurer*, Dr. D. S. Lamb, of Army Medical Museum of Washington; *Delegate to the Congress of American Physicians and Surgeons*, Professor C L. Herrick, of Denison College, Granville, O.; *Alternate*, Dr. D. K. Shute, of Columbian University of Washington, D. C.; Dr. Theodore M. Gill, of Smithsonian Institution, Washington, D. C., was elected to the vacancy in the Executive Committee.

The following papers were read: "On the Identity of Structure of Protoplasm with that of Striped Muscle," by Dr. Carl Heitzmann, of New York City; "Some Problems Relating to Cerebral Fissures," by Dr. Wilder, of Ithaca; "A Plea for a Methodically Written Text-Book on Anatomy," by Dr. Edmond Souchon, of New Orleans; "Study of the Human Cranium," also "The Shortening of the Face-Axis in the Evolution of the Mammalia," by Dr. Harrison Allen, of Philadelphia; "Methods of Estimating the Height from Parts of the Skeleton," by Dr. Dwight, of Boston; "The Perineum and Perineal Body," by Dr. Shute, of Washington; "The Study of the Muscular Tunic of the Large and Small Intestine of Man in the Region of the Cæcum," also "A Note on the Occurrence of the Scapulo-Clavicular Muscle," by Mr. Moody; "Theoretical Anatomy of the Sympathetic System," by Dr. William Carr, of Washington; "The Female External Genital Organs, a Criticism on Current Anatomical Description," by Dr. Lamb, of Washington.

The following papers were read by title in the absence of the authors: "In our Two Years' Study of Anatomy, What Part of the Subject should be Covered in the First Year's Work; What Part in the Second?" by Dr. A. D. Bevan, of Chicago. Two papers by Professor P. A. Fish, of Ithaca, namely: "The Form and Relations of the Nerve-Cells and Fibres in Desmognathus Fusca;" and "The Terminology of the Nerve-Cell."

Professor Czerny has, it is stated, declined the offer of the chair of surgery in the University of Vienna, made to him by the Austrian government. It is believed that the reason for his refusal to accept the succession of his old master, Billroth, is the inadequacy of the laboratory and teaching equipment in the Allgemeines Krankenhaus. Not long ago Professor Erb, a colleague of Professor Czerny's at Heidelberg, also declined the offer of a chair in the University of Vienna for a similar reason.

The Prevalence of Rabies in Athens and the neighborhood is causing much alarm. A number of patients are in Paris under treatment by the Pasteur system.

The Wisconsin Medical Society met at Milwaukee. The following officers were elected: *President*, Dr. Almon Clark, of Sheboygan; *Vice Presidents*, Dr. J. A. Ballard, of La Crosse, and Dr. H. O. B. Wingate, of Milwaukee; *Secretary*, Dr. C. S. Shelden, of Madison; *Assistant Secretary*, Dr. C. M. Gould, of West Superior; *Treasurer*, Dr. S. S. Hall, of Ripon; *Censor for 1899*, Dr. N. M. Dodson, of Sheboygan. The following papers were read: Dr. W. H. Washburn, of Milwaukee, spoke on "Pyrexia," and Dr. T. H. Hay, on "Antipyretics and their Modus Operandi." "The Present Status of the Treatment of Acute Febrile Diseases by Means of Antipyretic Drugs" was treated by Dr. H. B. Sears, of Beaver Dam. "Hyperpyrexia and its Management" was the subject of Dr. G. M. Steele, of Oshkosh. "Ephemeral Pyrexia of Childhood," by Dr. H. B. Tanner, of Kaukauna, was followed by general discussion, led by Dr. W. A. Batchelor. "Uræmia" was treated

by Dr. B. J. Bill, of Genoa Junction, Dr. E. H. Townsend, of New Lisbon, and Dr. C. H. Lemon, of Milwaukee. The discussion on this subject was led by Dr. E. W. Malone, of Waukesha. Dr. J. R. Currens, of Two Rivers, and Dr. A. J. Rosenberry, of Wausau, discussed "The Principles and Ruts of the Practice of Medicine." "Stomach Catarrh and Lavage Treatment" was the subject of Dr. A. F. Heising, of Menomonie, and Dr. Almon Clark, of Sheboygan. Papers were read then on "Croupous Pneumonia in Children," by Dr. J. Noer, of Stoughton; on "Catarrhal Pneumonia," by Dr. Julia P. Kelley, of Milwaukee; a third, on "Cerebral Signs and Simulations in Pneumonia," by Dr. J. R. Barnett; the fourth, on "A Few Remarks about Water," by Dr. A. J. Hodgson, of Palmyra; and the fifth, on "Hæmophilia," by Dr. H. A. Anderson, of Pine Bluff; on "Forensic Aspects of Cranial Injuries," by Dr. J. H. Dawley, Plymouth. Dr. E. L. Bullard, of Waukesha, read a paper on "Acromegalia," a strange disorder of the sympathetic nervous system. Since 1886 only one hundred and fifteen cases have been reported. The case which Dr. Bullard furnished was an elderly woman.

The Kansas Medical Society, at their annual meeting held at Atchison, elected the following officers: *President*, W. R. Priest, of Concordia; *1st Vice-President*, George M. Gray, of Kansas City, Kan.; *2d Vice-President*, Dr. Tyler, of Clifton; *Corresponding Secretary*, G. A. Wall, of Topeka; *Treasurer*, L. Reynolds, of Holton; *Member Judicial Council*, C. A. Maguire, of Topeka. The society selected Topeka as the place for holding the next annual meeting.

The Cholera.—Throughout the winter Asiatic cholera prevailed in several of the southern and southwestern provinces of Russia and in Constantinople. In the cold months there were no cases in Western Europe, except possibly in the French departments of Finistère and Morbihan on the west coast, where the epidemic of last year had not been entirely stamped out. With the return of warm weather the disease has begun to spread westward from the western provinces of Russia; but up to this time it has not appeared in Western Europe, except in the region adjoining the Russian boundary, and in the two French departments already mentioned, where the old infection survives, and in a small district of Belgium, where a few cases have been reported. The reappearance of real cholera in Poland has been followed by the transmission of it across the Polish frontier into Northern Prussia, Silesia, and Galicia. Last week the daily number of new cases in Warsaw had risen to the neighborhood of 50, and the disease had followed the course of the Vistula River northward through Northern Prussia to the Baltic, raftsmen on that stream being the first victims. There are many centres of infection on the Russian side of the boundary, and from them the plague has made its way into Eastern Germany. In the French departments of Finistère and Morbihan—the extreme western departments of the republic—there were 23 deaths in February, 27 in March, and 38 in April. Probably a majority of these occurred in the port cities of Lorient and Quimper, where the disease prevailed last year. "I believe," said Dr. Irwin, of the Marine Hospital Bureau, on May 16th, "that cholera is more general in France and Belgium than it is reported to be." Despatches to London newspapers say that several sporadic cases have recently occurred in Paris. Thus far, cholera has not reappeared in Italy. The epidemic in Constantinople and neighboring places, which began last August in an asylum for the insane, is now dying out; but many cases are reported in Asia Minor. The spreading of the disease from Russia into Eastern Germany and Austria, and the presence of it in the western departments of France, at the beginning of the summer, indicate a probability that a considerable part of the Continent will be infected before the end of the warm season.—*New York Times.*

Dr. Philip H. Pfarre died at his home in Brooklyn on June 8th. He was twenty-five years of age, and was a graduate of the Long Island College Hospital. In October, 1893, he was appointed on the staff of the Brooklyn Hospital.

England's Aged Poor.—According to the census of 1891, there were in England and Wales 606,505 men and 765,917 women of sixty-five years of age and upward, of whom no fewer than 359,202 men and 455,283 women were in a measure supported by the parishes. Assorting this great total, the proportion of those living in towns was less than in the country, and, strange to say, the proportion of the old relieved "was greatest where population was decreasing and smallest where it was increasing." It is only natural to find that in England pauperism with the old diminishes with general progress and prosperity. Those who study vital statistics may gain a great deal from Mr. Booth's intelligent study. Taking sixty-five years as the standard, he finds that at this age thirty-seven per cent. of the old have good health, and twenty-three per cent. more are credited with "fair health," or, together, sixty per cent. At seventy there are thirty-seven per cent.; at seventy five, twenty-seven per cent.; while after eighty, "conditions are no worse."

Epidemic of Rabies in Cows.—Professor Paige, of the Amherst Agricultural College, has investigated the disease of which eleven cattle have died in Ware, and thinks it is hydrophobia, though he will submit the brains of the cattle to the Pasteur method of treatment before deciding. He says all the animals that died were of a herd chased by dogs three weeks ago, and no animal has shown signs of disease which was not bitten.

The Forty-Fifth Annual Meeting of the Indiana State Medical Society was held at Indianapolis, May 17th and 18th. The president, Dr. C. A. Daugherty, of South Bend, made an excellent impression, presiding over the sessions with a quiet dignity and accuracy in every way admirable. Upon the question of the revision of the code of ethics, now before the American Medical Association, the report of the secretary, as received from the county societies, was ordered transmitted to the secretary of the American Association without comment. An attempt was made to have an expression upon the subject by the State Society, but, though the reports from the county societies were very incomplete, many sending no reports, it was decided that the vote as recorded should stand as the best available expression of the sentiment of the profession of the State. This vote was by a very small majority in favor of revision. There were four hundred members in attendance, of whom three hundred and fifty-one registered and received badges. The officers elected for the ensuing year are as follows: *Presi-*

dent, E. S. Elder, of Indianapolis; *Vice-President*, C. S. Bond, of Richmond; *Secretary*, F. C. Woodburn, of Indianapolis; *Assistant Secretary*, K. K. Wheelock, of Fort Wayne.

Ohio State Medical Society.—The following officers were elected for the ensuing year: *President*, D. N. Kinsman, of Columbus; *1st Vice President*, C. O. Probst, of Columbus; *2d Vice President*, M. Stamm, of Fremont; *3d Vice-President*, J. C. Buckner, of Cincinnati; *4th Vice-President*, Robert Peter, of Canal Dover; *Secretary*, Thomas Hubbard, of Toledo; *Assistant Secretary*, Charles Graefe, of Sandusky; *Treasurer*, James A. Duncan, of Toledo; *Committee Finance*, term '92, F. C. Gray, of Dayton (unexpired term of Dr. Pomerine, deceased); term '94, N. P. Dandridge, of Cincinnati; *Committee Ethics*, F. C. Larimore, Mt. Vernon; *Committee Publication*, John P. Sawyer, of Cleveland; *Committee Legislation*, William B. Hamilton, of Columbus; *Committee Admissions*, W. C. Chapman, of Toledo; *Official Stenographer*, George E. Malsbary, of Cincinnati. Next place of meeting, Columbus; time, third Wednesday in May.

The "Slanting Handwriting," so dear to our grandmothers and grandfathers, has long been out of fashion in England and America. It will soon be a thing of the past in Germany. There, however, the change will not be due to æsthetic considerations; it is a sacrifice made to hygiene. An inquiry set on foot by the School Committee of Hanover, at the desire of the Prussian Minister of Education, leads to the conclusion that, while a slanting handwriting favors a crooked position of the writer, straight-up writing forces him to have his copy-book or writing-paper straight before him, and thus helps the writer to keep his body straight while writing. For this reason slanting writing is henceforth to be discouraged in German schools.—*British Medical Journal.*

Dr. S. Weir Mitchell has issued an Analytical Catalogue of his various publications; these range from 1852 to the present year. The books and papers are arranged in chronological order, and a short note is appended to each giving a summary of its contents.

Dr. Oliver Wendell Holmes is said to be writing an autobiography. He works at it an hour or two a day, and has already completed about one-half of what he intends to write. The work will not be published till after the author's death. For the first time in his long and brilliant literary career, the innumerable admirers of the genial "Autocrat" will wish that the publication of a book of his may be indefinitely delayed.

A Summer School of Neurology and Psychiatry.—A summer course of clinical and laboratory study of nervous and mental diseases is to be given for six weeks, beginning June 4th, at the Illinois Eastern Hospital for the Insane.

The New Jersey State Hospitals for the Insane.—This is the present position as to the State Hospitals for the Insane in New Jersey, and there is great desire on the part of medical men to have the governor rightly interpret the law in the appointment of new officials: "An act has been passed, and is now in the hands of the governor, which makes vacant every position in connection with the State Hospitals for the Insane; and as it provides for a non-partisan board of managers, and as this board of managers, and as this is in accordance with a suggestion made by the governor in his annual message, it is fair to presume it will become a law."

The Czar and the Next International Medical Congress.—The Czar of Russia, who has from the first shown great interest in having the next International Medical Congress meet in Russia, has signified his intention of contributing fifty thousand rubles toward the expenses of the meeting.

The Missouri Medical Society met at Lebanon. Drs. J. B. Jones, of Kansas City, and F. R. Fry, of St. Louis, made a plea for a training-school for idiots. Drs. Frank R. Fry, of St. Louis; J. B. Jones, of Kansas City; W. H. Evans, of Sedalia; A. B. Shaw, of St. Louis, and L. I. Matthews, of Carthage, were appointed a committee to memorialize the State legislature looking to the establishment of such an institution. Papers were read on: "Auto-Intoxication," by Dr. J. R. Lemen, of St. Louis; "Amputations of the Thigh," by Dr. A. H. Mersenbach, of St. Louis. The "code" question provoked a lively battle, championed by Dr. I. N. Love, for the revision, and Dr. Findley, of Deerfield, against the adoption of the majority report. After nearly every member present had been heard upon the question, the "coders" carried the day, and the secretary was instructed to advise the American Medical Association to the effect that "the old code was good enough for Missouri." The following officers were elected: *President*, Dr. J. M. Richmond, of St. Joseph; *Vice-President*, Dr. J. P. Thatcher, of Pisgah; Dr. James McComb, of Lebanon; Dr. J. N. Baskett, Hannibal; Dr. H. C. Crowell, of Kansas City; *Assistant Recording Secretary*, Dr. P. L. Kabler, of Hannibal; *Corresponding Secretary*, Dr. C. F. Wainwright, of Kansas City; *Treasurer*, Dr. C. A. Thompson, of Jefferson City. Hannibal was selected as the next place of meeting.

The North Dakota Society elected the following officers: *President*, Dr. A. B. Herrick, of Lisbon; *Vice-President*, Dr. Burroughs, of Bathgate; *Treasurer*, Dr. Rankin, of Jameston; *Secretary*, Dr. Campbell, of Fargo. The next meeting will be held at Fargo.

The Oklahoma Medical Society at its third annual session elected the following officers: *President*, Dr. E. O. Barker, of Guthrie: *Vice-President*, Dr. Cullimore, of Perry; *Treasurer*, Dr. F. J. Trader, of Council Grove; *Secretary*, Dr. C. D. Arnold, of El Reno. The fall meeting will be held at Perry.

The Michigan Medical Society elected the following officers: *President*, H. O. Walker, of Detroit; *Vice-Presidents*, V. C. Vaughn, of Ann Arbor, C. H. White, of Reed City, Mina Logue, of Adrian, C. H. McKain, of Vicksburg; *Treasurer*, W. G. Henry, of Detroit; *Secretary*, C. W. Hitchcock, of Detroit; *Members of the Judicial Committee*, Fleming Carrow, of Ann Arbor, Frank Garber, of Muskegon, and E. L. Shurley, of Detroit. The next meeting will be at Bay City.

The Tennessee Medical Society elected the following officers: *President*, Dr. F. L. Dim, of Memphis; *Vice-Presidents*, Drs. Gillespi, G. C. Savage, and D. E. Shields; *Secretary*, Dr. S. S. Crockett, of Nashville; *Treasurer*, Dr. A. Morrison, of Nashville.

Society Reports.

American Medical Association.

Forty fifth Annual Meeting, held in San Francisco, Cal., June 5, 6, 7, and 8, 1894.

THIRD DAY, THURSDAY, JUNE 7TH.

(By Telegraph to the MEDICAL RECORD.)

THE third general session was called to order by the president at half-past ten o'clock.

Report of the Committee on Revision of the Constitution.—DR. HOLTON, chairman of the Committee on Revision of the Constitution and By-laws, presented the majority report adopted by the committee. This matter was, he said, one of great and vital importance, the most important business, indeed, of any to be acted upon at this meeting of the American Medical Association, and should receive the most careful and thoughtful consideration. He warned his hearers not to confuse this with the matter of revision of the code of ethics. The latter was in great measure a sentimental matter, but this was a business proposition of vital importance to the entire association and to the medical profession in America. In deliberating upon the amendments proposed, the members of the committee had had constantly before them the questions: What will be for the best good of this association? What will serve best to increase the membership of the society and add to the subscription list of the *Journal?* What will conduce most to making the *Journal of the American Medical Association* the best medical journal published in the world and at the same time truly representative of the great society under whose direction and for whose benefit it is published?

DR. H. D. DIDAMA, of New York State, of the Committee on Revision, then presented a minority report differing in many essential particulars from that adopted by the majority. This was the signal for an exceedingly animated discussion, in which a number of members took part, and which threatened at one time to become somewhat personal in character. It was interrupted from time to time by motions to lay the whole matter on the table, but these were voted down, and finally the minority report was substituted for that of the majority of the committee first presented. A motion was now made to adopt the minority report as a whole, and on this a roll-call was demanded. The calling of the roll was proceeded with very slowly, being frequently interrupted by objections, but was finally completed, 215 votes in all having been cast. Of this number there were 151 ayes and 64 noes. As a three fourths vote is required to effect any change in the constitution of the association, the motion to adopt the amendments suggested in the minority report was defeated.

As so much time had been consumed in the discussion of these reports and in the calling of the roll, the address on surgery, which was in the order for this meeting, was dispensed with and the session was declared adjourned.

The registration list shows an attendance of 600 members, who are accompanied by about 400 ladies.

FOURTH DAY, FRIDAY, JUNE 8TH.

Report of the Committee on Revision of the Constitution.—At the opening of the final session, the discussion over the conflicting reports of the majority and minority of the Committee on Revision of the Constitution and By-laws was again started, but the members were weary of it and apparently were saving their strength for the dispute over the code question; so after a comparatively brief debate, the whole subject of constitutional revision was indefinitely postponed.

Revision of the Code of Ethics.—DR. H. D. HOLTON, of Vermont, chairman, then presented the report of the Committee on Revision of the Code of Ethics of the Association. This, like the report of the other committee on Thursday, gave rise to a heated and somewhat acrimonious discussion.

DR. DIDAMA, of New York, again made a minority report in opposition to that of the committee, and the adoption of this report was strongly urged upon the members.

DR. INGALLS, of Illinois, moved that the whole subject be laid on the table, and his motion was carried, greatly to the relief of most of those present.

The Journal of the American Medical Association.—The following resolution was introduced, and on motion was referred to the Judicial Council:

Whereas, The interests of the *Journal of the American Medical Association* require that it should command the confidence of the members of societies in affiliation with the association; and

Whereas, The *Journal of the American Medical Association* has continued to publish unethical advertisements, like those of antikamnia, labordine, and other secret nostrums, and that of the American Physicians' Sanatarium Company offering $1,000 worth of stock to physicians sending it patients; and

Whereas, The trustees of the *Journal* have defended such a course on the ground that the money from such advertisements was needed to publish such a journal as they thought creditable to the association; therefore be it

Resolved, That the various State medical societies in affiliation with this association are hereby requested to inform this association whether their members approve the policy of admitting such advertisements to the pages of the *Journal of the American Medical Association.*

A Department of Public Health.—DR. WINGATE presented the report of the Committee on the Establishment of a Department of Public Health at Washington. If it is found to be impossible to obtain legislation creating a department of health whose head shall be a cabinet officer, then in the opinion of the committee, an effort must be made to secure at least the appointment of a national sanitary officer.

DR. COCHRAN, of Alabama, suggested that there should be a conference on questions relating to public health, held annually in Washington. This suggestion having been put in the form of a motion, it was carried by a vote of the members present.

The Report of the Business Committee was read, and a suggestion made therein, to the effect that members who are in arrears for dues be allowed to continue for three years in debt to the association before their names are dropped from the rolls, was adopted.

Resolutions on the Death of Dr. Rauch, which had been presented by Dr. Montgomery, were unanimously adopted.

A communication was read from the Secretary of the Minnesota State Medical Society, inviting the members of the association in session in San Francisco to attend the meeting of the society in St. Paul, on their way to their homes in the East. The meeting will be held on the 20th, 21st, and 22d of the present month.

The usual votes of thanks to the medical profession of California and to the citizens of San Francisco, for courtesies extended to the visiting members, were passed.

Election of Officers.—The following were elected to fill the offices of the association for the coming year: *President*, Donald McLean, of Michigan; *1st Vice-president*, Starling Loving, of Ohio; *2d Vice-president*, William Warson, of Iowa; *3d Vice-president*, W. B. Rogers, of Tennessee; *4th Vice-president*, F. S. Bascom, of Utah; *Treasurer*, S. P. Newman, of Illinois; *Permanent Secretary*, W. B. Atkinson, of Pennsylvania; *Assistant Secretary*, G. H. Rohe, of Maryland; *Librarian*, no election; *Trustees*, Joseph Eastman, of Indiana, J. T. Priestly, of Iowa, J. E. Woodbridge, of Ohio, D. W. Graham, of Illinois, and J. W. Graham, of Colorado; *Members of the Judicial Council*, J. D. Crothers, of Connecticut, C. H. Gillespie, of Tennessee, W. T. Bishop, of Pennsylvania, C. H. Hughes, of Missouri, I. J. Heiberger, of the District of Columbia, and H. Brown, of

Kentucky; to deliver the Address on Medicine, W. E. Quine, of Illinois; Address on Surgery, C. A. Wheaton, of Minnesota; Address on State Medicine, H. D. Holton, of Vermont; *Chairman of the Committee on Nominations*, Jerome Cochran.

The next meeting will be held in Baltimore, Md., beginning on the first Tuesday of May, 1893. *Chairman of the Committee of Arrangements*, Julian J. Chisholm, of Maryland.

The Constitution and Code of Ethics.—Dr. Marcy, of Massachusetts, moved that all matters relating to the amendments to the constitution and to the code of ethics, now lying on the table, be taken therefrom for further consideration. Carried. Dr. Marcy then moved to postpone indefinitely the revision of the constitution. Carried. He then moved that a statement making clear the provisions of the proposed new code be published regularly in the *Journal*, so that the exact nature of the proposed changes might be thoroughly understood by all the members of the association. This motion was also carried.

The Address on State Medicine was not read, as the prolonged discussions had consumed the entire time of the session.

Dr. Donald McLean, the newly elected president, was then escorted to the platform and spoke a few words of appreciation of the honor conferred upon him.

Dr. Hibberd, the retiring president, delivered a short valedictory address, and declared the Forty-fifth Annual Meeting of the American Medical Association closed.

The Compensation of Combined Valvular Lesions.—Dr. Baccelli remarks that the general condition of the patient may be no worse where more than one valve is involved than in a lesion of a single valve. (*The British Medical Journal*) He relates two cases in illustration: 1. A man, aged forty-five, had acute rheumatism five years previously, but only complained of symptoms for a year past. Although physical examination showed the heart much enlarged, and both mitral and aortic orifices incompetent, yet when at rest the patient gave little evidence of anything being the matter with him. The pulse presented nothing characteristic. Disturbance of compensation in valvular lesions is a much more complicated problem than is usually believed. Thus a patient after influenza exhibits symptoms of a cardiac lesion previously silent, or in another accustomed to hard work the compensation suddenly breaks down without apparent sufficient cause. The anatomico pathological defect does not constitute the whole clinical picture. Murmurs at times disappear, or a fully compensated mitral stenosis may apparently present signs which should be looked upon as of ill omen, and yet they do not prove to be so. The worst damage done to the heart is when two lesions of opposite characters, such as aortic stenosis and mitral regurgitation, exist. When the lesion affecting the valves is similar, the outlook is much less serious. But because the trouble caused by the double lesion is less, it does not necessarily follow that the danger is less. Sudden syncope may occur. The real danger lies in a material and dynamic disproportion. The prognosis must be very reserved, since the capacity of compensation may cease to exist. Prophylactic measures, including the avoidance of mental excitement, too apt to be forgotten nowadays, must be attended to. Digitalis purpurea is the sovereign remedy among cardiac tonics, caffein and strophanthus being some distance behind it. Caffein, unlike digitalis, increases the heart's action. Strophanthus is used when the others fail or have to be discontinued. 2. A man aged fifty one, with no history of rheumatism, and always in good health, was seized with dimness of vision, nausea, and vomiting. He showed the physical signs of mitral and aortic stenosis. Only slight symptoms existed; he had no cough or bronchial catarrh. Here a paradox might seem to exist—namely that a stenosis of one valve was a more serious lesion than that of two.

Congress of American Physicians and Surgeons.

Third Triennial Meeting, held at Washington, D. C., May 29, 30, 31, and June 1, 1894.

(Continued from page 741.)

AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.

Eighth Annual Meeting, held in Washington, May 29, 30, and 31, and June 1, 1894.

First Day, Tuesday, May 29th.

Modifications of Biglow's Operation for Stone in Cases of Enlarged Prostate.—Dr. George Chismore, of San Francisco, stated, that out of 71 litholataxies made, 52 have been cases in which senile enlargement in varying degrees has been present, all but 5 requiring the catheter.

The modifications of the classical operation suggested are as follows: 1. Substituting local for general anæsthesia in cases where an anæsthetic is required. 2. Short sittings, continue crushings only so long as fragments can easily be found; wash out the pieces, and stop the moment symptoms of exhaustion, spasm of the bladder, or unusual distress occur. 3. Remove remaining pieces, after symptoms due to previous operation have subsided, as soon as they can be felt by the searcher, usually within a week, and repeat the process until the bladder is cleared.

If necessary before the operation, when there is narrowing of canal, he dilates gradually up to 16 or 18 Van Buren sound; and in his office empties the bladder, injects from one to two fluid ounces four per cent. solution of cocaine muriate: gently inserts lithotrites, seizes, and crushes the stone.

He presented the following conclusions: In all cases of stone in the bladder where senile enlargement of the prostate gland exists, the operation described affords a reasonable probability of success, provided the urethra is, or can be made, large enough to admit the instruments; that in such cases it is possible by this method, with less suffering and danger to the patient, to remove any stone that can be gotten through a perineal incision; that the results are quite as good, both as to relief or recurrence, as those attained by cutting either "high" or "low," and that, as a rule, the time required to clear the bladder is not greater than that which is necessary to recover from a supra-pubic lithotomy. Forty-eight of the calculi are herewith presented for your inspection; the remaining four, including my largest, were unfortunately lost on the occasion of moving my office.

Dr. J. William White, of Philadelphia, was much interested in the use of the local anæsthetic, and should feel like adopting Dr. Chismore's methods in the future.

Dr. Francis S. Watson, of Boston, was very doubtful as to the value of this method.

Dr. W. K. Otis, of New York, favored the supra pubic operation, because all fragments can be removed and bladder drainage can be made.

Dr. John P. Bryson, of St. Louis, thought there was danger from irritating the prostatic urethra, and in these cases he preferred to perform prostatectomy at the same time that he removed the stone.

Dr. James Bell, of Montreal, was struck with the amount of cocaine used, as he had had an accident once with cocaine in the deep urethra. He believed in the supra-pubic operation and bladder drainage.

Dr. Edward Martin, of Philadelphia, stated that it was no safer to give chloroform in cases of kidney disease than ether.

Dr. Chismore said that in several cases he had seen pallor, nervousness, restlessness, and slight cardiac failure, but not enough to stop operation when cocaine was used. He had used as much as eight ounces of the four per cent. solution at one sitting.

Dr. L. Balton Bangs, of New York, who had occupied the chair during the discussion, was called upon for his opinion, and remarked that his own experience had been that one of the cutting operations with drainage was the best. In some cases the supra-pubic tends best to accomplish the result, in others the perineal. For the perineal he used Volkman's method of dilatation of the prostatic urethra and the removal of the stone. He had found some trouble in the use of Dr. Chismore's lithotrite. In any method of operation there often were recurrences. He would like to know how the deep urethra was anæsthetized, as cocaine must be in contact with the mucous membrane six minutes to get its effect.

Castration for Hypertrophy of the Prostate.—Dr. J. William White, of Philadelphia, read the paper. In December, 1892, he requested his assistant, Dr. Kirby, to make a series of experiments on dogs, with a view of determining whether or not castration would be followed by notable atrophy of the prostate. The results showed rapid atrophy, first of the glandular and then of the muscular elements. This was so marked that he suggested in his paper that castration might be a valuable therapeutic measure in many cases of hypertrophied prostate. While the prostate is not embryologically the true homologue of the uterus, it is developed from structure quite distinct from those which form the urinary passages. And its growth is in direct relation with the sexual life of the individual.

He refers in detail to the literature of the subject since he brought the matter before the profession, and refers to three cases operated on by Dr. Haynes, of California, the first surgeon to do the operation in this country, while Dr. Raum was the first one in Europe. He refers to the case of Dr. Smith, of New York, and a case operated on by himself. The object of the paper was to bring out discussion, and the results of cases treated were very good.

Dr. Bangs, of New York, said there was another side to this question. Simple drainage will at times produce the result claimed in these cases. He had a case recently in which he decided to drain the bladder instead of this operation, and the man had since married, and copulated successfully. If sexual hyperæmia ends at eighty, why don't we get good results in hypertrophy of prostate at that age? The spermatic artery might be tied and get atrophy in that way.

Dr. Bryson, of St. Louis, reported a case of removal of both testicles at different times for tuberculosis. The case came under his care eleven years ago, with enlarged prostate and having six ounces of residual urine. Eight years ago he reported that he had been able to perform the sexual act.

The man began to urinate less frequently at night, and the prostate was very much decreased in size, the tubercular process being quiescent. In the meantime his wife had died and he married again, but was unable to copulate. Five years ago he died of general tuberculosis.

Dr. Alexander W. Stein, of New York, had seen two cases, sixty and sixty-six years old, respectively, of atrophy of the prostate after destruction of the testicle.

Dr. Martin, of Philadelphia, said in relation to the case operated on by Dr. White, that at the time of operation the prostate was the size of half an orange. Two days ago was normal.

Dr. Belfield said if arrest of sexual life is followed by atrophy of prostate, it might be possible to remove the spirit and not the body of the testicle; ligation of the spermatic artery causes necrosis in dogs. In man, on account of collateral circulation, it has not this result.

Dr. Alexander reported two cases of undescended testicles with complete loss of glandular substance, nothing but fibrous tissue remaining, as shown by microscope —failed to produce atrophy of the prostate, as shown by rectal examination.

Dr. Bangs said that sexual appetite cannot be determined by absence of the testicle. He referred to a case sent him by Dr. Vaughn, showing the result of ligating veins. In an open operation for varicocele, the operation was soon followed by pain at the time of sexual excitement, and the man continued to get worse until the testicle and cord had become very much hypertrophied. The artery had not been tied.

In concluding, Dr. White said that there were very few men living at eighty with hypertrophy of the prostate. He had thought of ligation of the artery, but in cases where he had done it for hemorrhage, after operation for varicocele, it had been followed by necrosis; the length of the urethra had diminished one and one-fourth inch in four weeks. The frequency of urination at night was the first symptom of improvement.

He thinks if castration does cause atrophy of the hypertrophied prostate, there is no reason other than purely sentimental ones, why it should not be resorted to in a great many cases.

Two of the three cases referred to by Dr. Alexander are not important, because sexual powers are retained. In both the length of the cord left after castration affects sexual power.

A Suggestion as to the Removal of Adeno-myomatous Growths from the Prostate.—Dr. Samuel Alexander read a paper on this subject, in which he called attention to the various methods which have been employed for removing prostatic hypertrophy, and stated that he favored the double incision, as recommended by Belfield. The modification suggested by Dr. Alexander consists in removing the obstructing portions of the enlarged prostate by enucleation, after stripping up the mucous membrane from the submucous tissues by means of the finger passed into the perineal opening. In one case reported by the author the patient was a man aged fifty three, who gave a history of prostatic obstruction of two years' duration. The bladder was opened above the pubes, and a perineal incision was made extending as far as the apex of the prostate. The mucous membrane of the prostatic urethra was stripped up, and the adenoid growths removed with the prostatic forceps through the lateral opening.

The advantages claimed by Dr. Alexander for this method were that the mucous membrane remained intact; that the chances of hemorrhage were greatly diminished; that the prostatic sphincter was preserved; and the greater ease with which the entire obstructing portions of the prostate can be removed.

Dr. Belfield said that hemorrhage was chiefly from the mucous membrane. With one finger in the bladder and one in the perineum we can get at the bladder.

Dr. Watson said that enucleation is not possible in every case. He agreed with Dr. Belfield that the chief point is checking the hemorrhage by the vesical pad, suggested by Dr. Keyes.

Dr. White said that there is not enough known about the amount of prostatic tissue which can be safely removed. The mortality bears a ratio to this amount.

The discussion was continued by Drs. Bryson Bell and Bangs.

Dr. Alexander thought that the amount of prostate removed had no bearing on mortality.

Rupture of the Urethra.—Dr. Francis S. Watson, of Boston, reported four cases of this nature, the first in a sailor, due to traumatism. The other three occurring during sexual intercourse. The last was followed by gangrene of scrotum and skin on the under surface of the penis, treated by skin grafting, with excellent result.

Treatment of Cystitis.—Dr. Gardner W. Allen, of Boston, read a paper with this title. Most of the cases of cystitis are of gonorrhœal origin. In non-gonorrhœal cases the cause is not always clear, but in a certain number of cases it is apparently traceable to a posterior urethral catarrh, resulting from congestion of the prostatic portion, with or without inflammation of the seminal vesicles, and brought about by prolonged and repeated sexual excitement. For remedies he used nitrate of silver, rarely stronger than one per cent., and permanganate of potash 1 to 5,000, 1 to 3,000, and 1 to 2,000. The blad-

der should be thoroughly irrigated by means of a large-sized Ultzmann syringe, increasing the strength of the permanganate of potash until it reaches 1 to 2,000. If one method did not succeed another should be tried.

Dr. Lewis, of St. Louis, asked Dr. Allen what was his distinction between a cystitis and posterior urethritis; whether the presence of the ammoniacal urine was the test. He would advise the alternating of the remedies, both by instillation and by washing Sometimes the benefit did not show until the treatment was stopped.

Dr. Watson did not remember any cases where he could trace cystitis to sexual excesses.

Dr. Martin wished to call attention to kreasol, which was a better antiseptic and less poisonous in the bladder than carbolic acid.

Dr. Allen, in closing, stated that in regard to cystitis caused by sexual excesses, he got history of frequent and painful nucleation after sexual excesses and masturbation, which set up a prostatic catarrh, which in turn produced the symptoms.

AMERICAN CLIMATOLOGICAL ASSOCIATION.

Eleventh Annual Meeting, held in Washington, D. C., May 29, 30, 31, and June 1, 1894.

First Day, Tuesday, May 29th.

Dr. Andrew H. Smith, of New York, President, in the Chair.

Dr. Smith, in his opening remarks, referred to the long list of papers to be read at the sessions of the association. He dwelt on their importance. They were all by experts in their several lines. The American Climatological Association is advancing on its pathway of usefulness, advancing with *éclat*.

Alimentation in Pulmonary Disease.—Dr. Andrew H. Smith, of New York, read a paper with this title. Alimentation always plays an important rôle in disease in general, and has a special importance in pulmonary disease. Food may have a good or bad effect, depending on assimilation of the products of digestion. As yet, we are not familiar with the *modus operandi* of blood-production. We do not know where the corpuscles are formed. For perfect assimilation of food, there must be perfect oxygenation—the latter furnished by fresh air. Unassimilated food is a source of irritation to the economy. In pulmonary disease the action of the lungs is impaired. Undigested food is useless to the economy. For perfect metabolism, the blood must be freely aërated. An intelligent study of phthisis clearly demonstrates the folly of overfeeding. We should give as little food as may be necessary. The whole tendency has been to overdo it. The old treatment of pneumonia was that of forcing food on the stomach. In pneumonia, not only were the lungs impaired, but toxæmia resulted from overfeeding. Such efforts to keep up the strength were a mistake. Harm results from crowding the vessels. By such methods double work is thrown on the heart.

What shall the diet be? All forms of food were derived originally from the vegetable kingdom; flesh food is more readily digested than carbo-hydrates. Nourishment should be given in small quantities and repeatedly. No forcing food on patients. Water may be given freely. The instinctive feeling of the patient may be relied on, as to what will keep the blood fluid.

In chronic lung disease high nutrition is necessary, as in fibroid phthisis, patients have bloodless faces and white conjunctivæ. The pabulum from the food does not get into the circulation. In such cases we have hæmoptysis sooner or later. The respiration is impaired, and no oxygen enters the blood, the oxygen so necessary for hæmatosis, as well as for the whole process of metabolism. The blood becomes poor from imperfect hæmatosis. We cannot rely wholly on flesh foods. Dyspepsia often is present. Life in the open air is of immense value in the treatment of these cases.

Speaking of his own experience, he had been most successful in using rectal injections of defibrinated blood, four ounces at a time. It was his uniform experience that the motion following an injection showed no trace of blood. It seems to be absorbed, and to him such injections were quite the equivalent of transfusion.

He cited the case of a patient at the Presbyterian Hospital, New York City, whose weight was 106 pounds. Day by day, in visiting that ward, he expected to find the bed vacant by the man's death. On November 5th he gave blood enemata at bed time. In a month the man had gained six pounds, and at the end of three months thirty-three pounds. Man left hospital apparently well. Such patients should live much in the open air.

Regarding the use of alcohol in pulmonary cases, he had yet to be convinced that it had not a nutritive value, both in acute and chronic disease. When the odor of alcohol is found in the breath, the patient is getting too much.

The Relation which Alimentation should Bear to Oxygenation in Lung Diseases.—Dr. Boardman Reed, of Atlantic City, read the paper. Regarding forced feeding, it was just as great a mistake in pulmonary as in other diseases. An excess of food is injurious. There should be a ratio between the oxygen and the food taken. Where the in-take of oxygen is large, a large amount of food will be demanded and assimilated. A patient with impaired lungs requires less food. Overfeeding does him injury, as it cannot be assimilated.

Physicians should make a study of diet. He cited several cases showing the advantages of regulated diet. A man aged thirty, an expressman, sent for him. Was taken ill in August, 1893, was seen January 19th. Had gone to bed in November. Had been fed liberally. Temperature, 101° to 102° F. Had weighed one hundred and twelve pounds two months before—then less. Nummular sputa; dulness right apex; left apex gave evidences of slight infiltration. Was in a small, badly ventilated room. He ordered open windows; wide open all day, and open six inches at night. Sponging body first with cool and later with cold water. Illness had been attended by frequent attacks of vomiting. Creosote checked it. Stomach regained its tone. Ventilation of room and sponging did great good. He was ordered a breakfast of beefsteak and salt, preceded by a tumbler of hot water. A light lunch and dinner. He showed steady gain. Temperature, at end of two weeks, 99½° F. Night sweats had disappeared; cough slight and dry; iodide of arsenic was prescribed. Painted chest over affected area with tincture of iodine. At the end of a month he had greatly improved. Kept him out-of-doors. Weight, 126 pounds; temperature, 99° F.

February 22, 1894, patient had a relapse. He had eaten a hearty meal at midday. Found moist râles. Went back to a strict dietary. May 2d, weighed 132 pounds. He looked in robust health, and returned to his work. He had had no cough for three or four weeks. No pain in chest. In short, man got more air and less food.

Diet and hygienic regimen are necessary. Under the old treatment it was constant feeding. They did not improve. We want pure blood circulating in the lungs.

When fever is present in lung cases, rest of body is necessary. Let them rest in-doors on a bed, or out-of-doors in a hammock, in the free open air. Keep patients out of-doors. By day and night let them have an abundance of air.

Certain climates are more favorable to certain cases than others. To-day, we fully realize that the climate is not of so much importance—the colder the air the better, if they can breathe it. Change of climate benefits many. It acts as a stimulant. Often a change from one climate to another is beneficial—coast to mountain and *vice versa*.

Twelve years ago, a clergyman consulted him. It was a plain case—consolidated apices. He requested him to abandon his pulpit for a year, and go into the country and

live in the open air. He got well and in a year returned to his work, and has remained well.

Discussion.—Dr. Butler said that it was his rule to have his patients lightly fed for a few days. All acute febrile diseases were attended with a suppression of digestive fluids. In a few days the body became accustomed to an abnormally high temperature and the products of bacterial activity.

Dr. Robert H. Babcock, of Chicago, said that there were two points of great importance in the papers read. Staying the waste of the nitrogenized tissues that takes place in pulmonary disease, lessens the demand for air. In lung diseases there is a lessened ability to take oxygen. In acute disease, as in acute pneumonia, we should feed our patients with milk rich in cream, as rich as they can digest. The pulmonary circulation is under much higher pressure. The pulmonary circuit is smaller than the systemic circuit. Where there is a cavity owing to pressure on the pulmonary circulation, there is always a danger of hemorrhage. Dr. Reed's paper showed the excellent effects of regulated diet.

The antipyretic action of air was well known. The Frau Reustein treatment kept patients out in the open all day. Air, fresh and cool, acts as an antipyretic, and by lessening the febrile temperature it improves the assimilative power of the patient.

Dr. Von Ruck, of Asheville, N. C., had used injections of defibrinated blood; he had noted marked improvement. In six weeks excellent results were obtained, as proven by the usual blood tests.

Dr. D. W. Prentice, of Washington, D. C., said that the amount of carbonaceous food had to be watched. He gave some remarkable results in asthma and bronchitis. An intelligent patient had experimented on himself; had had asthma frequently, threatening suffocation. He placed himself on a strict diet of lean meat and certain vegetables, but no carbonaceous food; he kept a careful record of his weight, weight of food and fluids taken, and weight of excretions. The attacks of asthma ceased; later, he returned to free diet, and in two days the attacks of asthma returned. An excess of carbonaceous elements must be eliminated by the lungs. He returned to the earlier diet, when the asthma promptly disappeared; went on free diet, reproducing the asthma. The excess of carbonaceous elements caused it.

Dr. A. Gihon, Medical Director United States Navy, mentioned the case of a marine who got well by working in the air; the bacilli disappeared.

Dr. Andrew H. Smith said that he was greatly pleased that Dr. Von Ruck's experience confirmed his in using defibrinated blood.

In reply to a question, Dr. Smith said that the blood was injected once a day, and two ounces at a time.

Systematic Exercise in the Prevention of Phthisis.—The third paper was read by Dr. Glentwood R. Butler, of Brooklyn, N. Y. Its title was "The Methods and Value of Supervised Exercises and Diet in the Prophylaxis of Pulmonary Phthisis."

He defined pulmonary tuberculosis as a disease of nutrition—a microbian affection. Certain people showed a vulnerability of the tissues; the tissues in the human body vary in their resistance to the invasion of the bacilli. He said that special medication in phthisis was a chimera. Many things must be considered: climate, abode, personal hygiene, exercise, and its corollary, rest. As to diet, any device that will fortify the cells and body should be employed. Reinforcements should be sent to the besieged. Regulated exercise was necessary, patients must be told what to do, "Precision in the treatment of disease," wisely said Dr. Weir Mitchell, "that was just what was necessary." He defined the pretubercular stage, and that of incipient phthisis.

Hæmoptysis, he said, was pathognomonic. Exercise general and local was necessary, thereby increasing the strength aud bulk of the muscles. There was better action of the skin. Next improved digestion.

Neuro-muscular training he described at length. It improves the system. It strengthens the muscles of inspiration and expiration. Promotes an exchange of gases. Pulmonary exercise brings the vital forces of the lungs to their maximum. It means increased pulmonary expansion. Deep breathing several times a day was of great value. General exercise within fatigue. More sleep followed, and then more exercise. He reported excellent results.

Dr. Otis, of Boston, warmly approved Dr. Butler's views. To-day gymnastics are applied scientifically. Yearly he saw fully five hundred young men. Careful notes were taken on each case. The vital and ordinary capacity of the chest was taken. The gymnastic exercise was taken under the observation of a skilled assistant. At the end of six months all were carefully re-examined and re-measured, when, as a rule, excellent results were gotten.

The physician interested in diseases of the chest must make a study of modern gymnastics, just as he studies the action of drugs. In applying pulmonary gymnastics the cases must be watched.

Dr. John Winter Brannan, of New York, referred to his experience in such matters while practising in Colorado. He also was in favor of pulmonary gymnastics and deep breathing. He knew of cases that left Colorado for Boston, and there underwent a course in pulmonary gymnastics, and returned to Colorado markedly improved. Its value was great.

Dr. J. B. Walker, of Philadelphia, was pleased that too much stress was not laid on the peculiar advantage of any one climate, that a change from one to another might be beneficial.

Dr. Brannan then asked Dr. Butler how expansion of the apices was produced. Dr. Butler gave an explanation and demonstration of how it could be done for apices and bases. The fourth paper, by Dr. Clarence G. Rice, of New York City, was read by title; it was "The Importance of Mouth Cleanliness in the Prevention of Disease."

AMERICAN DERMATOLOGICAL ASSOCIATION.

Eighteenth Annual Meeting, held in Washington, May 29, 30, 31, and June 1, 1894.

First Day, Tuesday, May 29th.

The address of the President having been misplaced, the session began with the reading of papers.

Thyroid Feeding in Diseases of the Skin.—Dr. George T. Jackson, of New York, read a communication with this title. He spoke of the remarkable results obtained from thyroid feeding in myxœdema; the skin ceased scaling and resumed its normal appearance; the hair grew again and the nails became sound. That in myxœdema thyroid feeding furnishes something to the body that the changed thyroid has ceased to furnish is a rational theory of its action and basis for its use. The administration of the thyroid is attended by danger to the patient's life. It seems to exert an inhibitory action on the heart. There is generally a rise of temperature, headache, nausea, vomiting, diarrhœa; marked loss of weight has been noticed. A glycerin extract, a dessicated powder, and compressed tablets were used.

Dr. Jackson prefers putting up the powder in gelatin capsules. The writer treated three cases of myxœdema, one case of ichthyosis, and one case of dermatitis exfoliativa. Case No. 1 of myxœdema was treated from November 20th to January 23d. There was an exfoliation of the skin in large flakes and frontal headache. After the cessation of the headache the thyroid was renewed in two-grain doses. On January 23d the arms and upper chest were smooth. No change in the legs. The experiment was not resumed as the patient was confined to the house with a chronic bronchitis.

In the second case of myxœdema, after the administration of three grains t.i.d., there was headache and an

acute general erythema developed. The patient complained of burning of the skin. In this case the thyroid was given from November 23d to March 9th without improvement and was discontinued.

In a case of ichthyosis, quite a pronounced one, the treatment was carried on from November 29th to February 14th. The patient was rendered more comfortable and there was less itching. The case was not seen after February 14th. In the case of dermatatis exfoliativa there was absolutely no moisture anywhere; there was intense itching. All the hair had been lost from the entire body. It was noticeable on the temperature chart that the temperature rose in the afternoon and was subnormal in the morning. There was no positive result in this case; after nearly eight weeks of thyroid treatment it was abandoned. In the five cases the following disagreeable symptoms were met with: headache, intense erythema, nausea, vertigo, rapid pulse, and sharp rise of temperature. The writer considers that the benefits from do not compensate for the disagreeable symptoms arising from it and is not inclined to continue it.

Discussion.—Dr. Fox, of New York, believed that all cases taken from the out-door department and put in bed under good diet will improve. He thought the cases of psoriasis reported by the English improved under good diet more than by the thyroid treatment.

Dr. Hyde, of Chicago remarked that the season effected an amelioration in cases of psoriasis. Dr. Hyde reported several cases treated by thyroid and concluded by saying that he did not consider the treatment worth employing.

Rare Forms of Alopecia.—Dr. Fox, of New York, read a paper by this title, limiting his remarks to folliculitis decalvans. Two very fine photographs of this disease were shown by him. He said that accidental peculiarities in different cases has given rise to various names. The disease begins with tenderness of scalp, followed by folliculitis. There is an inflammatory condition, followed by destruction of hair. The falling out of the hair is the first symptom noticed. The hair can be pulled out without pain and is surrounded by its root sheath. The crown is mainly affected. After the subsidence of hyperæmia there occurs a sinking-in of the patch. This stage resembles very much alopecia areata, but differs in the redness and the incipient atrophy. There is marked pigmentation of patch, which persists.

The disease occurs in adults and in the young. There is a very marked general nervous condition. He found the best treatment to be the use of ung. acid salicylic, ten per cent., after shaving the patch.

Dr. Zeissler called attention to the follicular elevation and roughness of scalp in this disease. The hair seemed broken off. He had found strong sulphur ointment very useful.

Dr. Hyde thought that these rare forms of alopecia areata might be forms of tuberculosis of scalp or lupus erythematosus. He did not think that all the rare forms should be grouped under the name of folliculitis decalvans. He had had good results from the use of hydrarg. ammoniat.

Dr. Fox closed the discussion by saying that some cases of lupus erythematosus resembled very much this disease, but that in folliculitis decalvans there are broken-off hairs projecting from conical elevations.

Favus of Head and Body was the title of the next communication, presented by Drs. Cantrell and Stout. Very excellent photographs were shown. The case was that of an Italian boy, aged ten. Most of the scalp and the sides of body and back were covered by the lesions.

In the discussion following Dr. Jackson thought it was very rare to see favus on the body, and mentioned a case where there was a vesicular ring on the palm and the crusts were only to be found on the back of the hand.

Dr. Zeissler spoke of a case of Kaposi's where the spores and mycelin were found in the stomach after death.

Dr. Stellwagon stated that the case reported by Dr. Cantrell had been treated with ung. sulph., and that very active treatment was needed to eliminate the favus from the body.

Dr. Hyde had found, in his experience, that the treatment of favus of the body was very long. He had found it best to change from one anti-parasitic remedy to another.

Cold as an Etiological Factor in Diseases of the Skin.—Dr. Corlett read a paper with this title. The disease occurs on dorsal surface of hand. The lesions are scaly with a well-defined margin. The eruption appears in winter and leaves with the warm weather. In one case there was a circumscribed moist patch on left wrist. It was vesicular and resembled a herpetic lesion. Other lesions were of a dusky-red color, of a bluish or purplish color. These lesions always disappear in warm climates. The patients have never suffered from chilblains. The eruption is surrounded by horse shoe shaped patches. It becomes later of a delicate rose color. He would name the affection "dermatitis hiemalis." In the treatment he applies soothing and astringent ointments. Protection from the air is necessary.

Dr. Hyde thought that similar patches were often seen and that we should be careful in attributing the affection to cold.

Dr. White thought that affections due to cold were more general and more itchy. He sees similar lesions in all seasons.

Dr. Corlett closed the discussion by saying that the affection occurred more frequently on the right hands of right handed people.

AMERICAN ORTHOPEDIC ASSOCIATION.

Eighth Annual Meeting, held at Washington, D. C., May 29, 30, and 31, and June 1, 1894.

First Day, Tuesday, May 29th.

President's Address.—Dr. A. M. Phelps, of New York, said undoubtedly the subject of modern surgical bacteriology and pathology has made and will still further make, a most decided impression upon orthopedic surgery. No pus is formed from the bacilli of tuberculosis, but the germs grow and as surely destroy new inflammatory material as do the germs of suppuration. Then we may say that the normal inflammatory material has become diseased, which may be pyogenic, or if the tubercle bacillus is present, tubercular.

To produce disease caused by germs two conditions are essential: first, inflammatory material, which is made up of embryonic cells; and second, the presence of germ life. In the absence of either such disease cannot occur.

Immediately following a slight injury nature attempts repair by means of normal inflammatory action, but should there be floating in the circulation germ life, either tubercular or pyogenic, inoculation of this area of inflammation is almost sure to take place. During the period of active inflammation the symptoms are almost identical with disease. Understanding this we can account for the ephemeral form of hip and Pott's disease. He spoke of struma as being a condition where the vital forces had less resistance than usual, and thus made the subject more liable to the development of tuberculosis than otherwise.

The process which takes place after the inoculation of the bacilli of tuberculosis produces tubercular disease unattended with pus. Pyogenic germs produce rapid purulent destruction and the formation of abscesses when tubercular cavities or foci of disease are so inoculated. That explains why a child may carry around a fluctuating tumor filled with tubercular material that remains quiescent or possibly diminishes in size, when in a single day it increases, becomes hot, and possibly painful, and very soon ruptures, with the escape of a large quantity of pus and cheesy material. Any tubercular

foci, although convalescing, may become inoculated again through the medium of milk or contaminated food.

The Past and Future of Orthopedic Surgery.—A distinction, he said, should be made between the orthopedist and the orthopedic surgeon. The former name did not fully imply all that should come under the province of the modern orthopedic surgeon, whose work should not be limited to the mechanical treatment of diseased joints, but with a clear knowledge of the etiology and pathology he should be not only the mechanic, but the operator, when occasion demanded. This branch of surgery should not only include those conditions, but fractures and dislocations, because they required the highest degree of mechanical skill. All cases requiring osteoclasis belong to the orthopedic surgeon.

Bending of the Neck of the Femur in Adolescence.—Dr. Royal Whitman, of New York, read a paper entitled "Observations on Bending of the Neck of the Femur in Adolescence," with particular reference to the diagnosis and significance of the affection.

The object of the paper was to call attention to a deformity at the hip joint that developed in adolescence under the same conditions as knock-knee, bow-leg, or flat-foot.

The affection was first described by Müller, who in 1889 reported four cases, but the deformity had attracted no attention in the country up to the present time. Dr. Whitman presented the history of four cases, with photographs and diagrams showing the appearance of the deformity in its different stages in the hope that the affection might be recognized and not, as in the cases reported, be mistaken for rheumatism, hip-disease, dislocation, tumor, or paralysis. The early symptoms were usually stiffness and discomfort about the affected joint and thigh, most marked on changing from a position of rest to activity. These symptoms were increased by long standing or walking and relieved by rest. Examination showed a prominent trochanter more or less elevated above Nélaton's line. The leg was usually rotated outward, and there was limitation of motion at the hip joint, usually in two directions only, adduction of the thigh, and inward rotation of the leg. At a later stage there was a marked limp from shortening of the leg and progressive adduction with compensatory upward tilting of the pelvis. The symptoms were explained by the character of the deformity, the prominence and elevation of the trochanter, the outward rotation, and the progressive shortening of the limb by the bending downward and backward of the neck of the femur.

In one case where the deformity was bilateral the legs were crossed so that walking was difficult. In the early stages of this disease it might be mistaken for rheumatism or hip disease. The absence of local tenderness and swelling were important points.

Later on the great elevation of the trochanter and awkwardness of patient, particularly if both limbs are affected, may cause some difficulty in eliminating dislocation, but the history should be looked into.

Prognosis.—The tendency was toward an increase of the deformity until the resistance of the compressed bone prevented further descent of the head; then the discomfort ceased, the deformity remained, and the patient accommodated himself to the new conditions, as in similar deformities of the lower extremity.

Treatment.—If seen at an early stage, no doubt the deformity might be checked by removing the exciting cause by rest, massage, and passive manipulation. If the deformity were of one side and progressive, the long traction hip splint, in combination with other measures, was indicated.

In the stage of marked deformity, particularly if of both sides, osteotomy below the trochanter, for the purpose of overcoming the adduction and outward rotation, was indicated.

A Splint for Hip-Disease.—Dr. Wallace Blanchard, of Chicago, presented a hip-splint which he called an anti-friction splint. The apparatus had been devised by him in 1872, and after more than twenty years of excellent results he felt that it could be relied upon. The splint was intended to approximately secure fixation of the hip and at the same time to exert a traction force outward and downward in an axis with the neck of the femur for the purpose of relieving the pressure in the acetabulum. He believed that the same general rule governed the pathological progress and cure of chronic joint disease, whether it be the spine or hip, or disease of any other movable articulation. Perfect immobility of the hip, he said, could not be obtained, except by apparatus that secures both sides of the body, both hips, and both legs; but by his splint or any other immovable and inflexible splint that extends from the lower angle of the scapula to the lower border of the calf of the leg on the diseased side, motion in the joint can be reduced to 2° or 3°.

His splint was composed of a long strip of soft wagon-maker's iron, known as binding, extending from the lower angle of the scapula down over the back, thigh, and leg on the affected side until within two inches of the heel. It is bent to fit the body and held in place by bands attached at the thoracic end, one just above the patella and another at the ankle. These bands are all secured with straps or buckles in front. A short strip of the same iron is riveted to the upright and bent oval to a position necessary to support a disk of firm saddler's leather three inches in diameter, the lower third of which is to rest on the anterior-superior spine of the ilium. From this pad extending downward to the outside of the knee-band is a strip of the iron bent so as not to be nearer than two inches to the outer side of the thigh at any point.

Longitudinal traction is made, adhesive straps attached to the leg and fastened to buckles on ankle hoop. The counter-longitudinal traction is made by a couple of loops of leather extending from the thoracic band to a tight leather waist-belt. Lateral traction is made from the side-bar which extends from the ilium to the knee. A high shoe is put on the unaffected side and the patient is placed on crutches. Until spasm subsided fifteen to twenty pounds of tension should be maintained, and after that only eight or nine pounds.

Conclusions: 1. It is friction that destroys the delicate tissues of repair more rapidly than nature can provide them. 2. As friction is reduced the chances of anchylosis and deformity reduce. 3. To relieve friction, traction is just as necessary as fixation, and *vice versa*.

Rarely will a recovered case be found with angular deformity or bony anchylosis, if these indications are fulfilled.

The Question of Priority in the Use of Lateral Traction for the Relief of Intra-articular Pressure.—Dr. A. M. Phelps, of New York, stated that the question of priority always dates from the time of publication, and only for this it would be possible for valuable discoveries to be appropriated by others. The question of an individual's statement in regard to a matter, without the proof of use, is absolutely invalid for the purpose of establishing priority.

Regarding the above title, he stated that in February, 1889, he read a paper before the New York Medical Society, entitled "Management of Hip and Joint Diseases from an Anatomico-pathological Basis," which paper was published in the "Transactions" of the Society for that year. It was also published in the Medical Record, May 4, 1889.

The illustrations of the lateral traction fixation splints were presented, and also a plaster-of-Paris portable bed with lateral traction attachment. The author had examined the literature upon the subject, and was of the belief that his was the first paper printed that described the application of the principle of lateral traction for the relief of intra articular pressure and fixation for hip and joint disease. Translations from the German were presented to prove his assertion of priority.

Discussion on Hip-Disease.—Dr. Lee, of Philadelphia, asked Dr. Whitman if there was ever any enlargement of the ends of the large bones in these cases.

Dr. Gillett, of St. Paul, Minn., reported the case of a girl ten years of age, who weighed one hundred and fifteen pounds, which he believed to be one of rachitic deformity of the neck of the femur. The only symptoms were slight pain and lameness. All the motions of the joint were normal except a slight resistance to abduction. He put the patient on crutches, and has her under observation at present.

Dr. Coolridge, of Chicago, asked whether in these rachitic cases there was apt to be the same change which came on during the adolescent form.

Dr. Phelps objected to the splint presented by Dr. Blanchard, because it did not extend well beyond the foot, so as to protect the diseased joint from shock and injury.

Dr. Whitman, in closing, said he did not attempt to give the etiology of the disease of which so little was known. He believed his photographs of cases were the first to be shown. All the deformities met with in adults he did not believe were due to rachitic conditions, but might arise from anything which produced weakness. As to deformity of the neck of the femur in rachitic children, he thought it rare, because the neck was short and thickened as compared to a more advanced age.

Dr. Benjamin Lee, in speaking of the lateral traction hip splint, said he and Dr. Taylor had accomplished this since 1862, by means of a strap attached to a set-screw on the stem of the long splint.

Dr. Whitman, while in favor of lateral traction, said that the cases presented by Dr. Phelps to the New York Academy of Medicine could not be said to have the same exerted. The principle was good, but the application as now presented was defective.

Dr. Weigel asked if the force exerted for the purpose of obtaining lateral traction would not irritate the soft parts too much.

Dr. Phelps, in closing, said that the lateral traction was exerted sufficient distance from the joint, that no great amount of force was required.

As to his cases spoken of by Dr. Whitman, he did not consider them fair examples, as the braces were very defective and did not fully accomplish his idea of lateral traction.

Congenital Dislocation of the Hip Associated with Spastic Paralysis, Blindness, and Defective Mental Development.—Dr. Louis A. Weigel, of Rochester, N. Y., reported the case of a male child, aged two years and four months, with the above condition. The history given him by the mother was that she had a difficult labor on account of a foot presentation. There was no asphyxia at birth, but the child had a number of convulsions during the first three days and did poorly for some months afterward. The abnormal condition of the hand became noticeable early in infancy. The boy never crept or made any attempt to stand. A violent temper was manifested.

The condition found on careful examination was a complete luxation of the left hip, which could be replaced by traction, but had to be held in place by a traction hip-splint. Blindness was due to optic neuritis and secondary atrophy. The mental development was very defective. Most a year afterward the child was able to walk, and had improved very markedly mentally.

The author was of the opinion that the spastic paralysis and feeble-mindedness were the result of a cerebral hemorrhage occurring at birth, and which subsequently produced organic changes in the brain tissue. The dislocation could not have been due to violence, as the mother was unattended in her labor and the delivery was spontaneous. Arrest of development was considered to be the cause.

A second case of congenital dislocation with the spastic paralysis was spoken of, but the mental condition was normal. The tonic contraction of the muscles of the arm were even greater in this than in the first case.

Dr. Lee said he had had a case under observation sixteen years ago, for a short time only, who only recently came to him again. The patient in the meantime had had tenotomies at the elbow and wrist for the relief of a spastic condition of the arm. Only recently pain was complained of, extending from the hip to the knee, which he was unable to say was of spastic origin or not.

Dr. Coolridge wanted to know of Dr. Weigel if he did not think the dislocation might be due to prior brain lesion, causing the spastic paralysis.

Dr. Weigel, in closing, said that he thought the condition present due to some faulty development while in utero.

AMERICAN OPHTHALMOLOGICAL SOCIETY.

Twenty-seventh Annual Meeting, held at Washington, D.C., May 30 and 31, 1894.

Detachment of the Retina.—Dr. C. S. Bull, of New York, read a paper on recent experiences in the treatment of detachment of the retina. Statistics relating to thirty-eight cases were presented, comprising age, refraction, and whether spontaneous or traumatic. Treatment: rest on back in bed, atropia, bandage, and pilocarpin or sodii bicarb. and potass. iodidi, which may do good by derivation. Division of fixed opacities in vitreous may do good; sometimes puncture.

Dr. S. Theobald asked how and where puncture of sclerotic had been made.

Dr. Bull had used a narrow Graeffe knife and punctured as near the detachment as possible, making a valvular opening in the conjunctiva at a little distance, and enlarged the wound to 2.5 or 3 mm.

Dr. G. E. de Schweinitz, of Philadelphia, had had the same experience as Dr. Bull.

Dr. Bull believed there was nothing so good as the rest cure. He would use salicylic acid instead of pilocarpin.

Dr. F. M. Wilson read a report of two cases of sympathetic inflammation, and inquired whether enucleation may cause trouble in the other eye.

Magnet Operations.—Dr. Herman Knapp reported two recent magnet operations: one an ideal success, the other a total failure. In the first case a foreign body (steel) entered the eye. Two days later irritation, incision, introduction of magnet, removal of piece of steel; discharged cured in twelve days. The second case was seen when the lens was cataractous, and no perception of light in the upper half of the field. He recommends two modifications. Make an oblique incision through the sclerotic, then hold the wound open by platinum wire suitably curved. The removal of foreign bodies by means of the strong magnet back to the anterior chamber opens up a new field in this direction.

Dr. Lambert, of New York, mentioned some complications occurring in the course of a case in his experience.

Drs. Dennett, of New York, and Dr. Kollock, of Washington, also discussed the paper.

Foreign Bodies in the Orbit.—Dr. W. B. Johnson, of Paterson, N. J., read a paper on "Foreign Bodies in the Orbital Cavity." Four cases were reported. The first was that of a piece of cherry-tree penetrating the upper eyelid and entering the orbital cavity; removed after one week. No cerebral symptoms. Resulting vision, $\frac{6}{200}$; slight ptosis and some divergence.

Case II.—Splinter of pine-wood entered near the inner canthus. Cerebral disturbance, panophthalmitis, erysipelas, and death in three weeks. Autopsy revealed meningitis, perforation of frontal lobe of cerebrum, and fracture and displacement of the orbital plate of the frontal bone.

Case III.—Stick penetrated the upper eyelid to the temporal side of the median line. Removed two days after. Now vision normal.

Case IV.—Weeds and stubble blown through eyes and lids by explosion of a cannon. Right eye destroyed;

phthisis bulbi. In left eye extensive choroidal rupture. Vision $\frac{1}{200}$; no pain or photophobia, and works as night watchman.

Dr. Knapp quoted a case where a bullet penetrated to the sclerotic and dropped down behind the choroid.

Epithelioma of the Orbit.—Dr. George C. Harlan, of Philadelphia, reported a case of epithelioma. The right eye was removed; returned in three months; then whole orbital contents removed. Also another of a sarcomatous growth filling the right orbit. History obscure; removed, and made a good recovery. A third case in a child nine years of age had been operated upon previously by Dr. Chisholm. It returned and was again removed, and quickly returned as a fungous growth; sloughing; death. The autopsy showed encroachment into cranial cavity of a mixed cell sarcoma, mostly small round cells. There was absence of glandular enlargement.

Dr. A. G. Heyl, of Philadelphia, made some remarks on the treatment of this class of growths by the aniline dyes and quoted a case where improvement was marked after the use of the yellow pyoktanin.

Dr. Johnson spoke of the action of the toxic products of erysipelas in these cases. He had had no experience with them in tumors of the orbit, but had observed one in the pharynx, where the result was favorable. He thought it should be further tried in inoperable sarcoma.

Dr. Knapp thought the growth returns just as rapidly after use of the erysipelas products.

Dr. Bull thought that in almost all these cases of rapid development the origin was in the ethmoid or sphenoid cells.

Dr. Tilley, of Chicago, by invitation, related a case in this connection, originating in the nose.

Dr. Harlan had no doubt that the origin of the first case was in the orbit, because the orbital fat was pushed before the growth.

Tumor of the Optic Nerve.—Dr. S. M. Burnett reported a case of tumor of the optic nerve which was removed, and the patient did well for several months, when cerebral symptoms developed. The autopsy showed that this tumor had its origin behind, and that the anterior part was the most recent; not truly sarcomatous, but seemed to be of embryonal origin. The changes in the nerve are due to the mechanical pressure. Attempts to remove the tumor and save the eyeball are failures.

Dr. Knapp believed it better to save the eyeball when we can, even if it is blind; he believed the growth could be removed in some cases without removing the eye, through the outer wall of the orbit.

Dr. J. A. Lippincott, of Pittsburg, Pa., discussed the question of the malignancy of these growths. Some are benign at first and may become malignant later; but others do not assume a malignant character.

Dr. Burnett, in closing, thought myxosarcoma not malignant. Some may be, but not essentially so.

Sarcoma of the Lid.—Dr. W. H. Wilmer, of Washington, D. C., reported a case of melanotic round giant-celled sarcoma of the lid with myxomatous degeneration; removed.

Halo Symptom in Glaucoma.—Dr. S. O. Richey, of Washington, D. C., read a paper on the halo symptom in glaucoma, concluding that it is produced in the media, perhaps in the aqueous or vitreous humor; comparing it to the halo around the moon. The glaucoma halo is the reverse of the lunar halo as regards color. Light reflected through crystals of sodic chloride and urea would produce this appearance.

Dr. C. A. Oliver, of Philadelphia, read a clinical and microscopical study of two cases of glaucoma associated with intraocular hemorrhages.

Dr. Theobald read an account of a case of ophthalmitis suppurativa following discission of capsular cataract.

Dr. Heyl said that he had lost an eye after discission of membranous cataract.

Dr. Knapp had had no experience of suppuration after discission of secondary cataract, and had done fifteen hundred to two thousand cases. He does not use any especial antiseptic precautions further than as in cataract. He had seen nodules on the capsular wound looking like pus, but which clear up, and in which vision becomes normal.

Dr. Theobald also reported some typical examples of subnormal accommodative power.

Dr. de Schweinitz reported a case of epithelioma of the lid simulating a meibomian cyst.

Dr. Theobald reported a case where latent hypermetropia was not revealed by the ophthalmoscope.

Muscular Asthenopia.—Dr. George W. Hale, of Nashville, Tenn., read a paper on so-called muscular asthenopia. He took the ground that these cases were not caused by muscular weakness, but by disturbances of innervation. Prisms, tenotomy, etc., were to be abandoned in a great majority of these cases.

Dr. Edward Jackson, of Philadelphia, from a study of the measurements obtained with Javal's ophthalmometer, and subsequently by other methods under full paralysis of accommodation, concluded that the corneal and total astigmatism were identical in about six per cent. of the usual run of cases of ametropia; the amount of astigmatism alone corresponding exactly in twenty two per cent., and the direction of the principal meridians in fifty-two per cent., and approximately in seventy-eight per cent. Because of the lack of correspondence between the corneal and total astigmatism, the indications of the instrument cannot be regarded as showing the amount of astigmatism to be corrected by lenses. It must take its place among the approximate tests in the practical working out of ametropia. In aphakic eyes it has a more definite and positive value.

Low-grade Cylinders in Asthenopia.—Dr. J. A. White, of Richmond, Va., read a paper on the practical value of low-grade cylinders in some cases of asthenopia. He referred to an incorrect conclusion drawn by one of the journals as founded on two papers, one by Dr. D. B. St. John Roosa, the other by Dr. T. R. Pooley. An analysis of these two papers does not warrant the conclusion drawn by the journal. He concluded with a summary of one hundred cases.

Use of Glasses in Myopia.—Dr. S. D. Risley, of Philadelphia, read a report on the value of properly adjusted glasses in arresting progressive myopia, with an analysis of 195,754 cases, collected from opticians' books and his own cases. His conclusions pointed to the arrest of the increase of myopia by the use of glasses.

Dr. H. F. Hansell, of Philadelphia, read a paper on "Hypermetropia and Heterotropia." He stated that functional esotropia is always accompanied by upward deviation.

Strabismus with Anomalous Diplopia.—Dr. C. H. Thomas, of Philadelphia, reported three cases of strabismus with anomalous diplopia, explicable by the assumption of a false fixation point from use. When the eye was used alone, the patient used the macula; when both eyes were used in conjunction, the false spot was used.

Dr. Frank W. Ring, of New York, in discussing Dr. Hale's paper, stated that the case referred to had been prescribed for by him for three years before going to Dr. Hale, and referred to other cases treated on the lines laid down by Dr. Hale, one of marked divergence, changed from permanent to periodic divergence and parallelism at will.

Dr. Lucien Howe wished to enter a mild protest against the neglect of looking after the general health. There were many cases of women whose principal occupation consisted in attending clinics, who should be sent to the gynecologist or some kindred branch for treatment.

Dr. Theobald, in discussing Dr. White's paper, stated that where astigmatism was against the rule, it might necessitate correction, but with the rule there might be no discomfort without glasses. He also agreed fully with Dr. Risley's paper. As to Dr. Thomas's subject, he had had one case of that sort lately.

Dr. S. M. Burnett stated that astigmatism against the rule is almost always lenticular, and may be due to faulty position of the lens.

Dr. Randall stated that myopia appeared to be decreasing in Philadelphia, according to the statistics. Developmental myopia is a myth as a physiological process.

Dr. Dennett called attention to a possible source of error in comparing the readings of the ophthalmometer with the results of lens tests.

Dr. J. A. Lippincott had found the observations with the ophthalmometer correct in seventy eight per cent.

Dr. Jackson had noticed an increase of astigmatism after tenotomies.

Dr. W. S. Dennett, of New York, exhibited a new mode of lighting up the disk of the ophthalmometer, also a set of verniers to assist the reading on the arc.

Dr. W. E Lambert exhibited an optometer for retinoscopy with a rod so attached that the observer can stand one metre or more away and manipulate the apparatus. The disk lenses are rotated by two rods, one moving within the other.

Dr. Randall spoke of the increase in accuracy in retinoscopy at much greater distances than one metre, with a plane mirror. At six metres the test will differentiate between 0.65 and 0.75, perhaps, even with a small pupil.

Dr C. F. Clark, of Columbus, O , reported a case of binocular coloboma of the lens, without coloboma of iris, or choroid, and with accommodation retained.

Rupture of the Lymph sheath of a Retinal Vein.—Dr. A G. Heyl presented the report of a case of rupture of the lymph sheath of a retinal vein, with protrusion of the vein through the rupture into the vitreous, and a spot of exudation apparently originating from the summit of the loop, extending back to the disk. He concluded that the cause was strong intra-venous tension, and the sheath must have been diseased. Also that the connective-tissue growth associated with this condition was caused by leucocytes following the vein and being deposited at the summit of the loop.

Colloid Disease in the Macular Region.—Dr. G. E. de Schweinitz of Philadelphia, reported a case of colloid disease in the macular region analogous in appearance to the so-called drusen in the nerve head. He also, for Dr. E. de Schweinitz, mentioned the advantages of tricresol solution, 1 to 1,000, for immersing instruments making atropia and other solutions and as a cleansing lotion perfectly aseptic. Solutions standing for three months showed no growths.

Exercise of the Retina in Amblyopia.—Dr. Charles W. Kollock, of Charleston, S. C., reported a case of amblyopia where iodide of potassium had been used up to 300 grains daily, also hydrargyrum bichloride, which was improved by trying to see and exercise of the retina.

Ectropion Uvea.—Dr. Lucien Howe, of Buffalo, N. Y., reported three cases of ectropion uvea, distinctly pedunculated, and spoke of the apparent relation between the affection and myopia, it appearing to be hardly a simple coincidence.

Dr. C. A. Oliver, of Philadelphia, showed a sketch of embolism of the central artery of the retina, a typical ophthalmoscopic picture of the condition.

Dr. Kollock reported a case of diplopia produced by a fall on the head. Unconscious three weeks. Double vision permanent. Ophthalmoscopic examination negative and sight good. Some confusion in right ear.

A paper by Dr. P. A. Callan, of New York, entitled "A Double Case of Neuro-paralytic Keratitis Lasting Ten Years," was read by title, and was followed by a paper by Dr. Lippincott on so-called ectropion complicated with ulcer of the cornea.

Dr. F. M Wilson, of Bridgeport, Conn., exhibited a vest-pocket perimeter, with its apology for existence.

Dr. Oliver presented the model of an artificial eye for practice with the ophthalmoscope in teaching refraction; also a very compact sterilizer designed by Dr. J. A. Andrews, of New York.

Dr. C F. Clark, of Columbus, O., reported a case of binocular luxation of the lens spontaneous, terminating in glaucoma with variable and not dilated pupil.

AMERICAN GYNECOLOGICAL SOCIETY.

First Day, Tuesday, May 29th —Evening Session.

The Abuse of Trachelorrhaphy.—Dr W. R. Pryor, of New York, read the paper. The question of immediate closure was not considered. Trachelorrhaphy, he said, is performed for the cure of erosions, cervical hypertrophy, cystic degeneration, sterility, subinvolution, to prevent cancer, and for reflex symptoms. These are some of the reasons given for doing the operation, doubtless there are others After taking up these points categorically, Dr. Pryor closed as follows: Emmet's teachings have been so misapplied that now a condition (laceration), which is natural to the mother, is considered pathological, and is subjected to operation. When the cervix uteri is so far advanced in disease as to require an operation, I do not believe trachelorrhaphy the preferable procedure. When the laceration is of such degree that a cosmetically perfect cervix can be secured by trachelorrhaphy, I do not consider any operation necessary. Erosion after labor requires the same treatment as in the virgin.

Hypertrophy in the parous woman needs the operation applicable to hypertrophy in the multiparous; and those other conditions of the cervix which follow labor, whether associated with a slight or severe laceration, necessitate the removal of more tissue than trachelorrhaphy secures. The great objections I have to trachelorrhaphy are, that it does not give a cervical canal of dimensions equal to the requirements of a woman who should, as she gets older, bear each successive child with greater ease and security than the preceding; it does not remove sufficient tissue where operation is indicated; and it does not appeal to me as a rational procedure, believing, as I do, that most of the cases subjected to it require no operation whatever on the cervix, inasmuch as a generous laceration is normal and necessary.

The marvel is that, seeing all mothers have torn cervices, we have not before sought the reason. The indications for performing the operation constitute the measure of its limitations, and from them may be deduced its abuse.

Dr. Byford, of Chicago, agreed with Dr. Pryor that the ordinary cervical laceration ought not to be united. If there were disease calling for operation it should be cut out—Schroeder's amputation. Deep lacerations, however, should be united primarily.

Dr. Baldy would operate on the cervix when it had become everted and eroded, as it was apt to do in more than ordinary degrees of laceration.

Dr. C. P. Noble thought the paper revolutionary. It was a startling statement that laceration of the cervix was the normal condition after childbirth. It was not in accord with observation. The assertion, too, that cancer was present chiefly in those who had borne many children, and was due thereto, was erroneous. The cases with erosion and induration which called for Schroeder's operation, formed only a small proportion of the cases of laceration requiring operative interference.

Similar views were expressed by Dr. Boker, of Boston, and Gordon, of Maine. The latter thought much harm had been done in sewing up ordinary laceration by producing stenosis and disease higher up.

Myomectomy as a Substitute for Hysterectomy.—Dr. E C Dudley, of Chicago, read this paper. The objection to hysterectomy, or removal of the uterus with the tumor, was self-evident, and raised the question whether, in a certain proportion of cases, we could not

have recourse to a substitute which should adequately remove the disease, and at the same time preserve in whole or in part the uterus and its appendages. We already had this in the abdominal operation for pedunculated myomata, and in the vaginal operation for intra uterine and submucous myomata. The incision of Kraske might have a limited application for the removal of myomata situated in the posterior walls of the uterus, near the plane of the os internum.

The special object of this communication, however, was the preservation, whenever practicable, of the reproductive organs in the surgical treatment of uterine myomata by laparotomy. Five years ago he reported a case in which the abdomen was opened, the tumor enucleated, and the cavity left in the uterus was stitched into the abdominal wound by means of catgut. These sutures approximated the margins of the visceral peritoneum covering the uterus, to the margins of the parietal peritoneum around the abdominal wound. Temporary hæmostasis was secured during the operation by rubber ligature below the plane of the os internum. After giving details of the operation, the author said he had lost two cases the first three years, but the past two years had lost none in about twenty-five cases operated upon. It was an unsettled question whether, in cases in which the appendages were sacrificed, it was desirable to try to save the diseased uterus.

Retro peritoneal and Intra-ligamentous Tumors of the Uterus and Adnexa.—Dr. W. H. Wathen, of Louisville, Ky., read a paper on this subject. A few years ago, he said, the operator on finding this form of tumor would have immediately closed the abdomen. Now, however, they were removed with more safety than ovariotomy was done twenty years ago. The author considered the pathology of such tumors and the details of operative interference. The results of the operation depended mainly upon controlling hemorrhage and successful enucleation. If practical, it was best to tie the uterine arteries well out, and care must be taken not to injure the ureters. A pair of forceps was presented intended to take a broad hold of bleeding tissue, and made dull-pointed in order to avoid injury to thin cyst walls.

Fatal Nausea and Vomiting of Pregnancy.—Dr. E. P. Davis, of Philadelphia, Pa., in a paper on this subject related three fatal cases. In two he had not seen the patients in time, or was not permitted to bring on abortion before the anæmia had become pernicious and led to blood and tissue change and heart failure. In the third the patient left his care and died in the hands of another physician. The conclusions reached were: Nausea and vomiting of pregnancy is dangerous in proportion as it induces pernicious anæmia. The condition of danger is to be recognized by studying the cases in the light thrown upon them by the pathology of anæmia. Immediately pernicious anæmia was present the condition was dangerous; and if the symptoms did not cease at once by local or other treatment, the uterus should be emptied by modern surgical methods. In the cases narrated death was preceded for a time by streaks of coffee-ground in the vomited matter, by substernal pain, by blood change, which in one case showed itself in purpuric spots; and in one, at autopsy, many organs as well as the heart were in a state of fatty degeneration.

Dr. Davis's paper was discussed by Drs. H. P. C. Wilson, Gehrung, Reynolds, Engelman, Wylie, and Jewett, all of whom agreed that the uterus should be emptied long before the condition of pernicious anæmia set in, and most of them had found it possible to stop the vomiting by local treatment of the uterus, such measures as lifting the organ, removing disease of the cervix, or dilatation.

In England it has become a fixed popular belief that travelling on trolley (electrical) railways cures rheumatism.

AMERICAN PEDIATRIC SOCIETY.

Sixth Annual Meeting, held in Washington, D. C., May 29, 30, 31, and June 1, 1894.

(Continued from p. 714.)

First Day, Tuesday, May 29th.

Congenital Constipation.—Dr. F. Huber read a paper with this title. The peculiar anatomy of infants' intestines, the many convolutions of rectum, is a mechanical cause of constipation. He narrated a case simulating volvulus, which proved to be only stoppage by impaction. The colon of the fœtus is much longer relatively than that of the adult, and being crowded into a narrow, poorly developed pelvis, so lessens motion as to cause absorption of fluids—hence, dry stools. As treatment, he advised purgatives rarely, enemata regularly.

Dr. Stowell spoke of the value of ox-gall in enemata and Dr. Fruitnight urged that more water be given. The chairman noted that osmosis is different in children as compared with adults, water being absorbed more quickly in the former.

Malignant Measles.—Dr. J. C. Wilson, of Philadelphia, reported a case of this kind. The case was that of a man thirty-seven years of age, who had measles also in his youth. This attack proved fatal on the fifth day, the patient having petechia rather than the usual bright eruption, high fever, and coma early. There were no hemorrhages on the mucous surfaces. A child of the family also had petechial spots, but recovered. The three remaining members presented measles in its ordinary form. A blood examination of the fatal case gave negative results.

The Chairman, together with Drs. Fruitnight and Stowell, spoke of the certainty of measles appearing a second or third time in the same patient irrespective of rötheln.

Dr. Rotch was sceptical about the existence of rötheln as a distinct disease.

Dr. Seibert said he had never twice diagnosed measles in the same person.

Second Day, Wednesday, May 30th.

Dr. A. Caillé in the Chair.

Etiology, Prevention, and Treatment of Rickets.—Dr. I. M. Snow, of Buffalo, read a paper based on observations among Italians. He finds the disease in its worst forms and more frequent in this race than among Anglo Americans. Transition from warm to cold climate he holds as the primary cause. While the adults change without harm, the first generation of children suffer.

Italians in their native land are not especially rachitic, but here the most marked deformities of the chest and craniotabes occur oftener than in other races. Dentition is not influenced. Most of the Italian infants are nursed in whole or part, yet are not free from rickets. The disease is rare in Egypt, India, and Japan.

Rickets in the Negro.—Dr. George N. Acker, of Washington, read the paper. Before the war rickets was uncommon, because the slave-owners saw to the proper housing and feeding of the negroes. Now they are poorly housed, fed, and clothed; hence the race is decaying. The majority of them are rachitic. The author finds rickets common in syphilitic children rather than rare, as stated by Eustace Smith. Bad air and poor assimilation he gives as chief cause. Many are fed upon ordinary adult food from the third month. Pulmonary disorders are common, but laryngismus stridulus rarely occurs. Sweating is even more pronounced than in white children, because the negro skin is richer in sudoriparous glands. Treatment: Cod-liver oil in winter; syr. hypophosphites in summer.

Congenital Rickets.—Dr. Townsend, of Boston, reported a case of this kind. The child was of healthy parentage, but the mother was in great poverty during gestation. All the long bones were markedly curved,

and both tibiæ and forearms were fractured; the tibiæ united on the eighth day, but the child died cyanotic on the ninth day.

Dr. Griffith said that he saw much of both black and white cases, but was sure that acclimatization would not hold as cause in the negro.

Dr. Holt agreed that craniotabes is rare, but Dr. Seibert and Dr. Stowell found it quite common in Polish Hebrew children.

Dr. Fruitnight found most cases of Italian parentage, fewest among the French. The Germans furnish more than the English. He finds tuberculosis or syphilis usually present.

Dr. Adams thought the teaching proper feeding should be made not only to parents and physicians, but in the public schools by lectures.

Dr. Winters believed defective assimilation more potent than climate as cause. The rachitic often became tubercular, but the converse is rare.

Dr. Northrup reported that, of the eleven hundred babies nursed out from the New York Foundling Asylum each year, those did best that were given to Italian women.

Dr. Seibert called attention to the fact that the workingman's family eats less meat than in former years; hence increased prevalence of rickets.

Drs. Holt and Winters do not rely much upon phosphorus.

Dr. Stowell said he never had prescribed it.

Dr. Koplick esteemed it highly when given with cod-liver oil or in capsules with almond oil.

Dr. Christopher favored salt baths, which increase nitrogenous output.

Dr. Carr advocated hygiene without drugs, and special care of intestinal tract that it is able to absorb fats.

Dr. Snow, in closing, noted that rickets is rarest in those people who eat little or no meat, but live on starches chiefly.

An Aid to the Sterilization of Milk.—Dr. A. Seibert, of New York, had made thirty experiments with water and with milk filtered through cotton to ascertain how few bacilli would pass through. This proved a simple household means of purifying milk preparatory to sterilizing. No cream is lost by the process, only germs and filth saved from use. Where plain milk gave 3,800 to 200,000 germs on culture-plates, the filtered specimen would show only one-quarter that number. The sugar solution for dilution should also be filtered.

Dr. Kiliani made nineteen similar experiments with microscopic provings of the findings of Dr. Seibert. The milk should be sterilized thirty minutes in winter; sixty minutes in summer. Filtration is found to be almost as good as sterilization. In absence of a sterilizer, boil the milk and keep it in a stone pot, as it will remain good a day or more.

Infantile Scurvy.—Dr. Fruitnight, of New York, narrated six cases seen by him, and gave the general history of the disease. Proprietary foods are the apparent cause in nearly all cases. Deficient alkalinity of the blood is a constant condition in the disease. Most of the cases were free from rickets.

In diagnosis, rheumatism has most often to be eliminated, and at times can only surely be distinguished by effects of anti-scorbutic treatment. The lack of heat and redness in the swollen joints points to scurvy. In peliosis rheumatica pain is also more severe than in scurvy. The cause is a deviation of the chemical composition of the blood. This may be remedied by proper diet.

Dr. Seibert had seen but two cases in four years. He preferred treating as rheumatic any doubtful case, lest changes become marked in the heart. The doctor believes it purely an infectious disease, else why are the lesions in special localities rather than the entire body?

Dr. Crandall observed that no certain order of symptoms prevails as to appearing or going away.

AMERICAN NEUROLOGICAL ASSOCIATION.

Twentieth Annual Meeting, held in Washington, D. C., May 30 and 31, and June 1, 1894.

Dr. B. Sachs, of New York, President, in the Chair.

First Day, Wednesday, May 30th.

President's Address.—After speaking of the work done by the association, he said that from the scientific point of view clinical medicine and neurology are one and inseparable. The diseases which the neurologist is called upon to recognize and to treat are such that he must necessarily maintain a deep interest in the affections of the heart, of the liver, of the stomach, and surely of the kidneys. He cannot afford to neglect the lungs, nor even the bladder. He is asked, perhaps, a little too frequently to consider the condition of the generative organs, and he must be even better versed than the surgeon in the anatomy of nerves and muscles. The eye, the ear, and that poorest of all the special organs, the nose, have claims upon him. The entire organism is his daily concern, although he may claim to be more intimately acquainted with the structure and functions of the nervous system than with any other part. He thought it a fortunate matter that we practise a specialty which cannot and should not be divorced from general medicine. The latter does not always include neurology, but neurology is nothing without general medicine. And, likewise, not every medical man is a neurologist, but every neurologist should be a student of general medicine in the broadest sense of the term. . . . American clinicians, with very few exceptions, have not studied neurology, at least not seriously, and neurological knowledge, we all well know, does not come by intuition. The rule which excludes neurologists from general hospital service does harm to the cause of American medical science; the vast neurological material of our hospitals is not properly utilized for purposes of investigation or of instruction.

In conclusion, he referred to the conception of the "neuron" which has been evolved from recent microscopical studies as a far-reaching one, and one which will be certain to exert the greatest possible influence over the study of nervous diseases within the next decade. It is nothing new to think of the ganglion cell as a nutritive centre for the white fibre connected with it, and to know that this white fibre is apt to undergo disintegration if separated from its nutrient cell; but it is new to learn that the entire nervous system is made up of such units of nerve-structure, consisting of a nutritive cell of the white fibre that emanates from one process of this cell, and of its termination in brush-like fashion. It is new, too, that these units are connected with one another not by direct contact; that the terminal arborizations approach one another without actually coming into contact, and that these neurons connect the white and gray matter, and pass freely from one to the other, or may exist even within the gray matter alone. If the nutrient cell is destroyed, or if its influence over the fibres connected with it is interfered with, the death of this neuron is the natural result. While he thought it rather premature to allow the doctrine to upset our former conception of systemic diseases, and while we are not yet prepared, as one German author has already done, to speak of neuron diseases, it will help us to understand many combined diseases which we have not hitherto been able properly to explain. It will help also to a better understanding of the degenerations which follow disease of the gray matter, whether it be in the cortex or in the spinal cord, and it will help us to understand the development of systemic diseases of the spinal cord, the origin of which we could not explain.

Myxœdema Treated with Sheep's Thyroid.—Dr. Samuel Ayres, of Pittsburg, read a paper upon this subject. The marvellous results of this comparatively new treatment were referred to, and the statement made that

though relapses are frequent after suspending the medicine, yet the symptoms are again quickly controlled by resuming treatment, and giving an occasional dose. It was particularly advised that at the start small doses be administered—from one to three grains of desiccated powder in capsules or tabloids once or twice daily, and gradually increased to five grains three times daily, if required. Large doses at the outset have been frequently followed by dangerous symptoms.

Owing to the favorable results from thyroid in some skin diseases, obesity, and in a case of melancholia, the paper was chiefly devoted to suggestions as to the possibilities of the preparation in certain diseases non-myxœdematous, and it was recommended that it be given a careful trial in selected cases of acute dementia, mania, melancholia, epilepsy, chorea, tetanus, anæsthesia, and in erysipelas. But its indiscriminate employment was strongly discouraged.

Dr. Starr, of New York, presented five photographs of patients with myxœdema, in three of whom unmistakable improvement was shown. He had used various preparations of the gland, but there were serious objections to many of them. He had of late made satisfactory use of the cheapest preparation on the market, which is put up in the form of tabloids each containing five grains of the extract. He was often consulted on account of the mental symptoms which were in many instances prominent in this disease. He had frequently observed melancholia with suicidal tendencies. In eight there were symptoms of dementia. He had found it of use in neuroses of the menopause. In a number of cases of acromegaly only two seemed to be benefited. The headache was relieved and it produced a feeling of *bien être*. His experience with it in paralysis agitans, epilepsy, and progressive muscular atrophy was negative.

Dr. George W. Jacoby, of New York, agreed with the previous speaker. He spoke of the difficulties in the diagnosis of true myxœdema, and reported a case and presented photographs of a child, aged fourteen. There was evidence of muscular dystrophy in the lower extremities. He thought that further experience might show some relationship between these two affections.

Dr. E. D. Fisher, of New York, thought that the use of thyroid extract should be confined to the treatment of myxœdema. There was no rational indication for its administration in other diseases.

The President dissented from this view, and believed it was but fair to try this medicine empirically, as we were not as yet familiar with the true function of the thyroid gland.

Dr. F. X. Dercum, of Philadelphia, reported a case successfully treated by the extract.

Dr. L. C. Gray, of New York, stated that all animal extracts had a similar temporary effect. A number of cases of myxœdema had relapsed. He had used the thyroid extract in only one case with the usual good result.

Dr. Leonard Weber, of New York, said there was not a single case on record that had been cured.

In one case under his observation the result was remarkably good. Relapse is apt to occur unless the remedy is continued. He believed that greater and more permanent relief could be obtained by surgical means.

Dr. Walton, of Boston, mentioned a case which improved after the use of only five grains, three times a day.

The Thyroid Theory in Graves' Disease. Two Cases Treated by Thyreoidectomy.—This was the title of a paper by Dr. J. Arthur Booth, of New York. After referring to the recent investigations as to the functions of the thyroid gland and the internal administration of the thyroid extract in the treatment of myxœdema, he spoke of the various theories that had been advanced in regard to the origin of Graves' disease. Two cases that had been treated by thyreoidectomy were reported, with the following conclusions: 1. It is by no means decided that a mere excess of the thyroid secretion is the sole and essential factor in Graves' disease; but as microscopical examination has demonstrated an enormous hyperplasia of the secreting structure, it is certainly reasonable to suppose that these changes must have some profound effect both on the quantity and quality of the secretion. 2. If altered structure and not size is the test of the disease, then thyroidectomy should be considered even in those cases where there is little or no enlargement of the thyroid. 3. Cases of Graves' disease may be entirely cured by thyroidectomy.

How this is brought about is not clear as yet. It may possibly be in one of three ways, viz.: a diminution of the functional activity of the gland substance; a relief of the stretching and irritation of the sympathetic nerve-fibres; or, finally, in the removal of pressure.

Dr. J. J. Putnam, of Boston, said that in one English case reported the patient seemed to be cured after the use of thyroid extract. He spoke of two patients treated by operation. One was improved and the other died. In both the pulse was excessively rapid. He thought it better to operate early, and not to wait until the heart's action became seriously impaired.

Dr. J. Madison Taylor, of Philadelphia, had used thyroid extract in Graves' disease without any perceptible improvement. He spoke of a case occurring in a child two years of age.

Dr. W. J. Morton, of New York, believed that patients had been cured by the use of electricity. He had often seen recovery after three or four months' treatment. He preferred this to any other method.

Dr. Dercum thought it difficult to explain the favorable result occurring after operative measures, and mentioned an instance where the gland was exceedingly small.

Dr. W. A. Hammond, of Washington, asked if Dr. Morton had used any other remedy in conjunction with electricity. He (Hammond) had been accustomed to diminish the amount of fluids taken and to give digitalis or hyoscyamine, with satisfactory results.

Dr. Morton replied that he used electricity only.

The President thought many cases were curable, and referred to the case of a young woman in whom the disease developed rapidly after a sudden fright. She improved after a prolonged rest in bed, subsequently married, gave birth to a healthy child, and completely recovered from her symptoms of Graves' disease.

Dr. Booth, in closing the discussion, said that the alleged danger of the operation is not borne out by statistics. In his case the patient did well. Galvanism had been faithfully used for seven months without satisfactory results.

Experimental Investigations on the Physical and Chemical Action of the Galvanic Current upon the Living Organism, by Dr. G. W. Jacobi and Dr. F. Schwyzer, of New York.—The authors, recognizing that our scientific comprehension of the electrodynamic curative action of electricity has been obstructed by the direction as well as the manner in which electro-physiological work has thus far been carried out, think that this objection can be met by the study of the chemical and physical actions of the galvanic current upon the simplest part of the organism, the living cell. With a view to answering the question, "Does the galvanic current produce any discoverable changes, physical or microchemical, in the single cells of the body?" the authors undertook a series of experiments upon animals (frogs, rabbits, and guinea pigs) and man, the report of which is here presented in form of a preliminary communication.

The certain and positive results thus far obtained were: 1. That by passage of the galvanic current the red blood-corpuscles under the influence of the positive pole swell up and become increased in size, while under the influence of the negative pole they become crenated and shrunken. 2. That two animals being fixed back to back and a current passed through both from chest to chest, the entire blood in the animal acted upon by the positive pole will contain more than twenty per cent.

less alkali than that of the animal which has been exposed to the influence of the negative pole.

While the authors believe that the majority of cells in the living body are influenced by the cataphoric action of the galvanic current, they are not willing to express an opinion whether and to what extent the physiology of the cells is thereby altered; on the other hand, the decrease of the alkalinity of the blood by means of the current must have a very great influence upon cell-life; this is shown by other experiments which the authors have made upon spermatozoa. This influence consists in the production of a marked functional activity in the neighborhood of the cathode on account of slightly increased alkalinity, and reduced functional activity at the anode in consequence of decreased alkalinity. The results of further experiments as well as therapeutic deductions are promised in the near future.

Dr. W. J. Morton said that as for the results obtained, attributed to the cataphoric effect, they seemed to be subversive of what is usually believed and taught, for it has thus far been accepted that the tissue at the negative pole had its fluidity increased, while that at the positive pole had its fluidity decreased.

Again, as to the action of the galvanic current in producing acidity of tissue at the positive pole region and alkalinity at the negative, he welcomed the experimental evidence furnished by the reader, that we could accept that this effect extended widely into the intrapolar region and thus influenced the irritability of tissue as in anelectrotonus and katelectrotonus. This physical explanation of physiological states had first been made by von Humboldt, who attributed the increased reponse to the excitation of the negative pole to the increased alkalinity produced in an already alkaline tissue by that pole, and the decreased response to the positive pole to the fact that that pole produced an acid reaction.

The speaker would go further than this, and had already suggested as an explanation of the increased response to the positive pole in the reaction of degeneration of Erb that the muscle degenerating had an acid reaction, and therefore responded most vigorously to the acid, viz , the positive pole.

As to alkalinizing the blood electrically we might perhaps do this better by alkalies administered by the mouth, but we could not by drugs do what Dr. Jacoby had done and render a tissue less alkaline or more acid. Therefore the local action of electricity in this respect could not be otherwise effected.

Dr. Jacoby, in closing the discussion, asked the society to look upon this work in the light of a preliminary communication, as other experiments which would certainly be productive of positive results were still in progress.

A Neurological Percussion Hammer, by Dr. William C. Krauss, of Buffalo, N. Y.—In appearance the hammer resembles the ordinary percussion hammer such as is employed more especially on the Continent, and particularly in France and Germany. It is therefore primarily a hammer, and for the neurologist may be used for testing the tendon and muscular reflexes, and for percussing the spine and head. The handle being made of hard rubber it becomes warm on friction, while the head being of metal remains always cold. Thus we have the means for examining for thermoanæsthesia. The cap on the small end of the hammer head is removable and exposes a triangular-shaped spear about one sixth inch long. The other end of the head has the rounded rubber point, thus furnishing a sharp and dull point for examining for anæsthesia. The spear is divisible, one-half remaining fixed on the hammer-head, the other half slides upon a scale graduated in millimetres and inches, forming part of the handle of the hammer, making an excellent æsthesiometer; on replacing the cap and removing the cap at the large end of the hammer a camel's hair-brush is exposed, giving a soft and the metal end a hard surface for examining the sensation. Thus we have in one instrument nearly all the apparatus necessary for making an examination of a nervous case.

Non-operative Treatment of Metatarsalgia.—Dr. V. P. Gibney, of New York, read a paper with the above title. He offered as a substitute for excision of the distal end of the fourth metatarsal bone or the branch of the peroneal nerve, a boot constructed on a Spanish last, with a heel a combination of an English and a French heel. The boot thus built transfers the weight from the ball of the foot to the plantar region just back of the ball of the foot, and to the heel and that portion of the shank just anterior to the heel. The chief point he insisted on was, a snug fit around instep shank, and a rather loose toe portion. The boot is built by an orthopedic shoemaker under his direct supervision, but can be easily imitated. A number of successful cases were reported.

Dr. Charles K. Mills, of Philadelphia, had been in the habit of recommending a similar shoe as that advised by Dr. Gibney. Some cases, however, cannot be relieved by any form of shoe, as a neuritis may have become established Operative means would then become necessary.

Dr. Putnam considered it of value to make a carefully adjusted opening in the inner sole of the shoe.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

ANNUAL MEETINGS—PATHOLOGICAL AND EPIDEMIOLOGICAL SOCIETIES—PARASITISM AND CANCER—REPORT OF COMMITTEE ON TWO SPECIMENS—SYRINGO MYELIA—TYPHOID IN A DIABETIC—TRANSIENT HÆMOGLOBINURIA—PELIOSIS RHEUMATICA—GENERAL MEDICAL COUNCIL—DEATHS OF HENRY MORLEY AND THOMAS MADDEN STONE—MEETING OF GENERAL MEDICAL COUNCIL—PRESIDENT'S ADDRESS—SIR JAMES PAGET'S GOLDEN WEDDING—PRACTITIONERS STRUCK OFF THE REGISTER—ADVERTISING MEDICAL AID ASSOCIATIONS—REGISTRATION AND CERTIFICATION OF MIDWIVES—MEDICAL SOCIETY—A DOCTOR'S HOLIDAY—A SUBJECT FOR AN ORATION.

London, May 19, 1894.

The annual meeting of the Pathological Society was held on Tuesday, when the Report of the Council was presented and officers for the ensuing year elected. The society is still in a flourishing condition and the balance of the funds above the average. There was an exhibition of interesting specimens. The report of the Morbid Growths Committee on two of Mr. Jackson Clarke's specimens of carcinoma was read. This report does not confirm Mr. Clarke's views on parasitism which I have fully explained in former letters. The specimen described by Mr. Clarke as a parasitic spore cyst lying in the epithelium of a squamous-celled carcinoma of the nasal septum is reported by the committee to be a collection of migrated leucocytes. As to the second specimen, Mr. Clarke's description of intracellular bodies having peripheral bars or granules is admitted to be correct, but the committee could not confirm the statement that certain groups of them were in a capsule within a cell; in fact the committee report that the bodies lay in the cell-protoplasm, and not in a cyst.

On Wednesday the Epidemiological Society also held its annual meeting, when Mr. Shirley Murphy, who has for a number of years been honorary secretary, was elected president to the great satisfaction of the fellows. There was an elaborate paper on the "Distribution of the Mortality from Influenza of Late Years," by Dr. Parsons, which I may perhaps refer to in a future letter, as it is impossible to give an outline of the facts in this.

At the last meeting of the Clinical Society, held on May 11th, Dr. Beevor and Mr. J. R. Dunn gave the sequel of a case of syringo-myelia which they had shown in 1883, when a special committee appointed came to the conclusion that the various lesions were due to a central nervous affection akin to Charcot's disease. In

June, 1885, all the muscles of the arms and forearms reacted to faradic and galvanic stimuli, though there was apparent wasting of the muscles on the flexor surfaces of the forearms. The muscles of the right thumb did not respond to the faradic current; those of the left did, however, as did all the internal muscles. The reactions of the muscles of the lower extremities were normal. There was no disturbance of sensation, but occasional fibrillar twitchings were observed. In 1888 the muscles of the legs and right foot were not at all wasted, but the third phalanx of each of the four toes of the right foot appeared to be dislocated on the heads of the metatarsal bones, producing a claw-shaped position as in the hands. The nails were much wasted, and disclosed atrophic conditions similar to those of the nails of the right hand. The left foot appeared normal except in respect of the toe nails, which were beginning to waste. No nerve-symptoms were apparent, and the patient's general health was good. In November, 1889, he began to suffer from pains and attacks of nausea. In January, 1891, he had several attacks of pemphigus on the dorsal and palmar surfaces of the hands, generally preceded by slight rises of temperature. In October, 1891, the wasting of the right finger-nails had increased, accompanied apparently by wasting and shortening of the terminal phalanges. No fresh changes took place except that the patellar reflexes increased, with ankle clonus on the right side. Tactile sensibility was quite normal, but sensibility to heat, cold, and pain was much impaired, and was almost absent over a considerable area of the arms, head, and chest. In the lower extremities slight spastic paralysis was remarked. Sensation of the lower limbs was unaffected, though there was a degree of ataxic gait and of unsteadiness on standing with the eyes closed and the feet together.

On March 5, 1893, he had a fainting-fit of short duration, and the next morning a difficulty in speaking. His tongue protruded toward the right side, and the lower half of his face seemed paralyzed. The right arm and leg were slightly weak, and the head was turned a little to the left side. Although he appeared to understand what was said to him, and to want to answer, he was unable to do so, his power of articulation being confined to simple words such as "yes," "no," "one," "two," etc. Knee-jerks much increased on both sides, plantar reflexes slightly. No ankle clonus. On March 7th, he had considerable difficulty in swallowing, his pupils remained dilated, but acted to light. The legs seemed to be in a state of extensor spasm, and could be flexed only with difficulty. On March 10th he lost the power of the right arm and leg, and ultimately became comatose, and died on March 12th.

Post-mortem: Old dislocations of both wrists, left shoulder, right thumb, and outer end of right clavicle were found. There were bullæ on several fingers, some finger-nails were wasted, others absent. There was hypostatic pneumonia. The right lobe of the cerebellum was smaller than the left. The lateral ventricles of the cerebrum were dilated. The left middle cerebral artery was thrombosed, and the cortex to which it went was softened. The central canal of the spinal cord was dilated in the cervical and upper regions. The dislocated joints were typical examples of osteo-arthritis and were so described by Mr. Targett, who examined them. Dr. Beevor, who had examined the spinal cord, reported that the case presented two groups of phenomena, wasting of muscles in arms and shoulders; especially affecting the intrinsic muscles of the hands, and sensory symptoms with impaired sensibility, together with trophic changes chiefly in the joints, nails, and skin. Dilatation of the central canal of the cord destroyed the ganglion cells in the anterior cornu, thus producing trophic changes and consequent deformities, especially in the arms.

A case of typhoid fever in a diabetic patient, a man aged thirty-five, next occupied attention. The fever lasted six weeks, and was without diarrhœa or other serious complication, and might almost be regarded as simple, continued fever. An opportunity was thus afforded for observing the effect of the febrile condition on the urinary excreta. Although they were diminished during the fever, the period of their greatest diminution was that of subnormal temperature which followed. Complete disappearance of sugar from the urine occurred on the fifth, sixth, and seventh days after complete cessation of the fever, when the patient's temperature averaged 97° F. On these three days there was no sugar, the greatest freedom from glycosuria occurred at a time when the needs of the body were great, and the patient was rapidly increasing in weight to replace the twenty four pounds which he had lost during his six weeks of fever. There was a certain parallelism in this case between the output of sugar and pulse-respiration ratio; as the output of carbon by the lungs increased, its output by the urine diminished. Three instances of transient hæmoglobinuria from muscular exertion without serious symptoms in healthy young men, were afterward brought forward, and it was suggested that such cases were probably allied to "functional albuminuria," and associated with a condition of abnormal delicacy of the red corpuscles. In these cases, however, the blood was healthy, but the corpuscles were destroyed by some product of the unusual muscular exercise, probably carbonic acid.

A case of peliosis rheumatica in a married woman, aged forty-one, who for some years had suffered from dyspepsia and diarrhœa, and had been much addicted to alcohol, was then related. There was no history of rheumatism, acute or chronic.

Next week the General Medical Council will be sitting, and among its business we may expect to hear more of the set made against some Irish corporations, the question of registration of midwives, and that of the medical aid associations. The outrageous attempt of a limited liability quack company to give bogus degrees must also come forward. The judgment of the magistrates in this case was appealed from, but the court confirmed the conviction, and the judge spoke of the limited company as a bogus institution. Even so slow a body as the Medical Council may be encouraged by this to put its foot down firmly.

The death of Professor Henry Morley is announced. His name has been so long known as a professor of English, that only the few remember him as otherwise. He was, however, a member of the profession, and when young, I believe, he actually practised for a short time.

Another noteworthy death is that of Thomas Madden Stone, a faithful servant of the Royal College of Surgeons for some fifty years. He was appointed assistant librarian in 1832, and became clerk in 1853. This is an important office, and he held it until 1883, when he retired, and it seemed at first as if a corner stone of the college had been removed. He will be remembered by several generations of students, especially on examination days, as a genial and important functionary.

London, May 26, 1894.

The talk of the week is of the doings of the General Medical Council, the summer session of which opened on Tuesday and has continued until now.

The president opened the sitting with an address in which he sketched the programme of the session and on some points indicated more or less definitely his own views.

Though it is usual thus to furnish an index, so to say, to the work before the members, it may be doubted whether the custom might not be wisely omitted. The council is almost always overburdened with business—some of it of little or no interest; the sittings are inordinately expensive and the time too soon consumed in speeches. There can be no necessity to give the members an outline of their work, as they all know what they have to do, and they might as well set to and do it at once as listen to an address when time is so precious. It has been calculated that the meetings of the council cost not less

than a guinea a minute. I should think that Lei R. Quain, having delivered several of these addresses, would gladly be excused in future the performance of such a perfunctory function.

On Wednesday a pleasant interruption to some of the tedious work occurred when the president proposed to send the most hearty congratulations of the council to Sir James and Lady Paget, who then celebrated their golden wedding. In this the council succeeded in expressing, for once, the sentiment of the entire profession.

The rest of the day was occupied with discipline, the result being that five practitioners were found guilty of infamous conduct in a professional respect and their names ordered to be struck off the Register. Some of the offenders were found guilty of covering unqualified practitioners, and some of a system of unprofessional and improper advertising. Two of the latter were from Australia, so colonial practitioners will learn that they are within the purview of the council, and the respectable ones will congratulate each other. One of these Australians was a female, and so lady doctors on the Register will also be glad to find the council intend to maintain the purity of the Register.

Another of the advertisers made a very bold defence. He said he was charged with advertising his name, address, and qualifications, but in the advertisements brought as evidence there was no reference whatever to his qualifications. He admitted they bore his name and address, but contended that he stood in exactly the same position as members of the staff of a large hospital, and he could name a dozen hospitals which advertised for patients. As most members of the council are or have been on the staff of large hospitals, they must know how far this assertion is true. At any rate the bold *tu quoque* availed the accused but little, for he was convicted and struck off the Register.

The question of the medical aid associations was again raised by Mr. Bryant, who regarded the acceptance of office from a trading company as infamous, and thought such companies had been wrongly registered under the Friendly Societies Act of 1875. It was remarked that Mr. Bryant voted last year against the moderate resolutions submitted by a committee appointed on this subject, but he retorted that he did so because the resolutions were too weak. Ultimately, however, he was himself too weak to stand to his guns, and withdrew his resolution. So another session this burning question has been before the council, and nothing done.

A still more burning question—that relating to midwives—came up in two forms. First, as to the registration of midwives and the danger of creating an inferior order of practitioners; the second, as to certification. There can be no doubt that some of the proposals for dealing with midwives are most objectionable. The danger of creating an inferior order is imminent, and the general practitioners throughout the country, ably led by Dr. Rentoul, are determined to oppose, tooth and nail, such a suicidal policy. Nevertheless, certain consulting men persist in an endeavor which they must see to be opposed to the wishes of the mass of the profession, if they cannot see the danger that is so patent to the many. With professional resources reduced to a bare living, it is hard for the struggling man to see those who have attained a good position engaged in an attempt to introduce inferior rivals to divide his slender income. Consulting accoucheurs who bag large fees may treat with contempt the man who lives on minute ones, and laugh at the notion of robbing him of such trifles; but these men, hard working and ill-paid as they are, may yet unite and boycott those who are so anxious to bring in an inferior order. That inferior order, if once created, might not be grateful, and then the consultants may find their occupation gone.

The question of certification of midwives was before the council in a graphic form. On the walls were hung a number of certificates or diplomas granted by certain hospitals and by the Obstetrical Society. Lying-in hospitals have for years issued certificates of attendance on their patients. The Obstetrical Society had the audacity to set up an examination and certify to the qualification of midwives, as if it were a university or state authorized corporation. I have always condemned this monstrous assumption of authority, and at last it is occupying official attention. Everyone condemns such conduct in principle, but too many are slow to act. Mr. Wheelhouse brought in a strong resolution. The parties were warned last year without effect, so he proposed to declare it infamous in a professional respect for a registered practitioner to sanction the issue of such certificates or diplomas. This was too strong a course for so weak a body, and few ventured to support it. The president made the sensible suggestion that the authors of one or two of the worst should be summoned and told they were guilty of infamous conduct in issuing them. Even this was not adopted, but after some conversation the president was requested to repeat the warning already given to certain institutions.

Considering that the council has successfully prosecuted a man who assumed the title of M.D. (Bc., meaning botanic) by authority of a limited company, and has requested the president to take steps to prevent the issue of such bogus degrees, it is difficult to see why it should not adopt the same measure in the case of these equally bogus diplomas or certificates.

The Medical Society of London has closed work for the session. The annual oration was delivered by Dr. W. M. Ord, who regaled us with an account of a holiday excursion. We accompanied him boating, fishing, perambulating, botanizing, geologizing, and on a wet day criticising some interesting books, and pronounced this "doctor's holiday" quite a success. After the oration the *conversazione* closed the session.

RESECTION OF RIB IN PYO-THORAX.

To the Editor of the Medical Record.

Sir: In your issue of June 2, 1894, Dr. Arnot Spence, in a letter directed to you, shows great indignation on account of my remarks: "The St. Louis Clinique (Arnot Spence) does not disdain to draw classical rules from the observation of even two cases," which I have made in my paper on Pyo thorax, published in the Medical Record, May 19, 1894.

In the impersonal part of his letter to you he only corroborates my views, by stating himself that "these two cases were appended simply as illustrative ones, their histories being published in full."

The value of the fourteen histories, which were appended to my reasons why resertion is the better treatment, consists, in my humble opinion, not only in a simple illustration of my stand-point, but in their unusual and interesting additional circumstances, as I could hardly expect the profession would take any interest in the histories of such cases of pyo-thorax, which were treated under ordinary circumstances.

As far as the "exceptional number" of my cases is concerned, I am sorry to say that, with Dr. Spence's kind permission, I have operated upon even one hundred and fifty cases up to date, and all I can do is to regret that my criticising friend did not have the same chances.

What the honorable St. Francis Hospital should have to do with this number I fail to understand. Until now I did not know that pyo-thorax is mainly operated upon in hospitals. I, for instance, have operated upon one hundred and nineteen cases in private practice, while in the two hospitals with which I am connected I had a chance only thirty-one times.

I have certainly not mentioned the "exceptional" number to hurt the feelings of my esteemed colleague, but to show the great prevalence of the disease in this city, and I have no doubt that surgeons of more experience have operated upon many more cases.

Dr. Spence further says that I had declared resection of a rib to be "the only successful method" of treating

pyo-thorax. This is a small error. He furthermore refers to my eleven years' practice in this country. To this I have to say, that I myself have treated pyemas by aspiration as well as by incision long before I had the good fortune to perform operations in this country, and that I had got some good results. But since I have adopted resection throughout, my results are much better.

In regard to Dr. Spence's statement, that "at the discussion of my paper at the meeting of the County Medical Society the general opinion was that free incision was all that was necessary in the majority of cases," I have to state, that of the two surgeons participating in the discussion, one was decidedly in favor of resection and the other recommended it when the intercostal space was not as wide as to let a large drainage-tube pass.

I do not know if Dr. Spence was present. If he was, his criticisms at the time of the meeting would not have been in order. If he was not, his information must have been insufficient.

In the same issue of the MEDICAL RECORD where Dr. Spence attacks me, I noticed a report of the American Surgical Association at Washington. Here I find, in the discussions following Dr. Ashhurst's paper on "Pyothorax," that Drs. C. B. Nancrede, of Ann Arbor; F. F. Prewitt, of St. Louis; F. Willard, of Philadelphia, Park, of Buffalo, etc., were decidedly in favor of primary resection.

I may add that the first sentence of the criticisms about my paper in von Bergmann's and König's *Centralblatt für Chirurgie*, in translation, reads as follows: "With his view that primary resection in the treatment of pyo-thorax is the best treatment, Beck will hardly meet with the opposition of the surgeons."

Dr. Spence admits in his letter that his views are based on the experience of other surgeons. He especially refers to a gentleman, whom I personally esteem most highly, and whose experience, as he states, "was so favorable with the free incision method, that up to the present exsection of a rib or ribs has not been found necessary."

Unhappily, I several months ago had the bad fortune to be compelled to perform resection on a girl, ten years of age, where this very same gentleman had made an incision. No recovery had taken place six months after the "free incision" was made.

CARL BECK, M.D.

NEW YORK, June 9, 1894.

Medical Items.

Contagious Diseases — Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 9, 1894.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	2	1
Scarlet fever	101	17
Cerebro-spinal meningitis	1	2
Measles	123	6
Diphtheria	181	54
Small-pox	11	7
Cholera	0	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0

A Word to the Busy Doctor Regarding Hæmorrhoids.—In all complaints of rectal troubles, make diagnosis before you prescribe. If piles, discover what kind, whether external or internal, bleeding or not bleeding, protruding or not protruding. External, inflamed piles require, in a degree, the same treatment as internal, yet the external require an astringent which internal cannot bear. Bleeding piles need different treatment from those that do not bleed, and protruding piles special treatment, especially if they resist reduction. External piles are of two varieties: 1, External tags of skin; 2, venous tumors. External tags of skin, when inflamed, constitute one of the most painful varieties of piles. An ordinary prescription can do but little good. Ointments cannot be absorbed. The application of heat or cold is productive of more positive results; use flaxseed poultices or cloths wrung out of hot water and changed often. If heat is unpleasant to the part, apply very cold water in the same way. If an astringent is necessary, make solution of sugar of lead, bowels should be moved daily, salines as good as any. An injection of a quart of cold water will afford some relief. A radical cure consists in the removal of the tumor. Never try to push tumor inside of rectum. The treatment of internal piles is different from the class just cited. The danger from this class is hemorrhage or strangulation; either may endanger life. An indiscriminate prescription of an ointment accomplishes nothing. Far better is an application of cold water, when not protruded; an injection of cold water when not protruded but painful, gives more comfort than all the combination of ointments usually prescribed. If, when the person who is troubled with the protrusion of internal piles is directed to take a cold water injection every morning to move the bowels, to bathe the pile tumor in cold water after an evacuation, anoint the mass with plain vaseline, then push it back, and under no circumstances to use paper as a detergent, much comfort will be gotten out of these directions. If internal piles both bleed and protrude, a little different treatment is used. The hemorrhage must be looked to; when protruding an examination can be made and if no bleeding points are found the following will be found good:

℞. Vaseline..... oz. j.
Acetate lead..... gr. xx.
Pulv. opii..... gr. xv.
Balsam Peru..... dr. j.
M. et Sig.: Apply to pile after washing with cold water.

If protruding external piles are accompanied with much pain, some complication exists, usually ulceration. Washing with hot water will be found more agreeable, to be followed by the following prescription, which contributes much to relief:

℞. Cocaine..... gr. vij.
Ex. opii..... gr. xx.
Ext. belladonnæ..... gr. xvj.
Lanoline..... oz. j.
M. et Sig.: Apply after washing. Then return mass.

At bedtime use the following suppository:

℞. Iodoform..... gr. iv.
Morph. sulph..... gr. ½
M. Ft. sup. No. 1. Sig.: Insert at bedtime.

Itching is often mistaken for piles; if itching is a most prominent symptom, it will most likely be found to be pruritis. If with piles we have an itching of the surrounding parts, the following is suggested:

℞. Vaseline..... oz. j.
Ichthyol..... dr. j.
M. Sig.: Apply often.

—*Mathew's Medical Quarterly.*

A Sugar Diet for Athletes and Workingmen.—There is a reason for all things, and at last the universal habit of indulging in sweetmeats has been vindicated by Dr. Vaughan Harley in the "Proceedings of the Royal Society." Voit and Pettenkofer long ago proved that muscular work could be produced by carbohydrates, while more recently Chaveau and Kaufman, in comparing the quantities of sugar that disappeared from the blood while the muscles were contracting and while at rest, found that four times more sugar was used during the period of muscular activity. From personal experiments Dr. Harley

finds that the amount of work performed on a diet of sugar alone, for one day, is nearly the equivalent of that done on a full diet. The amount of muscular work done on a fasting day was increased two-thirds by eating about a pound (five hundred grammes) of sucrose, showing that sugar, when taken alone, is a muscle food. By adding seven ounces of sugar to a small meal, the muscle-energy-producing effect was so great that the total amount of work done was increased about one sixth, while its addition to a large meal caused about one-eighth more daily work to be done. By adding about a half-pound (two hundred and fifty grammes) to the usual meals, the muscular work done during an eight-hours' day was increased fully one-fourth. Eating sugar about four o'clock in the afternoon prevented the usual evening fatigue. In every case where other food was taken the eating of sugar caused a marked increase in the resistance to fatigue. As sugar has become nearly as cheap as flour, it need no longer be used for sweetening only, but might be used very profitably as a muscular power producing element in the daily diet of such workingmen and athletes as are blessed with good digestions.

Artificial Abortion Procured by a Woman Introducing a Flexible Sound into her Own Uterus.—A woman's self-procured abortion is described by a Russian physician in the following words: "A short time ago I was called —to a young, well-educated lady—mother of three children, who was suffering from uterine hemorrhage. Digital exploration disclosed abortion in the seventh or eighth week. The os admitted one finger. In answer to my question what the cause of abortion might be, I learned that the patient had brought it about herself, it being her daily custom to introduce a flexible sound into her uterus, so as to avoid pregnancy. As I appeared sceptical she produced the sound (No. 16) and introduced it into her uterus before my eyes. A few days before, she had introduced the sound and let it remain until pains started. As soon as the latter had subsided she reintroduced the sound. On each occasion she disinfected the instrument in two per cent. carbolic acid. We know how difficult it often is for a surgeon to introduce a sound into the uterus, especially when the portio vaginalis is much displaced. In this instance the position of the uterus was, relatively speaking, low, the portio vaginalis long, and there was no abnormal flexion between the portio and the corpus uteri. Under these conditions it was, of course, possible for the woman to introduce the sound herself. I must add that this lady had procured herself abortion in the same manner some three years ago in Sebastopol, where she had learned the method from a midwife."—*Centralblatt für Gynaekologie.*

A Field for the Medical Philanthropist.—To prevent the access of malicious microbes to open wounds is the crowning glory of modern surgery. The limitation of specific and other germs so that they cannot prey upon human beings is the foremost element of modern preventive and curative medicine. But the accomplishment of these ends calls for constant vigilance. The exercise of such vigilance is the distinguishing characteristic of the modern doctor. Now medical societies are likely to be infested with individuals whose work is destructive of society health. The repression of such pathological germs is imperative for the best development of any medical society. A good description of such pernicious microbes was given several years ago by the late Sir Andrew Clark in an address before the Clinical Society of London. We quote from the *Boston Medical Journal.* Dr. Clark said: "For one competent and conscientious worker, there are ten who are incompetent and unconscientious, and who in divers ways hinder our progress and spoil our present possessions. Intolerant of the patient and painful toil of the true worker, acute in the power of superficial observation, gifted with a certain showy versatility, quick at catching hold of new ideas, ingenious in guessing, crude in experiment, loose in therapeutic trials, hasty in speculation, strong in dogmatic assertions, accomplished in the transfiguration and use of other men's work, finding what they want wherever they seek it, unhindered by difficulties, facile in speech, ready in writing, thirsty for notice—such men, now, alas, not uncommon in medicine, beget papers so quickly they have no necessary relation to time, observation, or thought, and flood our literature with their unworthy if not unveracious lucubrations. The favorite hunting-ground of such men is therapeutics, and their favorite sport is the catching of remedies, the putting of them to new uses, and the setting forth of their successful results. These men discern no difficulties, have no failures; they can illustrate their successes by scores of cases, and explain them by the most ingenious theories. There is scarcely any limit to the extent and variety of their achievements, and as they flaunt along in the fulness of self-satisfaction they look down with pitying condescension upon those who in the straight and narrow way conscientiously toil with small success in seeking after truth and find strength and solace in their chosen task." Dr. Clark congratulated the Clinical Society of London that at the date of his writing it had repressed the bad workers, pathogenic microbes such as be described. We wish every medical society could be similarly congratulated. Certainly the health of the medical profession would be far better than it is. Has not each society surgeons and physicians of sufficient ability and nerve to apply to their own society the laws of asepsis, and when this has failed, the laws of antisepsis? The larger the society the greater the number of these "bad workers," the pathogenic microbes. Indeed, so profound has been the conviction of many that the swarms of such in the larger societies render impossible effective work, that they devote all their attention to societies small in membership, which take good care that no "bad worker" shall be admitted, or if admitted that his life shall be made so uncomfortable that he will withdraw to secure peace. Shall we conclude, then, that this evil element cannot be controlled in the larger societies? Not at all—any more than we shall conclude that a surgical operation cannot be made aseptic. In both cases we must admit the facts and act accordingly. Both call for a certain special knowledge, and unremitting care and determination in its application. In the work of purification by exclusion which is thus set before the medical philanthropist, an inquiry will be made into the professional genesis of the self-seekers so graphically described by Dr. Clark. We drop the hint that most of them will be found to have made a short cut from comparative illiteracy to the medical college, having had no rational preliminary education, no proper and sufficient mental discipline.—*The American Lancet.*

In the Treatment of Lithæmia, according to Dr. Da Costa, the main factor is regulation of the diet. The food ought to be mainly vegetable. Green vegetables (especially asparagus), fresh fruits, stale or toasted bread, with the white meat of poultry and fish, should constitute the chief items. An excess of carbo-hydrates, especially sugar, should be avoided. The only drink to be allowed is water, and sufficient quantities should be taken to flush the kidneys. Mineral waters may be ordered to accomplish the same purpose. Alcohol should be positively excluded. Exercise in the open air is also an important part of the treatment. But little drug treatment is required. Saline laxatives are very useful. A combination of lithium carbonate (2 gr.), with extract of nux vomica ($\frac{1}{6}$ gr.), given after meals is of special value. In attacks of lithæmic migraine a few doses of a mineral acid, it is claimed, will often cause the symptoms to disappear. Other authorities advise a diametrically opposite diet to that cited above.

The Relative Value of Man and Horse.—A man in Kentucky while driving was struck by a locomotive and both himself and the horse were killed. The widow sued the railroad company and recovered $50 for the loss of the horse and one cent for that of her husband.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 45, No. 25.
Whole No. 1233.

NEW YORK, JUNE 23, 1894.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

MODIFICATIONS IN THE TECHNIQUE OF VAGINAL HYSTERECTOMY.[1]

BY CLEMENT CLEVELAND, M.D.,

SURGEON TO THE WOMAN'S HOSPITAL, IN THE STATE OF NEW YORK.

IN writing a paper for the Practitioners' Society it is difficult for one engaged in a special branch of work to select a subject for discussion that will be of general interest to its members.

In choosing the present topic, I am aware that it is one with which many of the fellows of the Society are perfectly familiar. The paper, however, is not written for the expert, but for the man who knows little or nothing about the subject, but desires to know more, and the hope is cherished that it will elicit a discussion that will prove of interest and profit to us all. The general practitioner should be not only interested, but familiar with the whole subject of uterine cancer. It is from his early detection of the disease that the best results from the operation are to be expected, for in its promise of cure there is no more beneficent operation in the whole range of gynecological surgery.

In this paper it is my purpose to speak of the operation as applied to cases of cancer alone.

In its anatomy there is nothing more beautiful and admirably adapted for the operation than this organ, in the arrangement and distribution of its arteries, placed as they are where they can be most readily reached without jeopardizing the integrity and function of any other.

The accompanying drawing (Fig. 1) shows the position and distribution of the ovarian and uterine arteries, with their relative position to the ureter. It also shows the proper position of ligatures (A and B) for their control.

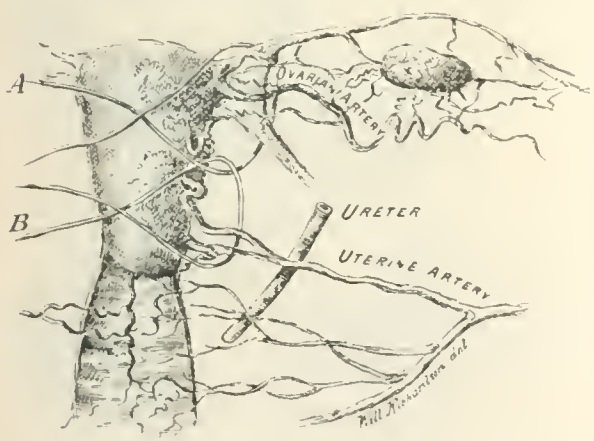


FIG. 1.—Ovarian and Uterine Arteries.

Vaginal hysterectomy, or colpo-hysterectomy, was first performed about fifty years ago, but fell into disfavor from the great mortality following it. To modern antisepsis is due its revival and great popularity.

In cancer of the cervix, so greatly has the mortality been reduced, that but little difference of opinion now exists among gynecologists regarding the question of high amputation or total ablation.

[1] Read before the Practitioners' Society of New York at the meeting held March 2, 1894

Selection of Cases.—A word here about the selection of cases is important, as it bears directly upon the question in hand.

In deciding upon a case the following points should be made out: Bimanual examination, with the patient in the dorsal-decubitus, should discover no extension of disease into the broad ligaments. The uterus should be freely movable. The anterior lip should not be so extensively destroyed that there is no grasp for volsellæ. If the disease has extended to such an extent, the proliferation has probably reached the bladder wall, rendering operative interference worse than useless. The uterus could probably be removed, but a recurrence would be almost immediate. The same is not true of the posterior lip, with extension even upon the posterior wall of the vagina. I have had one case recover from hysterectomy, and live without recurrence for three years, where the posterior lip was almost completely destroyed, and where quite a large section of the posterior wall of the vagina had to be resected.

The uterus should not be too large, not larger than a two and a half months pregnancy. The vagina should be sufficiently capacious. But this I do not look upon as a bar to the operation. If the introitus is too small, the perineum should be incised down even to the sphincter ani. It can be easily sewed up afterward.

I shall take as a typical operation, the one described by Schroeder, and discuss the various modifications, afterward describing the method or combination of methods that I have, from quite an extended experience, found to answer what I consider the requirements of the operation.

Schroeder's method is as follows: The cervix is grasped by volsellæ and pulled down as far as possible, a circular incision is then made, in healthy tissue about the cervix, and the vaginal mucous membrane pushed backward, separating anteriorly the bladder from the cervix. Douglas's pouch is then opened by a transverse incision, and the uterus turned backward, so that the fundus appears in the opening. The fundus is caught with the volsellæ and the body of the uterus pulled through the incision. The peritoneum of the vesico-uterine pouch is then cut through. The broad ligaments are then ligatured either with a single ligature or in separate portions. Finally, the uterus is cut away, close to its sides, leaving sufficient stump to prevent slipping of ligatures.

The wound in the peritoneum is then closed by stitches, securing the stumps of the broad ligaments to the wound, and thus turning them outside. Between both these stumps, he leaves a small opening for a T-shaped drainage-tube, the end of which, protruding from the introitus, is enveloped in salicylated cotton.

Various modifications of these several steps in the operation are practised by prominent gynecologists in this country and in Europe.

Any instrument designed to draw down the uterus by being applied to the cavity, I consider useless. If the cervix is so far destroyed that it affords no grasp for volsellæ or forceps, I believe the operation of hysterectomy is not indicated.

In the first step, instead of using knife or scissors, some advocate the opening of the vaginal pouches by the actual cautery. There is certainly no advantage to be gained by this, and it is objectionable for various reasons. Dissection is made much more difficult thereby, and there is great risk of burning the vulva and vagina.

The application of an elastic ligature to the cervix, be-

fore dissection, as practised by Fritsch, would seem a useless complication. Some follow the method advocated by Fritsch, of beginning the dissection at the sides of the cervix, finding the uterine arteries and tying them. This was adopted evidently to avoid the hemorrhage following the incisions in the vagina about the cervix. The hemorrhage is usually so trifling, and so easily checked, that the supposable gain from the method does not compensate for the loss of time taken in isolating and tying the arteries. For the same reasons I do not advocate the plan followed by Pozzi and others, of suturing the posterior vaginal and peritoneal edges together, and, moreover, I believe by this plan pockets for pus are left. All such surfaces should be kept open to drain.

Instead of opening Douglas's pouch by incision, I believe the peritoneum should be dissected off from the posterior uterine wall by the finger, as far up as it is possible to do so. There is less bleeding, and a larger flap of peritoneum left to close down over the pelvic opening.

I am opposed to retroverting the uterus and drawing the fundus through the opening in Douglas's pouch. It is often a difficult and sometimes an impossible thing to accomplish, owing to the resistance of the round ligaments, and the presence of the cervix anteriorly. I am opposed to any method which is likely to occasion delay, and I have seen so much time lost in attempting to carry out this procedure in the hands of others, that I have never attempted it.

Others besides Schroeder advocate the partial or total closing of the peritoneum. This is not an easy procedure, and takes much time. It interferes with drainage, which I take it, is most important, even from the abdominal cavity, after such an operation. Moreover, within twenty-four hours, nature shuts off the peritoneal cavity by plastic lymph, as thoroughly as suturing would do.

The Use of Clamps.—Clamps of various construction are still used by some for controlling the uterine and ovarian arteries. I believe, however, that within a few years they will be entirely given up. They are objectionable to my mind, for many reasons. Compared with the ligature there is greater risk of hemorrhage, and greater danger of wounding intestines. They increase the danger of sepsis also. I abandoned them myself three years ago, because I lost a case directly due to their use. I had applied four clamps, one to each uterine, and one to each ovarian, artery. It had been my custom to leave the clamps in position for forty eight hours, but in this instance I thought I would be more than usually prudent, and decided to leave them seventy-two, as I got the impression during the operation that the patient was a bleeder. I felt, however, that seventy two hours was long enough, and I began the removal of the clamps at the end of that time. The removal of those from the uterine arteries was accomplished without difficulty or accident, but on attempting to remove the one on the left ovarian artery, as soon as it was cautiously opened, hemorrhage was very free and startling. The clamp was immediately closed again, when all hemorrhage ceased.

Within a few hours the patient began to do badly, and died at the end of forty-eight hours of peritonitis. On the removal of the clamp on the left ovarian artery after death, fecal matter came out through the vaginal opening, thus demonstrating that, when I had reclamped the left ovarian artery, a knuckle of intestine had been caught in the end of the instrument. This was my misfortune, not my fault. It was clearly unavoidable.

Clamps are, moreover, objectionable from the discomfort they give to the patient. Of course very few are needed, but I well remember the first operation of the kind I ever witnessed. There were sixteen clamps in all. But that was in the early days of the operation. It never occurs now at the hands of any expert operator.

I come now to speak of the method which I have found, personally, to best answer the requirements of the operation, as I understand it.

Preparation of the Case.—Where it is possible, it is best to give four or five days, or even a week, to the preparation of the patient. Where it is possible the patient should be given a bath each day, the bowels should be got into condition, so that at the time of the operation the rectum and colon are empty. Vaginal douches should be given twice daily. I have tried nearly everything for this and have settled finally on a solution of bichloride of mercury, 1 to 5,000, as the best cleanser and disinfectant. Several hours before the operation the rectum and sigmoid flexure should be thoroughly washed out, first by soap suds, and then by a saturated solution of boracic acid. After etherization the patient should be placed in the lithotomy position, with legs and thighs

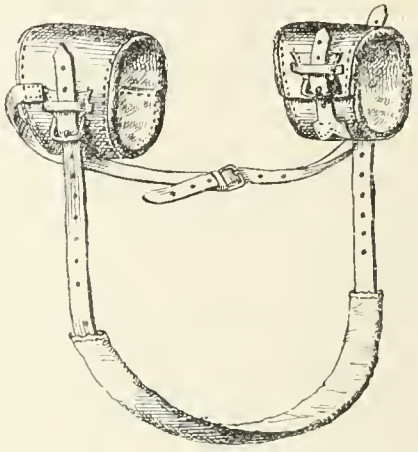


Fig. 2.—The Bissell Crutch.

flexed upon the abdomen and held in place by some form of crutch. I prefer, and use, the one invented by Dr. J. Dougal Bissell, of this city, late house-surgeon of the Woman's Hospital. It is shown in the accompanying diagrams (Figs. 2 and 3). Its chief and important feature is, that it takes its support from the back in the lower lumbar region, instead of from the neck and shoulders. Its advantage over others can be readily seen from this fact. It consists of one strap, broad in its centre part, which is covered by india rubber, with its two tapering ends perforated with the proper number of holes, by which it is attached on either side to two

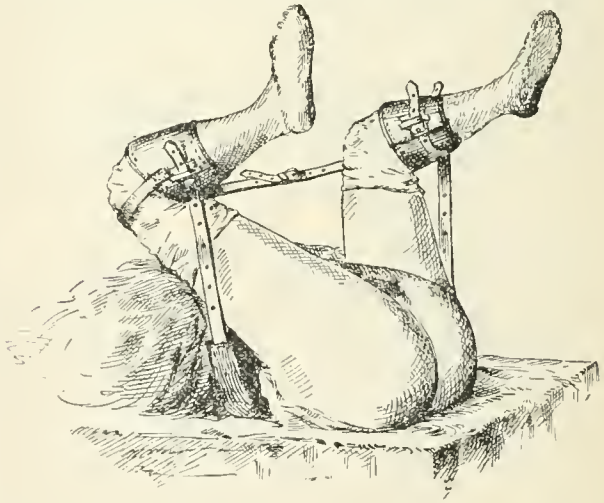


Fig. 3.—The Bissell Crutch Applied.

broad padded leather bands, which fit about the legs just below the knees. There is another strap which is buckled to these same bands between the knees. The diagrams will show the application of the instrument even better than the description (Fig. 3). Another advantage of this crutch is its lightness and the small amount of room it requires when packed for transportation.

The mons is then thoroughly washed with liquid green soap and shaved; the vagina thoroughly washed, also with green soap, and thoroughly irrigated with the 1 to 5,000 bichloride solution.

Where it is at all possible that a laparotomy may be called for as a supplementary measure, the abdomen should be prepared the night before for such an emergency. The legs and abdomen should be thoroughly covered with dry sterilized towels. A large Sims speculum is then introduced and given to a nurse, sitting on the right of the patient, to hold. If necessary retractors can be put in on either side, and held by assistants, or my own bilateral retractor, devised for this purpose, can be used (see Fig. 4). If the introitus is so small that it inter

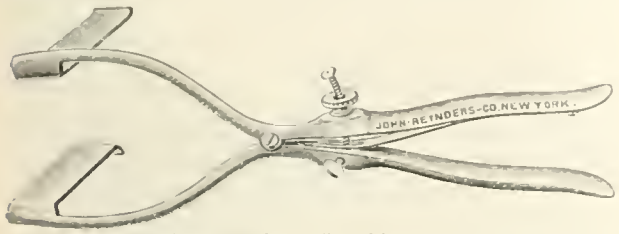


Fig. 4.—Author's Bilateral Retractor.]

feres with the work, I do not hesitate to incise it down to the sphincter ani. The cervix is then grasped by volsellæ and drawn down as far as possible. A block tin sound is passed into the bladder, and the point of connection of the latter with the cervix made out. A transverse incision is then made in healthy tissue below this point, across the anterior lips, and the bladder-wall gradually separated from the cervix, till the unresisting vesico-uterine pouch is reached. A transverse incision is then made across the posterior lip, at the retro-vaginal junction, and the peritoneum pushed backward and upward from the posterior wall as far as it is possible to do so. The incision about the cervix is then made complete by incising the mucous membrane at the sides of the cervix; being careful not to cut deep enough to wound the uterine arteries.

Ligaturing the Uterine Arteries.—In passing ligatures, I use my ligature-carrier, which is here shown in diagram (Fig. 5). With the index finger of the left

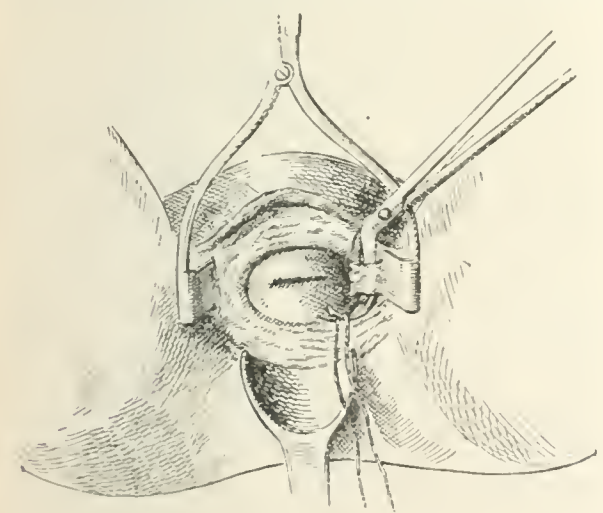


Fig. 5.—Author's Ligature Carrier.

hand passed into the opening in Douglas's pouch, up to the interspace between the ovarian and uterine arteries on the left side, the point of the ligature-passer is carried into the interspace anteriorly and passed at a sufficient distance from the uterus, with the index finger of the left hand in position as a guide, and brought out in the posterior opening, and its jaws opened. The loop of a long double ligature is then placed in the jaws of the ligature-carrier and drawn through. The loop is then cut, and one of the remaining halves is clamped at its upper and lower end. The other half is then used to ligate the left uterine artery. Before doing this I see that these two ligatures are crossed. I do this to secure a chain stitch, believing this the safest guard against hemorrhage. There is thus no space left between the uterine and ovarian ligatures, where serious hemorrhage has been known to occur, when the ligatures were introduced separately.

A double ligature is next introduced in a similar manner on the other side, the loop divided, and one of its halves clamped on its either end as before; the other half is then used in securing the right uterine artery.

The above is shown in the accompanying diagram.

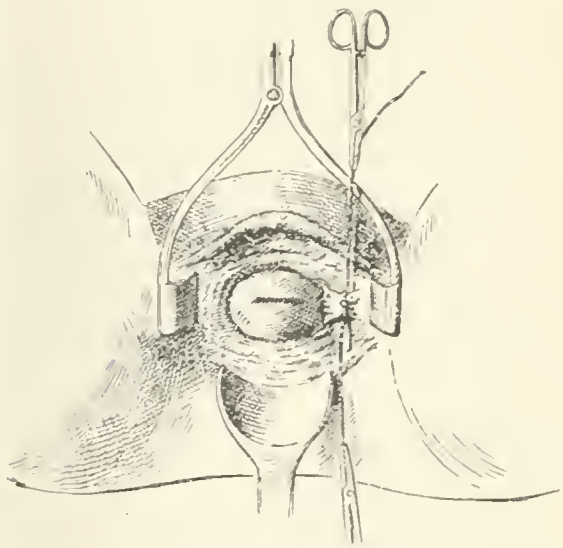


Fig. 6.—A Schematic Drawing.

The cervix is then cut away from the uterine arteries, leaving sufficiently large stumps to avoid slipping of the ligatures.

Thorough and gentle irrigation with saturated solution of boracic acid is then practised. If everything seems secure and there is no hemorrhage, the operation is proceeded with.

The vesico-uterine duplicature of the peritoneum is then penetrated and thoroughly separated from the anterior surface of the uterus, and then the peritoneum is thoroughly separated from the uterus posteriorly as high up as is possible. After gentle and thorough irrigation again with distilled water, under low pressure, the next step is taken up. This consists of the amputation of the cervix. This is done to avoid infecting the peritoneum when the fundus is drawn out, and also to give more room for the easy extraction of the body of the uterus through the anterior opening. I not only amputate the cervix, but with it a large portion of the body of the uterus. This is done with large serrated scissors, which cuts out the cervix, together with a large wedge-shaped portion of the body of the uterus. This is shown in the accompanying diagram (Fig. 7). The incisions

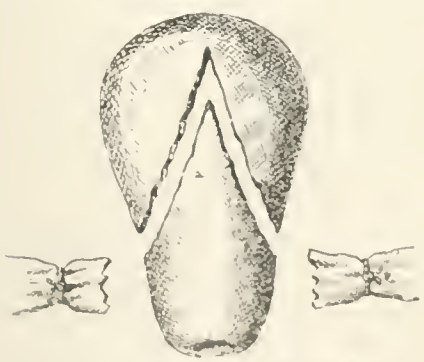


Fig. 7.—Showing Method of Amputating the Cervix.

from either side are often carried to within half an inch of the top of the fundus, where they meet. The fundus is then drawn out by a large hook inserted at its top, great care being taken to avoid the intestines. With the cervix and the large wedged-shaped portion of the body removed, the sides of the uterus come together, and the body is drawn out with great ease. By this method even

very large uteri may be removed. The index finger of the left hand is then introduced in the posterior opening, as a guide for the ligature-carrier, which is then passed in anteriorly over the fundus and out at the posterior opening. The lower end of the previously clamped ligature, on the left side, is then placed in the jaws of the ligature-carrier, and drawn out through the anterior opening. With this ligature the ovarian artery is then secured. A long and delicate clamp is then placed at the top of the broad ligament close to the suture, taking in merely the peritoneum. The uterus is then cut away from the uterine artery, on the left side, leaving a sufficient stump to prevent the slipping of the ligature. The same procedure is gone through with on the other side, and the remainder of the uterus cut away and removed.

These clamps, placed at the top of the broad ligament, are to be used later in the operation for drawing down the stumps of the ovarian arteries sufficiently to secure their being thoroughly covered by the gauze dressing. Before tying the ovarian artery, if I find it advisable, from the size of the uterus, to introduce a third ligature, the ligature carrier is passed anteriorly through the centre of the remaining portion of the broad ligament on the left side, and brought out through the posterior opening, its jaws opened, and the lower end of the previously clamped ligature, together with the end of a third ligature, drawn through.

After seeing that these two ligatures are crossed, the lower one is first tied, and then the other: two ligatures thus taking the place of one. The same is done upon the other side.

For the ligatures I use the medium sized braided Chinese silk. It is the strongest, and can be the most securely tied. These ligatures are all left long and knotted at their ends in such a way as to indicate the arteries to which they are attached, as in the future progress of the case it may be of advantage to know whether they are from the uterine or ovarian arteries; this being important, as they sometimes have to be removed. If left to themselves I have known the ligatures of the ovarian arteries to take six weeks and more before they will come away.

If the ovaries and tubes are non-adherent, and can be readily brought into the opening, I remove them, together with the uterus, by placing them outside of the ligatures of the ovarian arteries, when it is possible to do so. If they are adherent, and not readily brought down, they are left.

I have never yet seen any reason to regret my inability to remove them, though I believe that when the woman has not reached the climacteric it is better that they should be taken away. In such instances their functional activity may keep up disagreeable nervous symptoms.

Gentle and thorough irrigation with very warm distilled water is then practised under low pressure. If there is no hemorrhage, the stump, including the left ovarian artery, is then carefully drawn down a short distance by the clamp attached to it, and a pad, formed of several layers of sterilized iodoform gauze, is packed against the left side of the pelvic opening, covering the stumps of both the ovarian and uterine arteries. While the gauze is held in position, the clamp holding the stump of the uterine artery is gently removed.

In the same manner the stumps of the arteries on the opposite side are covered. The space between these two pads is then packed with strips of sterilized iodoform gauze, down to the introitus. A pad of bichloride gauze is then placed over the vulva, and secured in position by a "T"-bandage. The patient is then ready for bed.

In cases of cancer in the body of the uterus, the first step is to thoroughly curette the uterus, irrigate with strong bichloride solution, and pack the cavity with bichloride gauze; otherwise the technique of the operation does not differ from the one described above.

German Foresight.—During the last seven years the Prussian government has paid over $400,000 indemnity for cattle slaughtered on account of tuberculous disease.

CLINICAL OBSERVATIONS ON EROSIONS OF THE STOMACH AND THEIR TREATMENT.

By MAX EINHORN, M.D.,

NEW YORK.

As is well known, the term "erosion" signifies a defect of superficial nature. In the stomach erosions are often found at the autopsy. Of late several valuable papers on the pathological anatomy of this subject and on the rare occurrence of erosions associated with typical ulcers of the stomach have been published.

In his excellent article, "Ueber geschwürige Processe im Magen," D. Gerhardt[1] describes erosions of the stomach in the following words: "Sections made of erosions as a rule show that at the base of the ulcerations almost the entire lower half of the mucous membrane is still preserved. In the epithelium of these remaining glands nothing remarkable can be discovered; at the sides the glands become longer; the first ones that are intact usually curve themselves over the defect and partly cover it. The recovery seems to take place by the simple aftergrowth of the gland remnants."

Virchow[2] maintains that besides circulatory derangements in the larger vessels of the stomach (art. coron., gastricæ breves, and gastroepiploicæ) the acute and chronic catarrh of the stomach, especially if the latter is accompanied with vomiting and crampy contractions, are the cause of bleeding ulcers and erosions of this organ.

O. Harttung[3] in his article, "Ueber Faltenblutungen und hämorrhagische Erosionen," explains the origin of erosions in the following way: "The contraction of the muscularis of the stomach effects an arrest of the flow in the folds and intense congestion in the veins and capillaries which give cause to hemorrhages into the mucous membrane. . . . An hemorrhagic infiltration of the mucous membrane arises, which, therefore, is only little or not at all provided with fresh circulating blood and very soon succumbs to the digestive effect of the gastric juice. In this way the decay and destruction of the tissue, the hemorrhagic erosion is produced."

Langerhans[4] opposed the commonly accepted view that between erosion and ulcer of the stomach there is only a gradual but no typical difference, and that ulcers of the stomach very frequently originate from the larger erosions. He gave the following reasons: The round ulcer of the stomach has its typical location near the small curvature, and is met with only exceptionally at other places; the hemorrhagic erosions, on the contrary, have no predilection for their seat; the round ulcer appears most frequently as a single ulcer, sometimes as two corresponding ones, but very seldom in greater number; erosions, on the contrary, are met with in large numbers, seldom singly. They are located principally at the tops of the folds of the mucous membrane, and flow together, if they are very numerous and near each other, in the form of elongated and ramified figures corresponding to the folds of the mucous membrane; the round ulcer of the stomach loses its characteristic round shape only if two corresponding ulcers at both sides of the small curvature unite to form one oblong ulcer, the longitudinal diameter of which is always perpendicular to the longitudinal axis of the stomach.

Langerhans believes that primary affections of the vessels (aneurisms, embolics, etc.) are but very seldom the cause of hemorrhagic erosions, and that, on the other hand, catarrhal inflammations, with crampy contractions of the muscularis, but exceptionally cause the formation of chronic corrosive ulcers. Ordinarily hemorrhagic erosions appear in crampy contractions accompanied with inflammatory processes, round ulcers of the stomach in primary affections of an arterial vessel. Only very exceptionally do erosions become transformed into chronic ulcers.

[1] D. Gerhardt: Virchow Arch., Bd. 127, p. 85.
[2] R. Virchow: Virchow Arch., Bd. v., p. 363.
[3] O. Harttung: Deutsche med. Wochenschr., 1890, No. 38, p. 847.
[4] R. Langerhans: Virchow Arch., Bd. 124, p. 373.

Such exceptional cases in which gastric ulcers very probably took their origin from erosions are described by Langerhans and Gerhardt in their previously mentioned papers.

Ewald,[1] speaking of the etiology of ulcus rotundum ventriculi, mentions also erosions as an important factor, and describes the microscopic picture of a stomach which has been treated according to Heidenhain's method shortly after death. The mucous membrane of this stomach was suffused with blood, and at different places the glandular tubules were filled to beyond their necks with unmistakable red blood-corpuscles. "A very slight local congestion or a traumatism," Ewald remarks at this place, "may be the cause of such bleedings. They develop into the hemorrhagic erosions, small, streak-like, or rounded losses of substance from the size of a millet-seed to that of a pea, on which at times a blackish-brown extravasation of blood is found, together with the simultaneous loosening of the mucous membrane. Their number is very variable, being sometimes enormous, especially near the pylorus, so that the stomach appears as if covered with them."

Whereas the subject in question has been thoroughly discussed and worked at in respect to the pathological anatomy in the aforementioned literature, very little has been done clinically. Although erosions of the mucous membranes of the stomach are mentioned in some text-books, there is nowhere defined how these conditions may be recognized during life.

The only papers which in a slight measure touch the clinical side of this subject are the following:

Jaworski and Korczynski[2] describe non dangerous exfoliations of the gastric mucous membrane with traces of bleeding of the stomach caused by the tube; unless they originate from an artificially ruptured ulcer or cancer, they are never large, and confine themselves to the red coloration of a few portions of mucous membrane, and at the utmost to pink tinging of the washed stomach contents. These small artificial bleedings are different from other hemorrhages of the stomach; they are fresh and show under the microscope unchanged red blood corpuscles which are dissipated in the parenchyma of the mucous membrane. These artificial bleedings occur principally in patients suffering from chronic gastric catarrh (lack of HCl secretion), thus frequently in carcinomatous stomachs.

Boas[3] says, in his book on "Diseases of the Stomach:" "Sometimes when fasting there appears in the stomach contents also desquamated epithelium and remnants of glandular tubes. They are found oftener than could be concluded from the description given by other authors. In several instances I have observed clear fragments of glandular tubes which could be recognized with certainty." Boas also mentions the occurrence of small exfoliations of the mucous membrane. He speaks of them, however, as something accidental, which could be utilized for the diagnosis by microscopic examination.

Contrary to these described accidental occurrences of pieces of gastric mucous membrane, I have observed during the last two years seven patients in whom the presence of particles of the gastric mucous membrane in the washwater of the stomach was quite the rule. These cases resemble each other in so many respects that they appear as if belonging to one sickness. They could best be considered as erosions of the gastric mucous membrane. It might be appropriate at first to describe these cases as they have been observed clinically, and thereafter to discuss the type of the disease.

Case I.—June, 1892. M. S——, thirty-four years of age, shoemaker, is for the last four years troubled with pains after meals. As a rule, the pains are not severe; sometimes, however, although quite seldom, they appear with intensity. Patient feels extremely weak and languid. Appetite ordinarily very poor, bowels constipated.

[1] C. A. Ewald: Diseases of the Stomach, p. 236, 1892.

[2] Jaworski and Korczynski: Deutsche med. Wochenschrift, 1886, No. 49, p. 875.

[3] Boas: Allgemeine Diagnostik und Therapie der Magenkrankheiten, p. 171. Leipzig, 1890.

Status præsens: Strongly built man; mucous membranes well colored; cheeks hollow. Chest organs intact. Stomach not enlarged, sensitive to pressure, but not specially painful.

The examination of the stomach contents one hour after Ewald's test-breakfast, which has been repeatedly done, always showed absence of the free hydrochloric acid, presence of small quantities of combined HCl and ferments; not much mucus.

June 3.—When fasting: stomach empty; lavage: in the wash water there are found three red pieces of mucous membrane. (One small piece is examined in glycerin under the microscope and well-preserved glands found.) The stomach is sprayed with a one per mille silver nitrate solution.

June 5th.—Lavage: three red pieces of mucous membrane appear in the wash-water. Spray with argent. nitr.

June 7th.—Lavage: two red pieces of mucous membrane. Spray with argent. nitr.

June 10th.—Patient feels better. Lavage: no pieces of mucous membrane. Spray with argent. nitr.

June 13th.—Lavage: no pieces of mucous membrane. Spray with argent. nitr.

June 16th.—Lavage: no pieces of mucous membrane. Spray with argent. nitr.

The treatment is discontinued. Patient feels well almost a whole year, and lives without any complaints whatever. On July 4, 1893, patient consulted me anew. He asserted that he was troubled with poor appetite, pains after meals, and extreme weakness for the last three to four weeks.

When fasting: stomach empty; lavage: two red pieces of mucous membrane are found in the wash-water; one of them being 1 ctm. long and 0.5 ctm. wide. Spray with argent. nitr.

July 6th.—Lavage: two red pieces of mucous membrane appear in the wash-water. Spray with argent. nitr.

July 8th.—Patient feels considerably better. Lavage: one red piece of mucous membrane. Spray with argent. nitr.

July 11th.—Lavage: no mucous membrane. Spray with argent. nitr.

July 14 and 17, 1893.—The same condition is noticed during lavage (*i.e.*, no pieces of mucous membrane appear), and the stomach sprayed with argent. nitr. Patient is dispensed from treatment.

Case II.—January 12, 1893. M. G——, aged thirty, merchant, had influenza three years ago. Since that time patient began to suffer from digestive troubles: he used to vomit immediately after meals; patient once noticed in the vomited matter some thick, light, red blood, mixed with mucus (the quantity was one small liquor glass). Patient is troubled, besides, with pains in his back for ten years; these pains increased after the grippe. Poor appetite, no relish of food. Bowels always good. Patient is not much emaciated.

Status præsens: The chest organs do not show anything abnormal. The stomach reaches until about one finger's width above the navel. The gastric region is painful to pressure. The diagnosis was made probable ulcer of the stomach, and the patient subjected to the ordinary rest-treatment. Patient has been fed exclusively per rectum during the first week, and thereupon ordered a milk-diet for two weeks. During all this time warm flaxseed poultices have been applied. During this treatment, and also for some time thereafter, the vomiting stopped, and the pains were less severe when they appeared. Soon, however, patient began to complain anew, and by the middle of February, 1893, all the old symptoms had reappeared.

February 25.—When fasting: the stomach is washed out (during the lavage of this morning as well as in almost all the following washings, more or less violent coughing and sometimes nausea spells appear). In the wash-water four pieces of mucous membrane (bloody red) are found. Spray with a one per mille nitrate of silver solution.

February 27th.—When fasting, lavage (during this procedure vehement coughing spell): in the wash-water four red pieces of mucous membrane are found; the wash-water has a slightly pink color (admixture of traces of blood). Spray with argent. nitr.

March 1st.—Lavage: in the wash-water four red pieces of mucous membrane: the water is slightly red, especially the last part of it (admixture of blood). Spray with argent. nitr.

March 3d.—Intra gastric galvanization.

March 5th.—Lavage: several pieces of blood-red mucous membrane. Spray with argent. nitr.

March 7th.—Patient feels better. The stomach is sprayed with argent. nitr.

March 9th.—When fasting, lavage: no pieces of mucous membrane; the wash-water, however, is a trace red. Spray with argent. nitr.

March 11th.—Spray with argent. nitr.

March 13th.—Lavage: one red piece of mucous membrane. Spray with argent. nitr.

March 15th.—Spray with argent. nitr.

March 17th.—Lavage: no pieces of mucous membrane in the wash water.

March 19th.—Examination of the stomach contents one hour after Ewald's test-breakfast: HCl = 0; acidity = 4; no lactic acid; rennet ferment = 0; rennet zymogen +.

March 22d.—Spray with argent. nitr.

March 25th.—Patient complains of having more pains. Lavage: three red pieces of mucous membrane; in taking out the tube, some blood-red water appears. Spray with argent. nitr.



FIG. 1.—A piece of gastric mucosa (patient M. G——), showing the glands mostly vertically cut, and accumulations of red blood-corpuscles on the lower right-hand corner.

March 27th.—Spray with an ichthyol solution.

March 29th.—Spray with an ichthyol solution.

March 31st.—Patient does not feel any better. Lavage: several red colored pieces of mucous membrane. Spray with one per cent. alumnol solution.

April 2d and 4th.—Spray with alumnol.

April 6th.—Lavage; only one red piece of mucous membrane. In taking out the tube some bloody water appears. Spray with alumnol.

April 8th.—Spray with alumnol. As the patient did not improve by the local treatment, the same is for the present discontinued. The patient was given arsenic and iron for some time; his condition, however, did not seem to be influenced by these medicaments.

Besides the pieces of gastric mucous membrane, the wash-water (especially the last part which was emptied when taking out the tube) showed a slight red color. This gave ground to the supposition that the sore spots may be situated at the small curvature, probably not very distant from the cardia. As the patient offered a grave condition (inability to walk, extreme weariness, pains in the gastric region as well as principally in the back in the neighborhood of the seventh vertebra), it appeared to me (and also to one of the best surgeons of this city) that an operation (exploratory laparotomy), with the intention of an eventual excision of the erosions (if there should be only few of them) would possibly give some benefit.

The patient left for Germany and consulted several colleagues, but none advised an operation; he was sent to Kissingen, where he passed six weeks without any benefit, and finally returned to New York with his old complaints.

The examination of the patient on January 6, 1894, showed the conditions unchanged: When fasting, lavage: three red pieces of mucous membrane appear in the wash-water; one of the pieces is 1 ctm. long and 0.4 ctm. wide, and shows several dark red ecchymoses of the size of the head of a pin; several microscopic specimens have been prepared, some in the fresh condition the others dried and stained; one can easily see the glandular tubes and certain places of group-wise accumulations of red blood-corpuscles (see Fig. 1); this latter being of a slightly red color.

CASE III.—February 11, 1893.—H. S——, aged thirty-five, merchant, suffers for two to three years from digestive troubles. These consist principally in the appearance of pains right after meals; the pains are not severe; they produce, however, the effect that patient eats less. There is a feeling of fulness; bowels constipated. Patient always feels weak and tired.

The examination reveals: chest organs intact; the gastric region is sensitive to pressure; there is splashing sound extending two fingers'-width below the navel; right kidney movable.

The examination of the stomach contents one hour after Ewald's test-breakfast showed: HCl +; acidity = 60.

February 13th.—When fasting: stomach empty. Lavage: in the wash-water three small red pieces of mucous membrane are found. Spray with argent. nitr.

February 14th.—Intra gastric galvanization.

February 15th.—Lavage: in the wash-water three small red pieces of mucous membrane appear. A fresh microscopic specimen shows gastric glands. Spray with argent. nitr.

February 16th.—Patient feels better—*i.e.*, he is stronger, can eat more, and is not troubled with pains. Direct galvanization of the stomach.

February 17th.—Lavage: no pieces of mucous membrane are found. Spray with argent. nitr.

February 18th.—Intra gastric galvanization.

February 19th.—Lavage: no pieces of mucous membrane. Spray with argent. nitr.

February 20th.—Intra-gastric galvanization.

February 21st.—Examination of the stomach contents one hour after the test-breakfast: HCl +; acidity = 54; no pieces of mucous membrane.

February 22d.—Direct galvanization of the stomach.

February 23d.—Lavage: no pieces of mucous membrane. Spray with argent. nitr.

February 24th.—Intra gastric galvanization. Patient had to return to his native city, Chicago, on account of urgent business. As I have recently heard, patient tient felt well all the time with but few intervals.

CASE IV.—April 24, 1893. L. A——, aged thirty-three, merchant, suffered for two to three years from temporary attacks of pains right after meals. The pains are not of a severe nature; they, however, have a depressing effect on patient and cause him to partake of much less food than he is otherwise used to. The bowels are only slightly costive. The periods of pains extend over about two to three months and are then followed by periods of complete euphoria. For a month the patient has pains after meals; the appetite is poor, and frequently a feeling of extreme weakness overcomes the patient.

Status præsens: Chest organs do not reveal anything abnormal. The gastric region is sensitive to pressure, but there is no distinct pain. After the partaking of half a glassful of water, a splashing sound can be produced extending to two fingers'-width above the navel.

April 27th.—The stomach contents are examined one hour after the test-breakfast: HCl +; acidity = 30.

Patient was given nux vomica and gastro faradized three times, but without showing any improvement.

May 9th.—When fasting, lavage: four red pieces of gastric mucous membrane appear in the wash water. Spray with a one per mille nitrate of silver solution.

May 11th.—When fasting, lavage: four red pieces of mucous membrane are found in the wash water. Spray with argent. nitr.

May 13th.—Intra gastric galvanization.

May 15th.—When fasting, lavage: one piece of mucous membrane is found in the wash-water. Spray with argent. nitr.

May 17th.—Intra-gastric galvanization.

May 19th.—When fasting, lavage: no pieces of mucous membrane in the wash water. Patient feels much better and leaves for the country.

Case V.—April 19, 1893.—B. M. S——, aged twenty-six, merchant, complains for two and a half years of digestive troubles. At first patient had lack of appetite, pains after meals, and nausea, but no vomiting. Feeling of weariness and fatigue; constipation. After some continued treatment and a trip to the South the condition of the patient improved for a while; soon, however, it got worse again. During the last two years patient has constantly pains right after meals, with but very few exceptions, and feels very weak. When fasting, patient, as a rule, feels well.

Status præsens: Chest organs intact; the gastric region is sensitive to pressure. After drinking half a glassful of water a splashing sound can be produced, extending to one to two fingers'-width above the navel. Liver not enlarged. Urine contains neither sugar nor albumin.

April 20th.—Examination of the stomach contents one hour after Ewald's test-breakfast shows: HCl +; acidity = 60; admixture of much mucus.

Diagnosis: Gastritis gland. chron. mucosa.

April 21st.—When fasting, stomach empty, lavage: in the wash water, three red pieces of gastric mucous membrane. (A fresh specimen in glycerine shows gastric glands.) Spray with arg. nit.

April 23d.—Intra gastric galvanization.

April 25th.—Lavage: three red pieces of mucous membrane appear in the wash water. Spray with argent. nitr.

April 27th and 29th.—Direct galvanization of the stomach. Patient had to leave New York on account of business and returned on May 17th.

May 18th.—When fasting, stomach empty, lavage: three red pieces of mucous membrane are found in the wash-water. Spray with argent. nitr.

May 20th.—Intra gastric galvanization.

May 22d.—Lavage: two red pieces of mucous membrane are found. Spray with arg. nitr.

May 24th.—Patient feels better, has a better appetite, and hardly any pain. Lavage: no pieces of mucous membrane are found. Spray with argent. nitr.

May 26th.—Direct galvanization of the stomach.

May 30th.—Lavage: no pieces of mucous membrane. Spray with argent. nitr.

June 2.—Intra-gastric galvanization. Patient feels well and is, therefore, for the present dismissed.

Case VI.—August 24, 1893.—G. B——, aged thirty-two, merchant, complains for about ten years from digestive troubles. Appetite is seldom good; after meals patient has a slight painful feeling in the gastric region. Bowels almost always constipated. Off and on there appears a feeling of extreme fatigue to such a degree that patient is hardly able to walk. There was never vomiting, but very frequently much belching. Flat taste in the mouth, and, at times, highly increased salivation. Patient has been in Carlsbad several times, but without any benefit.

Status præsens: Chest organs intact. The gastric region sensitive to pressure, but not considerably painful. Splashing sound after the partaking of half a glassful of water extending to three fingers'-width above the navel.

August 26th.—The examination of the stomach contents one hour after Ewald's test breakfast shows: HCl = 0; acidity = 24; Rennet ferment +; very much viscid mucous.

Diagnosis: Gastritis gland. chron. mucosa.

Treatment: Strychnia and iron; besides extr. fluid. Cascar. sagrad.

Patient then left for his native city, Altoona, but returned to New York at the beginning of November, in order to undergo treatment.

November 2d.—When fasting, stomach empty, lavage: in the wash-water, much mucus and two red pieces of gastric mucosa. Spray with argent. nitr.

November 4th.—Direct galvanization of the stomach.

November 6th.—Lavage: two red pieces of mucous membrane. Spray with argent. nitr.

November 8th.—Patient feels better; he can eat more and feels stronger. The examination of the stomach contents one hour after the test-breakfast shows: HCl +; acidity = 52.

November 11th.—Direct galvanization of the stomach.

November 14th.—Lavage: no pieces of mucous membrane found. Spray with argent. nitr.

November 17th.—Intra gastric galvanization.

November 19th.—Lavage: no pieces of mucous membrane. Spray with argent. nitr.

November 22d.—Direct galvanization of the stomach.

November 24th.—Lavage: no pieces of mucous membrane. Spray with argent. nitr.

November 26th.—Intra-gastric galvanization.

Patient feels better and returns home.

Case VII.—May 20, 1893. J. J. M——, thirty-six years of age, pharmacist, began to suffer from digestive troubles five years ago. Appetite was very poor. Patient ate only, as he expressed himself, "from habit." Tongue thickly coated. Frequently dizziness and darkness in front of the eyes. This latter symptom often appeared so violently that the patient had to stop work for fifteen to twenty minutes, in order to recuperate. Fatigue and general weakness. Bowels always constipated. Feeling of pressure in the gastric region, only seldom increasing after meals.

Besides these general symptoms, patient two to three times yearly had attacks growing worse. These attacks were as follows: at night patient fell asleep with the feeling of extreme fatigue; at 2 A.M. he used to wake up with a strong irritation in the throat and in the œsophagus and spat constantly thick mucus. This condition (*i.e.*, the uninterrupted spitting) used to last frequently until 4 A.M or 4.30 A.M., and patient nearly always was obliged to provoke vomiting by tickling his throat in order to get relief. These attacks of deterioration used to last three to six weeks. During such an attack patient came under my care.

Status præsens: Slender man with very thin panniculus adiposus; cheeks somewhat hollow. Chest organs intact. The gastric region is somewhat sensitive to pressure, but no intense pain can be produced at any place. There is a splashing sound extending to one to two finger's-width above the navel. Tongue heavily coated. Knee-jerk present, perhaps somewhat increased. Patient can stand with eyes closed. Urine does not contain any sugar nor albumin.

The examination of the stomach contents on May 21st, one hour after Ewald's test-breakfast, showed: HCl +; acidity = 96; lactic acid not present.

Diagnosis: hyperacidity. Treatment: alkalies; richly albuminous diet.

May 23d.—When fasting, stomach empty, lavage: in the wash-water three red pieces of gastric mucosa are found. Spray with one per mille nitrate of silver solution.

May 25th.—Intra gastric galvanization.

May 27th.—Lavage: in the wash water two red pieces of mucous membrane. (One small piece examined under the microscope in the fresh state shows gastric glands.) Spray with argent. nitr.

May 29th.—Direct galvanization of the stomach.

May 31st.—Lavage: no pieces of mucous membrane are found. Spray with argent. nitr.

June 2d.—Direct galvanization of the stomach. Patient has a good appetite and feels much stronger. The feeling of pressure has disappeared and sleep is good. Further treatment is therefore dispensed with.

In summing up all the cases described one is confronted with the following striking points: In washing the stomach when the patient is in the fasting condition 1 to 4 small pieces of gastric mucous membrane are found. They are about 0.3 to 0.4 ctm. long and nearly as wide, and present a blood-red color. Under the microscope one sees well-preserved glands and accumulations of red blood corpuscles. These pieces of gastric mucosa are constantly found if the stomach of the patient is washed out in the fasting condition. We have not to deal here with an incidental lesion caused by the tube, for, on the one hand, the lavage has been performed without any aspiration and by means of a soft tube; on the other hand, one could not observe in a casual lesion that constancy which is found here.

Besides this objective point in the patients mentioned, several subjective symptoms appear with particular clearness, namely: pains, emaciation, feeling of weakness.

The pains, as a rule, are not intense, and make their appearance right after meals, no matter what has been eaten. They last various lengths of time (one to two hours), and then gradually disappear. Complaints of severe attacks of pains we have never met with in these cases. Frequently there appear, for periods of different lengths, intervals perfectly free from pains, combined with a feeling of complete euphoria. Only seldom do the patients feel pains all the time without reference to food.

Emaciation.—Most cases observed lost in flesh during the first period of their sickness, but thereafter kept up their weight quite constantly. They looked rather thin (in the face the jaws protrude, the cheeks are thin and somewhat hollow), but did not, however, present that cachectic color we are accustomed to meet in carcinoma and other grave chronic troubles.

Feeling of Weakness.—All the patients complained of a feeling of lassitude, weakness, lack of ambition, and in ability to work, and of a decrease of bodily strength. This symptom appears most markedly right after meals, and decreases somewhat a little while afterward (one-half to one hour). In one of my patients (G. B——) there usually appeared, once in a week or in a fortnight, an acme of this symptom, associated with complete anorexia, and lasted for about two days. During this period of deterioration patient was hardly able to walk.

What is the Condition of the Gastric Juice in the Cases Described?—In the first six, one encounters a decrease in the HCl secretion and in the acidity of the stomach contents. In two of these cases (G. B—— and B. M. S——), there was always found a considerable amount of mucus. In all these cases the diagnosis has been made: "Gastritis gland. chronica," in the two last, "Gastritis gland. chron. mucosa." In the seventh case (J. J. M——), however, there was found superacidity caused by an increased HCl secretion.

How are We to Explain the Constant Occurrence of the Small Pieces of Gastric Mucosa?—In six of the cases narrated blood was never found in the wash water carrying the small pieces of mucous membrane. Only in one patient (M. G——), the wash water often used to have a very slight red color. In this case coughing spells frequently appeared during lavage, and in such an instance, besides the pieces of gastric mucosa, the water was stained slightly red.

The pieces of gastric mucosa found in the wash-water of our patients probably must have partly or wholly peeled off from the mucous membrane of the stomach some time previous to the washing. This would explain why there is no bleeding during the lavage. The spots on which the exfoliations have taken place and thus present "erosions," might explain the soreness met with in our patients. One can also easily understand the appearance of blood from the sore spots caused by violent contractions of the stomach during a coughing spell (in case M. G——).

It is very difficult, or perhaps at present hardly possible to decide, whether the exfoliations always take place at the same spots—the mucous membrane constantly becoming replaced and peeled off again—or whether the whole (or a great part) of the inner surface of the stomach is affected in such a manner that small pieces of mucosa easily peel off here and there. This question can only be answered after a long study of vast clinical and pathologico anatomical material. These exfoliations take place (whether always on the same or on different spots) day by day in the stomach of our patients, and effect temporary erosions.

In all cases mentioned, similar in so many points, one constantly encounters the exfoliations of the gastric mucosa, respectively the resulting erosions. Therefore this pathological condition might be most suitably termed "Erosions of the stomach." [1]

Etiology.—In the greatest number of cases mentioned there was found chronic gastric catarrh associated with erosions. The same probably gave cause to the origin of the latter anomaly. Some cases of erosions of the stomach may, however, be caused by some factors yet unknown.

Course.—The course of this pathological condition is a very prolonged one. Several of the patients appear to have suffered from it for many years. Although there may be intervals of perfect euphoria (at the same time

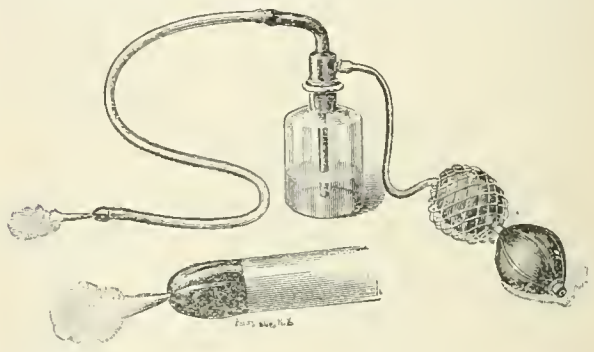


Fig. 2.—Gastric Spray Apparatus.

probably the inner layer of the stomach is completely intact) for a longer or shorter period of time, the old symptoms do, however, sooner or later return.

One would imagine that cases of erosions of the stomach would present a very fruitful soil for the development of ulcers. This, however, does not seem to be the case. For in none of the patients (with the only exception perhaps of M. G——), was there any justifiable supposition of an existing ulcer during the long course of the sickness.

Treatment.—The local treatment of the stomach here plays a great rôle. The astringent effect of nitrate of silver solutions in similar more accessible affections led me to apply this substance directly to the inside of the stomach. This can best be achieved by means of the spray. It was on this occasion that I constructed the gastric spray apparatus (see Fig. 2), and recommended its use in the field of diseases of the stomach.[2]

The treatment is given in the following way: First, the stomach in a fasting condition is washed out with lukewarm water; when all the water has been emptied, the tube is removed from the stomach. The spray apparatus is filled with 10 c.c. of a 1 to 2 per mille solution of nitrate of silver, the tube end dipped into warm water and inserted into the stomach (length of tubing 50 ctm.); thereupon the whole, or at least the greater part of the solution in the bottle is sprayed; the bottle is then opened and the spray-tube removed from the stomach.

In fact the good result of this method of treatment can frequently be best shown in the affection in question.

[1] Remark.—We prefer the term "Erosions of the stomach" instead of the more correct but longer name, "Erosions of the gastric mucosa," as there is no fear of any misunderstanding.

[2] M. Einhorn: New York Medical Journal, September, 1892.

For after the spraying has been done several times the small pieces of gastric mucosa cease to appear. Associated with the objective symptom there appears an amelioration in the subjective feeling of the patient; the pains grow considerably less or entirely disappear, and the strength increases.

I usually combine the spray-nitrate of silver treatment with intra-gastric galvanization; alternately applying the spray or the galvanization. The reason for the use of galvanization in these cases lies in the fact that I had such effective results in two other cases of probable erosions of the stomach, complicated with heart trouble,[1] by means of galvanization alone. The methodical application of intra-gastric galvanization combined with the spray seems to increase the curative effect.

As to diet, there is no need for being very rigorous in these cases. Frequent meals, avoiding heavy vegetables, salads, and pastries, is all I ordinarily require.

Cold ablutions, light gymnastics, out-door life are to be warmly recommended.

Of medicaments condurango and nux vomica are frequently, and a good, easily assimilated iron preparation always, appropriate.

Although these medicaments may be of value as adjuvants, we should rely, in my opinion, mainly upon the local treatment.

107 East Sixty-fifth Street.

THE INTERMITTENT RAPID DILATATION OF URETHRAL STRICTURE.

By OTIS K. NEWELL, M.D.,

SURGEON TO OUT-PATIENT DEPARTMENT OF THE MASSACHUSETTS GENERAL HOSPITAL, BOSTON.

With the multiplicity of modern medical communications it is essential to be as brief as possible in the presentation of any matter which we may deem worthy of professional attention. I shall, therefore, as concisely as possible, describe what I consider to be an improved method of treating such urethral strictures as come within a class to be later described.

However much or little interest one may take in the treatment of urethral stricture, it is certainly a serious disease if allowed to progress neglected to its harmful late effects, and one which every surgeon meets in large numbers and to which in polyclinic, hospital, and private practice, he must devote much valuable time. It would be well, therefore, if possible, to have a uniform method of treatment. Under the present exact conditions of surgery, where all sorts of instruments can be sterilized and bladders and urethræ so successfully disinfected, I imagine that a fairer and more scientific comparison of methods will soon bring this desired result about.

First, I think it is fair to claim, and I certainly do so as far as my knowledge and experience go, that true organic urethral stricture, like œsophageal and rectal, is an incurable condition, except possibly by plastic operation, and one which if neglected will sooner or later return to its original or even a worse condition. It is at the same time more easily controlled under proper management than any of the others.

Now, as to the treatment of stricture, I think most surgeons will to-day agree that the best is gradual dilatation through the introduction of metallic sounds wherever progress can so be made. I have never seen a case where sufficient stretching could not be always thus accomplished, wheresoever the stricture might be situated, provided a beginning could be made with a metallic instrument of sufficient calibre to admit of safe manipulation. In following this practice I feel safe in the precedents established by Syme, Liston, Phillips, and others and a personal observation, during twelve years, of cases so treated at the Massachusetts General Hospital by Drs. Bigelow, Hodges, and Beach, during my connection at the hospital as an interne and surgeon to out-patients. But it should not be for a moment in any way overlooked that in the very tough fibrous penile strictures progress in this way is and should be very slow. They have usually been of slow formation, or if not have become very rapidly organized and intensely cicatricial. To stretch and cause them to absorb as much as possible, therefore, the process should be a slow one. I never consider the treatment completed until the patient possesses a steel sound and can pass it readily, and is taught that he must, as long as he lives, do so at varying intervals according to the tendency to recontraction. Of course a vast number of what we call strictures belong to the little organized class, dilate readily and rapidly, perhaps even in one or two sittings, and do not recur during the remainder of life as far as any symptoms calling attention to them give evidence. Now in the very fibrous penile strictures, I have simply found it necessary in a few instances to prescribe for the patient, somewhat early in the treatment, a smaller sound than you wish him eventually to use. With this passed twice a week, or even every other day, by himself, some absorption and the stretching are readily brought about, and he soon finds himself able to pass a larger size and reach eventually the desired degree of stretching. Thus if the surgeon cannot, from lack of time on his part, or want of either means or time on that of the patient, dilate further than 18 to 24 F., the patient may continue as indicated above to the desired calibre.

All other strictures than the above class are either impermeable, or those where from smallness of calibre practically no progress can be made by gradual dilatation. As to the impermeable ones I think all surgeons agree that the best treatment for them is external urethrotomy. In fact there is practically no other choice left to us if the stricture really is impermeable.

For the remaining class I wish to offer a method which I have found very successful and satisfactory both to the patient and surgeon, but particularly to the patient, as it generally does not necessitate his interruption of work by any period spent in bed. The exceptions being cases where from very poor physique or condition of urine it is wiser to have some rest in bed. I have as yet met with only one such case, and that was where I recommended the patient to the hospital, because he was without proper home attendance, and suffering at the first visit from pain, hæmaturia, and partial retention. I relieved the partial retention, however, one week before his entrance to the hospital, by passing the then first size, No. 14 F., of my improved dilator. This dilator is similar in construction to that described by me in this journal of June 6, 1891; but has the important addition, for this method, of other dilatating or stretching staffs descending in size to 10 F., the latter being not much larger in calibre than the original metallic guide of 8 F. which is of course introduced first, or follows when necessary the small capillary bougie guide to which it may be screwed.

To illustrate what I have called intermittent rapid dilatation let us take an extreme case and describe the method. We will suppose a patient comes passing his urine in the finest possible stream or even by drops; that after a week or more of trial we fail to introduce the finest capillary guide. Our patient finally sends for us, with retention, and we are called upon to do the best possible thing for him. Under ether or local anæsthesia, and preferably local anæsthesia, we finally introduce the capillary bougie guide and eliminate his case from the impermeable class. Now, however, why should we, just because this man has retention, commit him, as has been previously done, to a violent and serious operation by a full divulsion of a perineal section? From no necessity, I believe.

The able review of the operation of divulsion by Dr. Scudder, of Boston,[1] in a study of four hundred and four cases so operated upon at the Massachusetts General Hospital, shows the operation in uncomplicated cases to have practically no mortality. This low mortality, one and nine-tenths per cent., in such a large series of unse-

[1] Max Einhorn: New York Medical Journal, July 8, 1893.

[1] Journal of Cutaneous and Genito-Urinary Diseases, October, 1893.

lected cases treated by six different surgeons and including in the fatal ones complications of serious organic disease, as Dr. Scudder so clearly shows by his careful analysis, is one of the strongest arguments that can be offered in support of divulsion. But again the striking

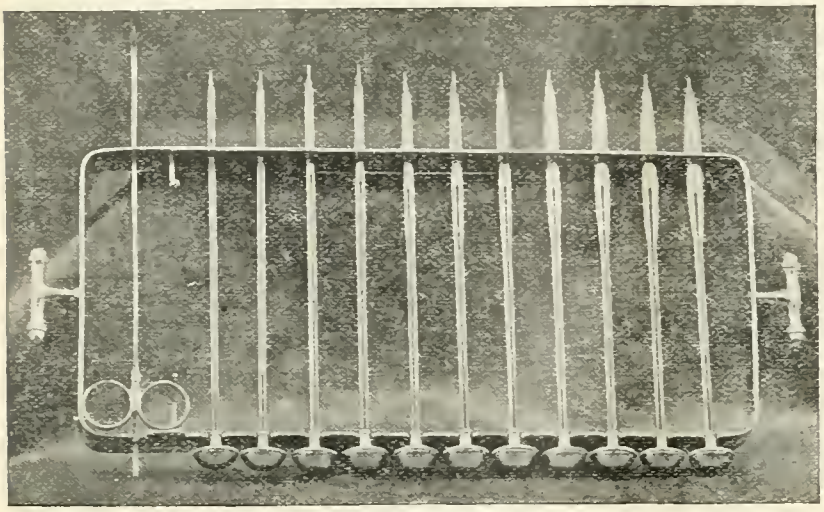


Fig. 1.—Dilating Staffs.

fact is shown that these cases spent anywhere from six to thirty days in bed, with an average of twelve days of confinement to the bed, some with and some without permanent catheter drainage.

The reason why full divulsion has been done in the past, I think, is because, unlike œsophageal or rectal stricture, where small quantities of what must pass through the stricture to maintain life might be several days in so doing, the urethral stricture, when developed to the point of retention, controls the outlet of an organ, the contents of which must as a rule be voided in each twenty-four hours, or else give rise to a dangerous emergency. With the guide to our dilator introduced, it is only necessary to pass down upon it the first few sizes of our dilating staffs, say up to 14 and 16 F. or even 18 F. The retention is at once relieved, a small stream is readily passed, and in two or three days, sometimes even on the next, the patient is able to have one or more larger sizes passed, and so on without any trouble up to the point where the further gradual dilatation with larger sounds is readily accomplished. Of course, where there is no

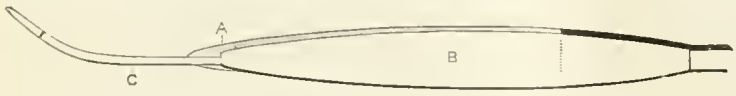


Fig. 3.—Split Guiding Staff. *C*, split guide; *A*, central blade; *B*, dilating staff.

retention and the small flexible or stiff guide can be at once introduced, this method is still more easily adopted.

Another great advantage which I find in my dilator is that, by passing the dilating staff always through the stricture on the guide which is first introduced, the operation is made a mechanically certain one, and such accidents as making a false passage, forcing in a sound when it is engaged in one instead of the urethra, or carrying in and invaginating a portion of the passage, are made impossible. This is especially true when working with instruments below 24 F. in calibre. Doing whatever stretching we deem wise at any particular stage of the treatment with the guiding staff always first passed into the bladder, we eliminate at once all trouble or doubt as to where a free and unguided sound may be going, or what it may be going to do, and thus limit our responsibility to the amount of stretching which is at each sitting deemed judicious. Does this not seem reasonable? Would anything but dire necessity induce us to violently tear open an œsophageal or rectal stricture which had gradually contracted to a lumen of minute size?

This method I have previously suggested in the article above referred to, by what I then called preparatory divulsion. Thus further developed it has proved still more satisfactory, and I therefore earnestly recommend it to professional attention and trial. I claim it to be a rational and mechanically certain procedure, in the greatest degree possible devoid of serious interruptions, pain, and danger to the patient. The construction of the instrument is already familiar to many. It has stood the test of practical operation in many cases during three years, at the clinic of Dr. Beach, at the Massachusetts General Hospital, and in my own out-patient and private practice.

The dilator consists of a split guiding staff (Fig. 2) which is best first introduced after being screwed to a flexible capillary bougie guide. Over this guide the dilating staffs (Fig. 1) are passed. These are grooved anteriorly to their centre for passage over the guide, after the invention of Bigelow, but contain a central fin or plate, which is so placed that it slides between the two blades of the guide (Fig. 3). Therefore if the guide is first introduced the dilator must pass within the stricture. This is what, as before stated, insures the entrance of the dilating staff within the stricture and makes the operation of the instrument mechanically certain. When using the dilator in working on strictures of larger calibre, a bulb of 16 F. calibre is furnished, which may be screwed to the end of the guiding staff for its readier introduction past small folds and pockets, in which the small point

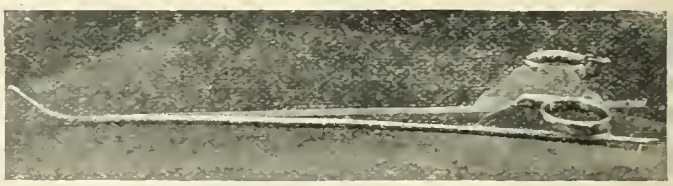


Fig. 2.—Central Fin or Plate.

used in the primary operation is so readily engaged and obstructed.

The handle of the guide is so arranged that with the forefinger passed through the ring farthest from the operator, and the ring placed against the base of the thumb, the hand with its ulnar side resting against the pubes, holds the instrument firmly in position and precludes all possible accident of perforation or other injury to the bladder, such as may occur with an instrument not thus fixed in position (Fig. 4).

The instrument is made with a simple, metallic holding frame (Fig. 1), gauged by the French scale, and suited to boiling or steam sterilization. Codman & Shurtleff, Boston, makers.

In relation to internal urethrotomy with any of the ingenious modern urethrotomes, I would simply say that



Fig. 4.—Showing Use of Guide.

this operation has the one apparent advantage of a more rapid result, but is, after all, nothing but one method of making a rapid dilatation of the stricture, by assuring that the cut or rupture of the callus takes place in one direc-

tion, as indicated in Fig. 5, a modified plate after Dittel.

Now, this is just what should not occur, as the divisions of the callous tissue should be as evenly as possible disseminated in the circumference of the mass surrounding the canal. This occurs to a certainty through the process of intermittent stretching, as those fibres which are carried beyond their point of resistance must yield and break away. Now this yielding does not, as one might casually think, take place in the shape of any rough tear when properly done, but in fine lines, which look like a scarification beneath the mucous membrane, the latter often failing to be broken in any way, even in cases where a full and rapid divulsion has been done.

Internal urethrotomy would be useless unless immediately followed by the passage of as full-sized sounds as the individual case would admit, as the part would close and heal together, just as a cut meatus, when left undisturbed, closes together and unites by first intention in a short time.

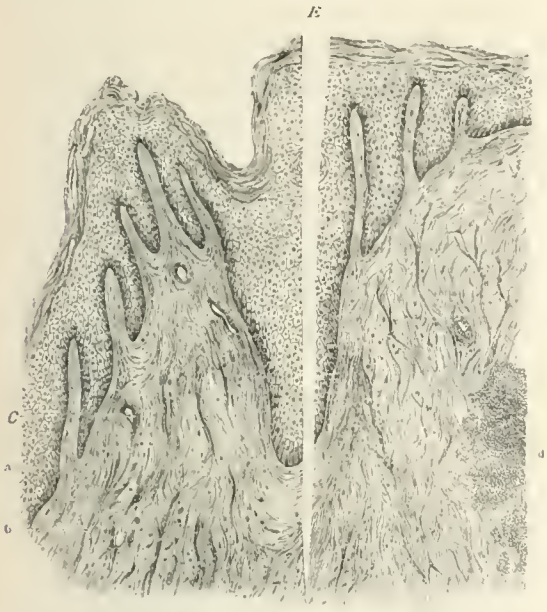


FIG. 5.—Cross Section through a Urethral Stricture. Hartnack Oc. 3, Obj. 4 Modified after Dittel. a, Epithelial layer; b, new growth of connective tissue; c, blood-vessel; d, cell infiltration; E, representation of urethrotome incision such as would be later spread open by passage of sounds.

My colleague, Dr. F. S. Watson, who has been ever ready with fair and helpful criticisms of my work, suggests that, according to Sir Henry Thompson's experience, his own, and that of others, slight interference with these tight strictures often gives rise to more serious disturbances than the most radical measures, and that this fact might offer a serious objection to the method of rapid intermittent dilatation. This, I agree, would be a valid reason against the operation, were we not able to explain it away. The fact is, we do not interfere slightly, but to a considerable degree, so that, whatever amount of congestion and swelling may result from the stretching, we always proceed far enough to leave our patient with a urethra of sufficiently improved calibre to allow him to evacuate his bladder with comparative freedom—this, as before stated, being generally accomplished at the first sitting by a dilatation of from 16 to 18 or 20 F., according to the amount of resistance and normal calibre of the individual case.

In conclusion, if the foregoing has established anything, it is that the full and immediate divulsion of urethral stricture is no longer a necessary or warrantable operation.

The Maryland Medical Journal comes out with the beginning of a new volume, the thirty first, in a new dress, presenting a much better appearance than before. The contents of the journal are as good as ever, and that is saying a great deal. We congratulate our esteemed contemporary and wish it a long and successful life.

Clinical Department.

SUPRAPUBIC CYSTOTOMY FOR VESICAL HEMORRHAGE.[1]

By WILLIAM S. CHEESMAN, A.M., M.D.,

AUBURN, N. Y.

My patient was a strong, well-nourished man, aged twenty four, who for some three years had been subject to attacks of hæmaturia. These were often severe, but had always, after a week or so, ceased spontaneously. They occurred usually in the winter, and were accompanied by pain in the back, which was felt most when the bladder became blocked with clots, urination being thus rendered difficult. In the interval between attacks he felt perfectly well, and worked at a mechanical trade. The family are strong Scotch people, and their history throws no light on his case.

I was called to see him first on February 13, 1893. He was unable to urinate, and the bladder was distended. The catheter afforded partial relief, by giving exit to some bloody urine and small clots. After catheterization bleeding was freer than before, and the catheter had to be employed several times in the succeeding twenty four hours. Vesical tenesmus compelled the patient to spend much of his time straining in the endeavor to expel clots. I then had him transferred to the Auburn City Hospital for better observation.

On February 14th he was etherized, and I examined the bladder with a Thompson's searcher. Nothing was found, and the bleeding was made more severe. Indeed, it soon became alarming. In a single night he would fill an ordinary vessel with urine and blood. As the amount of urine was never excessive either before or after, it is fair to conclude that fully half of the above amount must have been blood. Large fresh clots formed in the urinal, and smaller black clots passed from the bladder. The patient had no pain except when the urine could not pass, and the catheter was of little use, as it quickly plugged.

Accordingly, an exploratory suprapubic cystotomy was proposed and accepted. He had been assured by one of the many physicians whom he had consulted that a vesical tumor was the cause of his trouble, and this seemed also to me the most probable explanation of the case.

On February 20th he was etherized, and the exploratory operation done under strict asepsis. A pear shaped rubber bag was introduced into the rectum, and distended with 8 oz. of Thiersch's solution. The bladder was injected with 6 oz. of the same. The bladder was thus thrown up against the anterior abdominal wall, so as to be clearly visible through it. I did not employ the Trendelenburg posture, though in another case of similarly grave hemorrhage I would certainly do so.

The usual longitudinal incision was made down to the bladder, close above the pubes. The peritoneum was not seen during the operation. On incising the bladder, a large quantity of blood and clots and water gushed out. The hemorrhage which had been taking place could now be correctly estimated. Bright fresh blood welled up from the cavity, and defied attempts by sponges and hot water to stanch it. Nothing could be seen because of the blood which filled the bladder as fast as it was washed or sponged out. The finger, swept around the interior, detected no tumor, stone, or morbid condition of any sort. I therefore tamponed the cavity with plain gauze, and made pressure. This checked the flow, and on removing the gauze slowly under good illumination by a head-mirror, I could see that the blood escaped from a large varicose vein near the apex of the trigone. Here was a deeply red, congested area, with the dilated vein in its centre, on whose surface an ulcerated opening existed, through which blood was still flowing briskly. A good

[1] Read before the Onondaga Medical Society, March 6, 1894.

exposure and rapid sponging, followed by pressure on this spot by a gauze plug in a long sponge-holder, and the bleeding was under control. After waiting to assure myself of this, I applied Monsell's solution freely over the surface of the varix, and bleeding definitively ceased. I considered the advisability of also searing the surface with the cautery, but as the varix extended directly up to the internal urethral opening, I feared, perhaps needlessly, that I might burn more than the diseased area and cause a stricture, and therefore refrained. The wound was closed up to the glass tubing used for siphon drainage.

The patient was, as will be imagined, taken from the table in a condition of severe anæmia; but, as there was no recurrence of hemorrhage, the blood losses were rapidly made good. For many days I feared return of bleeding, but none came. The urine drained clear, and the bladder was washed daily with Thiersch's fluid. The sole unpleasant feature following the operation has been a urinary fistula, which persisted for many months, closing for a fortnight only to break open again, and which has been definitely healed for some two months only. The patient is now well and able to work.

Three things seem worthy of emphasis in connection with this case:

First, the rarity of varices of the male bladder as a cause of hæmaturia. In pregnant women the bladder, like the vagina, vulva, and lower extremities, is liable to varicosities, which have been known here, as elsewhere, to rupture. But in men this condition, while recognized as a possible cause of hemorrhage, is uncommon. It is mentioned in but few text-books of surgery, and in current literature reports of cases are hard to find.

In the second place, I have been impressed by the commanding advantage given by the suprapubic opening. Ten years ago, Sir Henry Thompson and Mr. Reginald Harrison were arguing for the perineal incision in explorations of the bladder, and the protests of Professor Guyon, of Paris, in favor of the suprapubic, gained little hearing in English-speaking countries. The consensus of surgical opinion now favors the *sectio alta*, and justly. In such cases as the one which I have had the honor to report to you, the perineal opening could have given no information whatever, and must have been supplemented by the suprapubic, or the patient would have succumbed to loss of blood. It was absolutely needful to see the bleeding point, for touch told nothing. But with the bladder open and illuminated for visual inspection, one is master of the situation, and curettement, removal of morbid growths, cauterization, the tamponade, can be carried out with exactitude.

In the third place, experience in this and some other less fortunate cases of cystorrhagia, has impressed me with the importance of operating promptly when the bleeding is free enough to be dangerous, and when it is clear that it comes from the bladder. I can give hearty endorsement to Poncet's recommendation[1] that "Epicystotomy," as he terms it, should be done in every case of grave vesical hemorrhage, for purposes of exploration and treatment.

A CASE OF MONSTROSITY.[2]

By THERESA BANNAN, M.D.,

SYRACUSE, N. Y.

Mrs. R——, aged twenty one, primipara, came under observation April, 1892. She was short but well proportioned, and gave a history of perfect health, both preceding and during pregnancy. About the middle of pregnancy, she received a shock on hearing of the death by violence of a cousin. Examination of patient found normal condition, except for a slight presystolic cardiac murmur. Family history showed the mother an invalid since birth of patient, who was her only child.

Labor began at 3 P.M. On examination at 10 P.M., found uterus very large and evenly distended, filling the whole abdominal space to ensiform cartilage. The irregularities of the fœtus were but faintly suggested, nor could the head be outlined. Two small, comparatively hard masses were found, one in the right iliac fossa, the other near the fundus. Faint, hollow sound, resembling the fœtal heart, was heard only in extreme right lumbar region.

On internal examination the os was found dilated to the size of a dollar, membranes bulging and constantly tense. No presenting part could be reached, but the sensation of an exaggerated ballottement was given. As the presentation could not be determined, the complete dilatation of the os was awaited. Then the membranes were ruptured and about two gallons of fluid gushed forth, producing slight shock to patient. Examination then showed fœtus engaging as in face presentation, chin to the rear. Neither the chin nor forehead could be outlined by the finger, and the position was constantly varying. Progress was rapid, and twenty minutes after rupture of membranes the fœtus was expelled. Pulsations of cord continued for a few minutes, and soon the placenta was expelled.

Fœtus was anencephalous. Development of bone extended to the level of an inch above the base of nose. Vertex entirely absent, but cavity of skull was filled with a reddish, jelly like mass, clinging to its base. Face red and swollen, eyes bulging, giving a specimen of what is called the frog-face variety. The under surface of the chin was on a plane with anterior surface of cervical vertebræ, and the abdomen protruded in the form of a cone, with the apex at the umbilicus, where the defective muscular development left an opening two inches in diameter and covered only by a thin membrane, continuous with the umbilical sheath. The head was held in forced extension in contact with the back of the child. Lifting it, the spinal cord and nerves, as far as the eighth dorsal, were exposed, all bone development having been arrested in posterior spinal arches. The sacral curve was prominent and included some of the lumbar vertebræ. All the joints were rigid. The monster was about fifteen inches long and weighed two and one-half pounds.

This case is presented not for its rarity, but to excite a more general interest in teratology.

In the average physician the birth of a monster now and then produces little interest. But at present the intense interest in embryology and comparative anatomy demands a response from the general practitioner who, in spite of the tendency to specialization, still performs the duties of obstetrician. The wonderful phenomena of generation reach the climax when a new being is ushered into this world of ours, but awe quickly gives way to horror when we find, as the result of gestation, instead of a "human form divine," that which the Romans called monster.

The mind, accustomed to the repetition of normal procreation, has, in all ages, been disturbed by deviation. The race to whom "sound mind in sound body" was the beginning and end of philosophy, looked upon deformed infants as ill omened, and soon rid themselves of the unwelcome beings. The warlike Romans considered them as warnings of disaster. Troublous times were accompanied by reports of monstrous births, both human and brute, and the discovery of abnormalities in the entrails of sacrificial animals. The wisdom of Egypt included such superstition, and the folk-lore of every country repeats it to-day in the belief in the influence of spirits or the crossing of species. The "great Pan" and the Satyrs were half men, half goats, while the Minotaur and Cyclops, the "monstrum horrendum, informe, ingens." of Virgil, portray popular belief.

Down the centuries extends this influence, until the spirits shall he exorcised by the calm majesty of science.

In the early part of the eighteenth century teratology approached the classical through the efforts of Geoffroy St. Hilaire. Monsters by excess and deficiency, by fusion

[1] Mercredi Médical, 1892, No. 48.

[2] Read before the Onondaga County Medical Society, December 19 1893.

and parasitism, are some of the classifications found. Every conceivable form may occur, every organ of the body has, at some time, been wanting, and curious misplacements of the internal organs have been found.

With the advance of experimental embryology, a classification from cause may be made. At present our knowledge is hypothetical. In the vegetable kingdom monstrosities are produced by the destruction of parts of buds by birds or stings of insects. Experiments on the lower animals show that, by mechanical separation of the cells, resulting from the first cleavage of the fecundated ovum, twins will be produced, normal in structure, but one half the normal size; that monstrosities occurring naturally may be reproduced by mechanical interference with the cleavage, or by the destruction or wounding of some of the cells, the resulting malformations being in proportion to the extent of destruction. Again, monstrosities occur from the entrance of more than one spermatozoon into an ovum whose power of resistance has been weakened by interference. Moreover, naturalists declare the whole embryonic period of the lower forms of animal life scarcely differ at all, and claim that by going still farther back in the history of development, a period is reached in which no appreciable difference can be discovered between the embryos of the various departments of the animal kingdom. Hence the significance of embryological experiments. For although the various cells must possess the power of differentiation to produce their peculiar kind, the mechanism is probably identical. Consequently, in the human embryo we would expect malformations from interference with any stage of development; the earlier the interference the greater the deformity.

Primarily, a normal embryo depends upon a perfect ovum and spermatozoon. Subjects of syphilis, chronic alcoholism, and other constitutional affections, transmit these tendencies through a single cell.

After the passage of the fecundated ovum into the uterus, any cause which would produce its partial separation from the mucous membrane, and thus interfere with its nutrition, may produce malformation. Among these causes may be included inflammation, attempted abortion, and any form of intense emotion. Maternal impression has always been held by the laity as a frequent cause of monstrosity, but scientists are apt to reject popular theory. Yet, if the functions of the uterus may be suspended by fear or home sickness, or other minor impressions, it would not seem strange if a profound psychic impression of the mother disturbed the ovum resting upon the membrane of the uterus. It seems proper to remain at least receptive while investigations of occult forces are active.

A frequent concomitant of monstrosities, as in the present case, is hydramnion. Whether one produces the other, or whether both are dependent on some other condition, is not yet determined.

Though medical science may never be able to prevent monstrosities, and diagnostic acumen fail to relieve a woman from the paradoxical condition of a fruitless pregnancy, still medical pride will wish to make a pathological equation when the sum of prophylaxis and diagnosis equals zero.

593 Warren Street.

TREATMENT OF PNEUMONIA.

By RAWLINS CADWALLADER, A.M., M.D.,

FALL RIVER MILLS, CAL.

I notice in the Medical Record of February 3d that Dr. E. E. Reichard, of Poughkeepsie, has opened the time-honored discussion as to the treatment of pneumonia again.

His plea for the use of ammonium carbonate is a good one, but I hardly think we can throw aside digitalis yet, or use aconite. No two cases require the same treatment in this malady, and good nursing here tells as in no other disease. To give a heart depressant after the first stage is fatal, and the rapidity of the change is wonderful. Four hours frequently show consolidation of the lung and the beginning of the second stage. The use of aconite is therefore limited, under the most favorable circumstances, to one or two doses. Through the second stage all we can do is to support the heart and stimulate the patient to a crisis. Here ammonia comes in, not so much for its action on the exudation, for it is doubtful whether it can in any way alter an organized exudation or not; but it is a heart stimulant.

Digitalis is our most powerful heart tonic, and we cannot afford to lose its benefit. True, it raises arterial tension and contracts the capillaries, which is to be avoided, but this can be obviated by combining it with nitroglycerine, itself a heart stimulant. In the stage of liquefaction and disorganization of the exudate the ammonia compounds undoubtedly do service and aid its expulsion.

For the first stage, counter-irritation and bleeding; for the second, digitalis and nitro-glycerine; for the third, ammonia and alcohol.

For the sake of suffering humanity don't weaken the patient's already overworked heart. Rather than prescribe heart depressants, let him alone and give him a chance for his life.

SOME NOTES ON AURAL DEVELOPMENT IN A CASE OF CONGENITAL DEAFNESS.

By WALTER B. PEET, M.D.,

HAMMONTON-IN THE-PINES, N. J.

For some time past the theory has been gaining ground in this country, Germany, France, and England, that latent hearing may be developed by massage of the ear by means of sound vibrations. A number of specialists and some schools for the deaf have given the subject considerable attention.

In November last a boy, very bright, eight years of age, congenitally deaf, and born of deaf parents, came to me for instruction. His family said that an attempt to develop hearing would be useless, as he had been examined by a number of specialists and found to be totally deaf. As the case was interesting in that the boy was a congenital deaf-mute, whose parents were also deaf, and because of his brightness, I tried to develop hearing: I began on his arrival to use with him for a short time each day an American conical conversation tube. For somewhat over a month the exercise of each day consisted of loud sounds of different pitch—shouts, whistles, chords on the piano, etc., produced near the mouthpiece of the tube; after which the words: "the key, the hat, the box, the mat, the jug, the saw, the adze, the cup, the vase, the door, the quill, the knife," were plainly spoken through the tube, the pupil facing me, reading my lips, and repeating the words. (The above twelve words contain all of the letters of the alphabet. It is hardly necessary to say that they do not include all of the sounds.)

The first sign of encouragement came when the boy complained that the loud shouts were beginning to be disagreeable. I then spoke the words "cat" and "dog" several times loudly and plainly, through the tube. He read them from my lips and repeated them, after which he turned his back, and repeated either word whenever I uttered it at the mouthpiece of the tube. After drilling on the words "cat" and "dog" for a few days a third word was added, and he has at this time become able to differentiate between and repeat eight words when spoken through the tube. The sound and meaning of a new word is taught every few days, and he is taught to articulate it. (With a person who has never heard, it is necessary not only to develop the hearing apparatus so that the brain is conscious of sound, but the brain must be educated to recognize the difference between sounds, and this must be done very slowly and gradually, as in the case of the infant.)

The shouts, etc., described above, are gradually decreased as the boy's hearing improves. He now puts

the mouthpiece of his tube in the piano, over the strings, and enjoys the music when a person plays.

EAR COTTON—SALMON COLORED.

By GEORGE E. ABBOTT, M.D.,
NEW YORK.

THERE are few appearances more unpleasant than the ordinary white (?) cotton stuffed into the ears of patients; and the more refined the patient, the greater the seminausea one experiences, and the greater the embarrassment of the patient.

For the sake of æsthetics in this matter, Messrs. Dennison & Co., of this city, have prepared for me some salmon colored absorbent cotton, which is so nearly the color of the auricle that it is difficult to perceive it in the ear. The patient leaves one's office neat and comfortable, knowing that she is not attracting repulsive pity from the public.

I know this "practical suggestion" will be criticised by some, with the remark that many of the best aural surgeons do not allow any cotton in the ear, that it interferes with both ventilation and drainage. It must have been such an one's patient who complained to me a few days since that "Dr. So and So syringed my ear with warm water and then sent me right out into the cold wind. I suffered dreadfully all the way home and all night."

Patients know from experience what lends comfort to their nerves, and we know from scientific experience that whatever comforts nerve-filaments is good and sound practice, theorists to the contrary.

A small amount of absorbent cotton lends comfort to the ear and brain in cold, windy, dusty weather, and if frequently renewed, it will increase the drainage by its capillary attraction. It will control the odor and avoid the necessity of ventilation.

We do not ventilate our surgical wounds; but by every means possible avoid the access of the microbian air. Why not do the same for middle-ear diseases, and dress them surgically often enough to provide for ventilation. I believe surgeons, patients, and the public will welcome the use of salmon colored cotton as an ear-dressing.

125 WEST EIGHTY-SECOND STREET.

TROPHIC DISTURBANCE OF THE FINGERS.

DR. W. DAVIDSON BIDWELL, of Leavenworth, Kan., writes: A girl, of Swedish descent, about twenty years of age, ruddy cheeked and healthy looking, presented herself at our office during the winter, complaining of stiffness and pain in her left hand. All the fingers were stiff, slightly enlarged, and so hard as to resemble sclerodermia, especially toward the tips. The thumb was considerably swollen, and the skin thickened and very tense. Lancinating pains shooting toward the wrist had been quite severe, more particularly in the thumb; and she had found that, by whittling the skin off over the tips of the thumb and fingers, the pain was much relieved. Ten years previously she had had a felon on this thumb, and the hand had been more or less affected since.

After poulticing the thumb several days, a free incision was made in it and a small accumulation of cheesy material removed. Poulticing was resumed, and the fingers became somewhat more flexible and less numb; but when she made her next visit, coming in several miles from the country town where she resided, dead bone could be felt with the probe, and I removed the last phalanx of the thumb. April 5th she appeared again. The wound had healed nicely, leaving a serviceable stump, and all hardness and stiffness had disappeared from the fingers, which are now as sensitive and serviceable as those of the other hand. Since the removal of the partially necrosed phalanx her hand has come back to its normal condition; whereas, previous to treatment, she was, to use her own words, "in the habit of whittling off her fingers daily as one would a stick of wood."

Progress of Medical Science.

The Nervous Complications of Measles.—At a recent meeting of the Royal Medical and Chirurgical Society, London, Dr. Dawson Williams drew attention to certain complications of measles and other infectious diseases which are apt to be extremely puzzling, and the nature of which has been but little understood; he took as his text a case in which, on the fourth day of an ordinary attack of measles, convulsions occurred followed by "unconsciousness," lasting ten days and leaving a condition of general paresis and loss of speech, with tremor and inco-ordination. A gradual improvement ultimately took place, but the patient was left in a state of intellectual backwardness, and presenting many of the symptoms of disseminated sclerosis, with a spastic condition of the lower limbs—a "false disseminated sclerosis due to measles." By reference to cases recorded by various observers in connection with other infectious diseases, it was shown that, possibly from the virulence of the poison during the onset of the malady, widespread lesions of the nervous system, principally originating in its vascular supply, were apt to occur, not only causing serious symptoms at the time, but doing permanent injury to innervation. The onset of coma and convulsions during the course of a febrile infectious disease should not then be looked upon as generally indicating any accurately localized mischief, such as hemorrhage; nor should consecutive tremors and pareses, discovered after cessation of more serious symptoms, be looked on as descending degenerations likely to end in atrophy and contracture; but the cerebral symptoms should be regarded as pointing to only a part, although the most demonstrative part, of a widespread implication of many areas in the nervous system, and it should be remembered that, the injury once done, a gradual recovery, the limits of which it is at present impossible to define, may slowly take place, separating these cases in a marked manner from those of true muscular atrophy, or true disseminated sclerosis, the progress of which is usually in the opposite direction—a distinction worth remembering.

Auto-Suggestion in Nervous Dyspepsia.—Before the *Association médico-pharmaceutique* of Berne, Dubois recently called attention to the mental attitude of certain nervous dyspeptics concerning diet and treatment. Persons with organic gastric troubles are generally very submissive. They seldom rebel, except when some dietetic preparation is peculiarly distasteful, or when limitation in regard to favorite dishes, alcoholic beverages, tobacco, etc., seems too rigorous. They are perfectly aware of the beneficial results of strict rules, yet are wanting in the courage to persist with a special diet for any great length of time. Patients with nervous disturbances of digestion appreciate highly anything referring to food. Their own ideas are formed concerning the digestibility of this or that, and their perseverance in some self-chosen diet and treatment is worthy of a better cause. Milk cannot be tolerated; one drop in tea induces intense suffering. Bread is insupportable, except in the form of toast or biscuit. Butter is often said to cause oppression, and fruit and vegetables may not be tasted for years. They do not improve, they emaciate, sleep and digestion are defective. Yet in spite of this failure to mend, their morbid perseverance continues. It is really a psychic phenomenon. In it exists the characteristic auto-suggestibility of hysteria and allied neuro-psychoses. Unless the method of treatment imposed by the physician meets with rapid success, these nervous dyspeptics lose patience and will have none of it, though restrictions in diet originating with themselves are rigidly adhered to for years. The patient grows nervous because she gets weaker; and the nervous disturbance increases the physical weakness. The vicious circle is thus maintained for months and even years.

To overcome the difficulty by speedy improvement at

first, and later by getting a good grip on the patient, constitutes the surest method of being truly helpful. Remedies to improve nervous tone, the use of water and exercise, judicious rest, and novelty in the way of amusements, are excellent aids. Subgallate of bismuth, five grains three times a day, as recommended by Flint, promptly relieves the dyspeptic symptoms. It may be given before or after meals. In some cases it seems to act more favorably when taken before meals, and in others when it is given after meals. Water, in the form of the cold effusion, is one of the best tonics. When there is no shower, the bather can use a small pitcher, holding the spout over the back of the neck, and by bending a little forward, allow the water to fall over the spine and other parts of the body. A convenient way is to fill a pail with cold water before stepping into the tub, and dipping it out with the pitcher. The patient may stand in several inches of hot water, and thus keep the lower extremities warm. For the insomnia, want of appetite, shallow breathing, and general nervousness of functional dyspepsia, there is no single remedy so good as water.

Urethro-vaginal Abscesses.—In a study of the tumors of the urethro vaginal septum Dr. T. S. Cullum, of the Johns Hopkins Hospital, describes the usual symptoms as beginning with painful micturition, which increases for a few days or months, when the severe pain begins to be followed by a sudden discharge of ammoniacal urine or pus, which gives immediate relief. A swelling is now noticed in the vaginal vault, from one to two centimetres behind the external orifice of the urethra. The tumor is fluctuant and tender, varying in size from a marble to a hen's egg. On pressure the size is diminished, and ammoniacal urine or pus is discharged from the urethra. By introducing a catheter along the anterior wall of the urethra it will enter the bladder with difficulty, and clean urine will usually escape. The sac cavity may be entered by introducing the catheter along the urethral floor, with the point directed downward. The patients give no history of chills, and are usually in good health. The change from a sitting to a standing posture will often cause the contents of the sac to escape, but the patient notices only the moistening of the clothing. Coition may be painful, and may also cause a discharge of the sac fluid, which may escape into the bladder. The genitals and thighs may be excoriated when the discharge is irritating. Calculi may be found in the sac. Among the possible causes may be congenital cysts, or those occurring in the new-born. A weak point in the urethral wall may permit the formation of a true urethral diverticulum. There may be an accumulation of secretions in a urethral gland. A lacuna of Morgagni may be dilated, probably by inflammation, closure of its orifice, and subsequent distention with secretion. Skene's tubules may be dilated, and possibly occluded. A dilatation may be formed in the urethra by an arrested calculus. An abrasion of the mucous membrane may give the urine access to a small pocket to decompose and set up an inflammatory process. A suppurating cyst located in the urethro-vaginal septum may burst into the urethra. Cysts of Gartner's duct are usually about the size of a pea, and do not communicate with the urethra, so that it is generally not difficult to differentiate between them and these sac-like dilatations in the urethral floor. The patients were successfully treated by carefully excising the sac, and closing the opening with silk sutures.

Arterio-sclerosis after Syphilis.—According to the Berlin correspondent of the *Medical Press*, Dr. Fraenkel gave an address recently on this subject. He said the question of the origin of aneurisms, so far as syphilis was concerned, had been very variously answered. Walsh was of opinion that syphilis was the foundation of aneurism in 60 per cent. of the cases, other writers went further and put the percentage at 80. The speaker had carefully observed clinically nine cases of aneurism during the past four years, and had the opportunity of an examination post mortem in every case. Five were women and thirteen men; four were over sixty years of age; ten were under fifty, six below forty. The remark had been already made that in proportion to the ordinary arterio sclerosis of old age aneurism was met with at a relatively early age, principally from the middle of the twenties to the end of the forties. This circumstance made it possible that some special condition must be in action. Among the speaker's 19 cases syphilis was certainly present in 10, in six of the patients under fifty, and four of those under forty. The proportion of syphilitic cases in his series was, therefore, about fifty per cent. As to the mode of origin of true aneurism different theories were propounded, especially two which had been called the mechanical theory and the inflammation theory. The mode of origin was of importance when we had to decide whether an anomaly of constitution was to come into consideration or not. Anatomically the mode of origin was very difficult to determine, as we could not determine whether the arterial changes were syphilitic or not. The preparation shown was of special interest, inasmuch as it was not a true aneurism, but an advanced and very extensive arterio-sclerosis in a comparatively young person, in whom undoubted anatomical changes of cardiac syphilis were present. A woman, aged thirty seven, was admitted under the speaker's care last year with symptoms of valvular insufficiency. The patient frequently complained of headache, pains, and attacks of faintness. She was discharged improved. The diagnosis was aortic valvular insufficiency, resulting from an antecedent reticular rheumatism. The husband of the patient was syphilitic. The patient had suffered from swellings of the head that had burst, and the cicatrices were still visible. At the commencement of the present year the patient returned with symptoms of cardiac trouble which differed from that present before in being characterized by violent attacks of angina pectoris. The patient did not come out of one of the attacks. The anterior and left coronary artery were quite permeable and unchanged, the right was totally obliterated at its point of entrance into the aorta by an extensive arterio-sclerosis. That these changes were of a syphilitic nature was shown by the presence of a large cardiac gumma.

What Physiology Owes to Medicine.—Medical men are justly proud of the fact that the most thoroughly investigated divisions of biology are those which relate to human physiology. As human life and health are the most valuable possessions, they have been carefully studied for ages, and are to-day receiving the greater part of all biological research. Dr. Frederic S. Lee, in the *American Naturalist*, declares that to the medical fraternity, more than to any other one class, does the science of physiology owe its great progress in the past. It has, however, widely overstepped its early medical boundaries, largely through the efforts of its medical promoters, who realize the necessity of studying other living beings for the light thus thrown on human physiology. It has become a biological science, having developed beyond its medical and anthropological fields. Human physiology, like human anatomy, will necessarily always form one of the foundation-stones of a medical training, and perhaps the most important one. Animal physiology presupposes anatomy, and each science has its own field and its own methods. Human physiology, however, is but one branch of a science as broad as the domains of protoplasm. The human body is a machine, but it is a machine that has had a history. To learn to know the mechanical, chemical, and physical laws of this most complex of vital mechanisms is an achievement. But to know the action of the mechanism without its history is not merely short-sighted, it is impossible. For this reason a school of general and comparative physiologists is arising. Besides great advances on well-proved lines, physiology is fast developing along broader biological paths. In the interests of humanity the tendency of biological thought is to centre upon the healthy workings of the human body, and this tendency is much encouraged by both the physician and the surgeon.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street

New York, June 23, 1894.

THE TRIUMPHS OF MODERN SURGERY.

THERE appear occasionally criticisms of modern surgery, in which efforts are made to show that the human body is attacked too frequently and too eagerly by the surgeon of to-day. Instances do undoubtedly occur in which judgment is obscured by excessive zeal; but, taken as a whole, the results of modern surgery in the saving of life are little less than marvellous when compared with the work of older days. A writer in *The British Medical Journal* has brought together some interesting and timely statistics bearing on this point.

"Some of the best work," he truly says, "is of such recent growth that we have no past record with which to contrast it; we cannot contrast our pictures with blank canvas. If we take, for example, renal surgery, and look back only fifty years, we find Lawrence saying, 'The kidney, gentlemen, is fortunately beyond the reach of the surgeon.' If we take the surgery of the vermiform appendix, we find nothing, less than fifty years ago—nothing but deaths. So, too, with the radical cure of hernia, and with the surgery of the brain. Barker's 50 consecutive cases of the former without a death, Macewen's success in 16 out of 17 cases of cerebral abscess, and in 16 out of 20 cases of thrombosis of the lateral sinus, 'we look a few years back, and we seem to be in another century.'"

If one takes operations of which comparative statistics are obtainable the results are just as striking. Thus Dent's statistics of St. George's Hospital for amputation show that between the ages of thirty and forty the mortality during 1872–1874 was 40 per cent.; during 1874–1888 it was 14.2 per cent. From 1874 to 1879 the percentage of mortality after amputation, at all ages, was 26.3; from 1880 to 1888 it fell to 18.8; and of these latter years he says: "If we exclude the cases of death already tabulated as not really due to amputation, we are left with 21 deaths in 341 cases, or a mortality of about 6 per cent." During 1852–1874 there were 500 cases of amputation, and 75 of these died of pyæmia; during 1874–1888 there were 400, and 8 of these died of pyæmia. Mr. Page's statistics of the Newcastle-on-Tyne Infirmary show, during 1879–1888, 484 cases of amputation, with a general mortality of only 7.6 per cent.

The mortality from all amputations in the Crimean War was 63.5 per cent.; in the American Civil War, 48.7 per cent.; in the University College Hospital in 1875, it was 16 1 per cent. This percentage has steadily fallen until, in 1890, it was only 6.9 per cent., while the mortality from major amputations was only 9 per cent. Furthermore, the relative number of amputations compared with all other operations has steadily fallen from 14.8 to 2.5 per cent. The mortality from ovariotomy has fallen from over 50 to less than 10 per cent. The same story might be told as to compound fractures, excision of joints, laparotomy, and extirpation of the uterus.

THE SHORT STORY AND NERVOUS DISEASE.

EXCEPT supreme grief, perhaps nothing in the world so effectually takes the sweetness out of life as the constant daily association with mental and nervous disease. The endless argument, the deadly introspection, together with the exaggerated selfishness common to nervous troubles, strains human endurance to the utmost degree. Any hint that can render the tax less severe constitutes more than an ordinary boon.

One way to change the current of unpleasant thought is to present in bright and attractive form the original and engaging thoughts of others, and thus substitute some other emotion. This is best done by the short story, in which American writers excel. It chains the attention without straining it. The short story can be finished at one sitting, and the subject upon which the mind is fixed remains vivid in its entirety. This strengthens the weakened will and increases the power of strict attention. A discussion of plot and character may follow, and thought is kept in the new channel a little longer, though with a slackened grip that avoids fatigue. Interest is aroused, and the habit of looking outward is begun and each day strengthened. What though a relapse into argument, introspection, depression, and colossal selfishness is sure to follow? Even a brief banishment of these joy-killers is the beginning of improvement.

After a time the patient may be called upon to read aloud, instead of being always read to. This rouses other forces beyond mere interest and fixed attention. Reading aloud expands the lungs and calls many muscles into use. The utmost tact is necessary to create a desire in the mind of a nervous invalid to read aloud or to perform any act that has in it an element of self sacrifice. Such a person may impulsively deluge with favors the favorite of the moment. But it is most difficult to establish a fixed habit of daily doing for others in a small way. Monotonous humdrum goodness is without charm for the nervously weak, and may be slightly beyond their average capacity. A direct appeal to selfishness is about the best way to deal with the situation; bribe the patient to read aloud by the promise of an exchange of favors.

Bret Harte's best work, his best short stories, are simply perfection for this kind of semi medical work. They are distinctly original, and quite outside the beaten track in style and treatment. They are terse to the point of severity, and wholly adequate; everything necessary is told, with great economy of word and phrase. There is no lingering analysis, and the mind is carried at once to the centre of dramatic interest and kept there to the

end. In Mary Wilkins's pictures of New England life there is most shade, and the horizon is narrower. Her short stories are excellent to begin with, and serve a purpose in the way of an entering wedge that few others can attain. Richard Harding Davis has a distinct place in this kind of work, for he writes of the city as it is—the city of the street and of the drawing room—where real men and women live and move and have their being, and rise to the heights of heroism on occasion. Guy de Maupassant at his best is clear of vision and perfect in style. The little volume known in English as "The Odd Number" contains stories that are admirable to break up thoughts that are too persistent. Rudyard Kipling is a master-hand at the short story. But women, as a rule, do not appreciate him. When they do, it is impossible to overestimate the stimulating effect of an "Invention" or a "Plain Tale."

The genius that depicts the true history of imaginary men and women should be recognized as a force for good in the attempted amelioration of nervous states. Mental food must be regulated as well as the material diet and daily habits. Reasonable impressionism, as in the matter here suggested, has been found the best for this particular purpose.

HUMAN OSTRICHES.

The death of a "fakir" who earned his living by swallowing all kinds of non-edible articles occurred recently in the London Hospital At the autopsy the house-surgeon found intestinal perforation and peritonitis due to the presence of a piece of string with corks attached, a piece of leather with a hook at each end, a bullet, tin-foil, and quantities of loose corks.

The *Lancet* takes occasion to cite various cases of extraordinary gourmandizing *a propos* of the London Hospital case.

"There are," it says, "recorded instances of men who have devoured the whole of a sheep or of a sucking-pig raw; and there is one at least of a man, an attendant at the Jardin des Plantes in Paris, who ate the whole of a dead lion. Another Parisian, by name Tarrare, who made a livelihood by swallowing corks, pebbles, apples, and such unconsidered trifles, would occasionally, to satisfy a bestial craving, eat a live cat, and appears finally to have taken to cannibalism. Francis Battalia, who ate half a peck of small stones with his beer every day, served as a soldier in the seventeenth century, and refused other rations. Whatever his particular method of deceit was, he seems to have imposed on the medical profession of the day, and as we are not informed how big the stones were it is possible that they were small enough to cause no inconvenience as foreign bodies, and may have aided in stomachic trituration. The feats of John Cummings, an American sailor, at the beginning of this century, are as wonderful as any, and are generally received as authentic. It appears undoubted that this man swallowed thirty-five clasp knives, and that, although in the end he died in great agony in Guy's Hospital, he lived ten years with a considerable, though uncertain, number of clasp-knives in his stomach."

Glass-eating is one of the favorite forms of abnormal indulgence on the part of travelling fakirs in this country. Clay-eating was at one time an established institution among certain classes of "poor whites" in the South. We believe that under better conditions of existence the custom has been largely abandoned. The clay was supposed to have some nutritious properties, but in fact its effect at first was to lessen the normal pangs of hunger. Later, the clay-eater acquired a degree of fondness for this form of diet.

The fatalities from swallowing inorganic objects for the purposes of a show have become now so numerous that boards of health or the anti-suicide law might properly be invoked to prevent such dangerous and idiotic exhibitions.

ANOTHER MALPRACTICE SUIT COMES TO NAUGHT.

One of the many dangers to which our profession is exposed is that of a suit for malpractice, brought against the medical attendant by a dissatisfied patient, or one seeking to avoid the payment of a bill which he thinks large. An interesting case of this kind was recently tried before Judge Truax in the Supreme Court of this State.

The suit was brought against Drs. A. H. Goelet and E. V. Delphey, of this city, by a Mrs. Lally, who sought to recover $5,000 damages for alleged malpractice on the part of the defendants in administering chloroform to her husband. The chloroform was given preliminary to an amputation of the finger and, the plaintiff asserted, "against the will of the patient, his wife and children, carelessly and without skill and in such quantity as to cause the death of the patient."

The defendants submitted a full denial of these charges and stated that the chloroform was administered in very moderate quantity, not under positive protest of the patient or his family, and with proper care and skill.

The history of the case, as brought out in Dr. Goelet's testimony and not disputed by the widow, was as follows: The man, Michael Lally, whose family physician Dr. Goelet had been for fourteen years, came to him for treatment of an injury received from a splinter entering the forefinger of the right hand. Gangrene set in and the patient showed symptoms of septic poisoning, so that amputation was found to be necessary. The heart, lungs, and kidneys of the patient were examined and found to be normal. The only protest made by the patient was, "Doctor, you are not going to give me chloroform, are you?" When it was explained to him that chloroform would be used only at the beginning, he said no more. The anæsthetic was administered through an Esmarch inhaler, drop by drop, and less than one fluid drachm in all was used. After taking a few whiffs the patient began to resist and to throw his arms about. The wrist of the side upon which the operation was to be performed was held until the man became quiet. The patient then began to have stertorous breathing, and the chloroform was discontinued for about two minutes until the breathing was normal and signs of returning consciousness became apparent. Ether was then substituted, but the man soon ceased to breathe. His feet were at once elevated, the head and shoulders being suspended over the side of the bed, and artificial respiration was instituted and maintained until it was seen that the man was certainly dead.

A number of the best-known operators in the city tes-

tified that the defendants had followed the best practice of physicians skilled in operating in such cases, and that they (the witnesses) approved of beginning the anæsthetization with chloroform.

An interesting point, and one showing the weakness of the plaintiff's case, was that raised by her counsel, who tried to prevent Drs. Goelet and Delphey from testifying in their own behalf, on the ground that a physician is bound in law to professional secrecy—that is to say, he cannot disclose any information whatever obtained by him in his capacity as a physician. This objection was overruled.

The judge's charge was favorable to the defendants. He pointed out to the jury that there were two facts for them to determine, viz., whether or not the chloroform was administered against the will of the patient, and whether or not it was administered negligently or unskilfully. The fact of the protests of the wife and children against the use of chloroform was aside from the point in law. If, however, the medical attendants had administered chloroform against the will of the patient himself, then they became trespassers and were responsible for the results of their trespass. The evidence showed simply that the man had come to his death in consequence of the administration of an anæsthetic; and unless the members of the jury were convinced that the patient died from chloroform, they could not find against the defendants for the results of a trespass, even if the chloroform had been used against the will of the patient. In regard to the second point, the judge charged that the law requires that physicians and surgeons shall be skilful in their profession and shall exercise reasonable care and diligence proportionate to the importance of the case in hand. But they are not bound to insure success in the operation, for if such were the case few surgeons would be willing to assume the responsibility of operating, no matter how urgently surgical interference might be indicated. They can only be held liable for not exercising due care and skill in the medical and surgical treatment of their patients.

The jury was out only about two hours, and then returned with a verdict for the defendants.

Drs. Goelet and Delphey are to be congratulated upon the result of this suit, yet the hardship is rather that such a suit should have been brought. If a man who for fourteen years has been the trusted family physician is liable to be sued when finally one of the family dies under his care, no medical man is secure. There ought to be some redress for one who has been subjected to the mental distress, expense, and loss of time consequent upon a suit of this nature. Unfortunately he must content himself with the satisfaction of feeling that it might have been worse, and that the sensibilities of the jury might have been so worked upon as to decide the case against him. In the meanwhile, each case in which the physician triumphs goes so far in the line of discouraging other people who think they may evade the payment of their dues or even squeeze a few dollars out of their former medical adviser, by accusing him of incompetence.

Dr. Karl Posner, one of the responsible editors of the *Berliner klinische Wochenschrift*, has been appointed Professor of Internal Medicine in the University of Berlin.

CASTRATION IN HYPERTROPHY OF THE PROSTATE.

Castration for the relief of varied conditions, both in the female and the male subject, has become a popular means of treatment—popular from the handle rather than from the blade side of the scalpel. Men dislike to sacrifice their testes perhaps more than women dread the loss of their ovaries, and in both sexes psychical derangements are not at all unlikely to follow such mutilation, though the importance of this feature has undoubtedly often been exaggerated.

Reasoning from the analogy existing, or supposed to exist, between fibroid growths of the uterus and enlargements of the prostate, it has been thought that since oöphorectomy has been found to lead to a decrease in the size of the tumor in the one case, castration would show equally favorable results in prostatic hypertrophies. Experiments upon animals carried out in Europe, and more recently by Dr. White, of Philadelphia, have demonstrated that the idea is not wholly theoretical, at least so far as the lower animals are concerned. How it will succeed in man remains to be proven; bnt if we can judge from a single instance, just reported to the New York Academy of Medicine by Dr. Smith, of Texas, the method gives some promise of being applicable to certain cases.

A few weeks ago we referred to the suggestion made by Dr. Daniel, that castration be practised as a punishment for crimes committed in obedience to perverted sexual impulse. If this suggestion should meet with ready adoption, a series of valuable observations could be made upon the future of the prostate in those so punished, and especially if some were afflicted with enlargement, as would not be unlikely.

The device recently put into practice here of supplying the place of the extracted gland with a celluloid substitute would assure the consent of such prostatics as might hesitate on æsthetic grounds.

Thus supplied with deceptive evidences of manhood, one could go bluffing through the world without the secret fear, as one patient expressed it who objected to the proposed operation:

> "That the boys on the street would shout,
> 'There he goes with his testes out.'
> Dreading far less that they should call,
> 'See the man with the celluloid ball.'"

It will have to become a pretty firmly established means of relief for prostatic obstruction before castration becomes a fad with patients; though, judging from what has been witnessed in female castration during recent times, it might readily become so with the surgeons.

Gifts to the Medical Department of the Northwestern University.—Mr. William Deering, a Chicago merchant, has made a generous gift to the Northwestern University. Calling at the treasurer's office, he placed on the table a parcel of bonds of the value of $50,000, and said to the treasurer: "Here's something for the medical school." Mr. Deering afterward explained that the object he had in mind was to found a new professorship in the medical department of the university, and to honor his life-long friend, Dr. N. S. Davis, a pioneer physician of the West.

News of the Week.

Mississippi Doctors.—The Medical and Surgical Society of Mississippi was organized at Jackson, May 20th, with one hundred and twenty-five names of prominent physicians enrolled. Dr. J. H. Lucas, of Greenwood, was made temporary president, and Dr. H. H. Hughes secretary. The organization is said to be the outcome of dissensions in the State Medical Association. Governor Lowry welcomed the doctors to the city.

The Iowa Medical Society met at Des Moines. Among the papers read were: "Anæmia of Children," by Dr. Caleb Brown, of Sac City; "Mental Cramp," by Dr. Gresham H. Hill, of Independence; "Castration as a Treatment for Insanity," by Dr. Clifton A. Leech, of Keokuk; "The Duty of the Physician to the Public," by Dr. P. I. Fullerton, of Raymond; "Epilepsy," by Dr. Maxwell; "Errors in Therapeusis," by Dr. G. W. Burr, of Keokuk; "Brain Surgery," by Dr. Fairchild; "Physiology of Education," by Dr. Woods Hutchinson, of Des Moines; "Kidney Tuberculosis," by Dr. C. D. Brookman, of Ottumwa; "The Murphy Button in Rectal Stricture," by Dr. C. E. Ruth, of Keokuk. The following officers were elected: *President*, Dr. A. L. Wright, of Carroll; *Vice-Presidents*, Drs. D. S. Fairchild, of Clinton, and J. G. Maxwell, of Keokuk; *Secretary*, Dr. J. W. Cokenower, of Des Moines; *Assistant Secretary*, Dr. Sampson, of Creston. Creston was selected as the next place of meeting.

The Nebraska Medical Society met at Lincoln. On motion of Dr. W. Ely, of Ainsworth, a resolution was adopted recommending that all that part of the code of ethics referring to consultations and the patenting of instruments be abolished. This resolution was ordered transmitted to the American Medical Association, by whose authority requests were sent to the various State medical societies asking for recommendations and suggestions regarding the code and other questions of importance to the medical profession. The following officers were elected: *President*, Dr. H. B. Lowrey, of Lincoln; *Vice-Presidents*, Dr. J. E. Summers, Jr., of Omaha, and Dr. W. B. Ely, of Ainsworth; *Recording Secretary*, George Wilkinson, of Omaha; *Corresponding Secretary*, Dr. J. E. Lavender, of Omaha; *Treasurer*, Dr. W. M. Knapp, of Lincoln. Grand Island was chosen as next place of meeting.

The Washington State Medical Society elected the following officers: *President*, Dr. Darius Mason, of Spokane; *Vice-President*, Dr. J. M. Sample, of Medical Lake: *Secretary*, Dr. R. L. Thompson; *Treasurer*, Dr. J. B. Eagle, of Seattle; *Censors*—Dr. G. S. Armstrong, *Chairman*; Dr. H. G. Mauzey, Dr. J. M. Semple, Dr. F. H. Cole, and Dr. T. L. Catterson.

A Case of Small-pox in Rutland, Vt.—Last week a traveller from Chicago was taken ill at a hotel in Rutland, Vt., with what proved to be small-pox. The hotel was at once quarantined by the health authorities.

The Medical Society of New Jersey will hold its one hundred and twenty-eighth annual meeting at Lake Hopatcong, June 26 and 27, 1894. An interesting programme has been arranged.

Award of the Boylston Medical Prize.—The Boylston Medical Prize for 1894 has been awarded to Dr. Norman Walker, of Edinburgh, Scotland, for an essay entitled "The Histological Varieties of Cutaneous Cancer."

The New Hampshire Medical Society held its one hundred and third anniversary meeting on June 18 and 19, 1894, at Concord. An interesting programme insured a large and profitable meeting.

The Transactions of the Pan-American Medical Congress.—The "Proceedings of the First Pan-American Medical Congress" were compiled by the secretary-general, Dr. Charles A. L. Reed, and transmitted to the Department of State in November, 1893. By recent joint resolution of the Senate and House of Representatives, the manuscript was transmitted to Congress, and a concurrent resolution has been adopted directing the Public Printer to print the same. The manuscript is now in the office of the Public Printer, and will be put to press at once under the supervision of the Editorial Committee, of which Professor John Guitéras, of Philadelphia, is the chairman.

The Medical Association of Georgia Adheres to the Code.—At the late meeting of the Medical Association of Georgia, Dr. J. McFadden Gaston, of Atlanta, introduced the following resolution, which was unanimously adopted:

"*Whereas*, The American Medical Association, at its last meeting, provided for an expression in regard to the Code of Ethics from the different State Associations, to be laid before the forthcoming meeting at San Francisco, it is hereby

"*Resolved*, That the Medical Association of Georgia reasserts its adoption of, and conformity to, the Code of Ethics of the American Medical Association, as heretofore recognized by that body, and authorizes this record of its adherence to the same."

Treatment of Dysentery.—In the formula for use in the treatment of dysentery, given on page 743, the dose of calomel should have been six centigrammes instead of sixty, as there printed.

The Oregon Board of Medical Examiners has adopted a resolution to the effect that, on and after the first day of July, 1898, it will not grant license to practise medicine on diplomas issued after that date by colleges which do not require that candidates for graduation shall have attended not less than four regular courses or sessions of lectures of at least six months each. The two medical colleges in the State have decided upon a compulsory four years' course of lectures. The "Medical Register" of the State of Oregon now contains seven hundred and forty-six names of licensed medical practitioners.

American Genito-urinary Association.—At the meeting of the American Genito-urinary Association, held at Washington, May 29 to June 1, 1894, the following officers were elected for the ensuing year: *President*, Dr. L. Bolton Bangs, of New York; *Vice President*, Dr. Francis S. Watson, of Boston; *Secretary and Treasurer*, Dr. W. K. Otis, of New York; *Member of Council at Large*, Dr. John A. Fordyce, of New York.

Dr. J. W. Gleitsmann has been appointed laryngologist to the German Hospital, New York.

Dr. Andrew H. Smith, of this city, writes, June 16th: "Will you kindly correct the report in the MEDICAL RECORD, of June 16th, of my paper before the Climatological Association, in the following particulars: 'It was his uniform experience that the motion following an injection [of defibrinated blood] showed no trace of blood' should read 'frequent experience,' etc.; 'man left the hospital apparently well,' should read, 'considering himself well.' In another place I am credited with the statement that the toxæmia in pneumonia resulted from overfeeding. What I really did say was that the existing toxæmia could not be removed by overfeeding."

Montefiore Home for Chronic Invalids.—Drs Leonard S. Raus, Hiram N. Vineberg, and Josephine Walter have recently been appointed attending gynecologists to the institution.

Opium Smokers in New York.—There are about ten thousand opium smokers in New York according to the testimony of one of the witnesses before the Lexow Committee.

Dr. William L. Briggs died on June 14th in Nashville, Tenn., aged sixty-six. He was a member and an ex-President of the American Medical Association. He had been honored by this association on several occasions, being elected a delegate to the International Medical Congress at Rome, Italy. He was President of the American Surgical Association in 1885 and was the author of a number of valuable medical publications.

The State Board of Medical Examiners.—The Regents of the State University have reappointed on the State Board of Medical Examiners, Drs. W. W. Potter, of Buffalo, W. S. Ely, of Rochester, and Maurice J. Lewis, of New York; Dr. Asa S. Couch, of Fredonia, was also reappointed; and Drs. J. Willis Candee, of Syracuse, and John M. Lee, of Rochester, were appointed on the Homœopathic Board. Dr. Lee H. Smith, of Buffalo, was reappointed, and Drs. Orlando Webb Sutton, of Bath, and Melvin H. Nichols, of Worcester, were appointed on the Eclectic Board.

American Medical Association.—The following officers of sections were elected at the meeting in San Francisco: *Surgery and Anatomy:* Joseph Ransohoff, M.D., of Ohio, Chairman; Reginald H. Sayre, M.D., Secretary. *Practice of Medicine:* E. W. Kellogg, M.D., of Milwaukee, Wis., Chairman; W. E. Quine, M.D., of Illinois, Secretary. *Obstetrics and Diseases of Women:* C. N. Martin, M.D., Chairman; F. O. Worder, M.D., Secretary. *Neurology and Medical Jurisprudence:* Daniel R. Brower, M.D., of Illinois, Chairman; William J. Gavigan, M.D., of San Francisco, Cal., Secretary. *Ophthalmology:* Ed. Jackson, M.D., of Philadelphia, Pa., Chairman; H. V. Wurdeman, M.D., of Wisconsin, Secretary. *Laryngology and Otology:* J. F. Fulton, M.D., of St. Paul, Minn., Chairman; T. J. Gallaher, M.D., of Pittsburg, Secretary. *Materia Medica and Pharmacy:* Dr. Welpley, of St. Louis, Mo., Chairman; G. F. Hanson, M.D., of San Francisco, Cal., Secretary. *Physiology and Dietetics:* E. H. Woolsey, M.D., of Oakland, Cal., Chairman; Charles G. Chaddock, M.D., of St. Louis, Mo., Secretary. *Diseases of Children:* E. H. Small, M.D., of Pittsburg, Pa., Chairman; G. W. McNeil, M.D., of Pittsburg, Pa., Secretary. *State Medicine:* L. H. Montgomery, M.D., of Chicago, Ill., Chairman; C. H. Sheppard, M.D., of Brooklyn, N. Y., Secretary. *Dermatology and Syphilography:* A. E. Regensburger, M.D., of San Francisco, Cal., Chairman; D. H. Rand, M.D., of Oregon, Secretary.

The Death of Dr. Middleton Michel, of Charleston, S. C.—The deceased, whose death occurred on Monday, June 4th, was seventy-two years of age, was a graduate of the Medical College of South Carolina, but much of his professional study had been done in Paris. During the War of the Rebellion he served as a medical officer in the Confederate Army, and after the war he was an associate editor of the *Charleston Medical Journal*. The Charleston *News and Courier* says of him: "He was a physician of high attainments, a teacher of rare ability, a scholar of great versatility, a writer of eminent merit, and a charming gentleman of the old school who, while alive to the demands of the crowding present, was not unmindful of the historic past. He will be missed in professional walks, and in the quieter and sweeter ways of society there will be many to long for the sight of the vanished hand and the sound of the voice that is still."

Death of Dr. Elijah S. Elder, of Indianapolis, Ind.—Dr. Elder, business manager of the *Indiana Medical Journal*, president elect of the State Medical Society, and for fourteen years its secretary, died at his home in Indianapolis, on May 19th. Dr. Elder was born at Dillsborough, Ind., on March 17, 1841. His father, Samuel Elder, was a physician. He came of good old revolutionary stock. Moving to Mount Auburn, Ind., he received his elementary education there, gained a teacher's certificate, and for two years taught in the Shelby County schools. For two years he was in mercantile life, and then, in 1863, became United States provost marshal for Shelby County and assistant marshal for the Sixth District. These positions he held till the close of the war. He was graduated from the Medical College of Ohio in 1867 and entered, practice at Morristown, Ind. He went to New York in 1875, and was graduated from Bellevue Hospital Medical College in 1876.

Dr. William G. Austin, one of the oldest and most eminent physicians in the South, died June 12 in New Orleans. He was born eighty years ago in Loudoun County, Va. He was Superintendent of the Charity Hospital in New Orleans before the war, and served in the Medical Department of the Confederacy. He returned in time to contend with the terrible yellow fever epidemics of 1867 and 1868.

Dr. E. L. Cocks, and not Cocker, was the gentleman elected as one of the officers of the Harlem Medical Association of New York.

The Academy of Medicine has appointed a committee of three, consisting of Drs. Daniel Lewis, George Henry Fox, and S. T. Armstrong, all Fellows of the Institution, to confer with the coming Constitutional Convention now in session, in regard to any such changes in the constitution as may be necessary to protect medical interests, and, through medical interests, those of the State.

Dr. Theophilus Parvin has been elected an honorary member of the Obstetrical and Gynecological Society of Berlin.

Society Reports.

American Medical Association.

Forty fifth Annual Meeting, held in San Francisco, Cal., June 5, 6, 7, and 8, 1894.

(Continued from p. 760.)

SECTION ON PRACTICE OF MEDICINE.

FIRST DAY, TUESDAY, JUNE 5TH.

The Structure of Blood-corpuscles and its Relation to Practical Medicine.—DR. J. H. WYTHE, of Oakland, Cal., read a paper with this title. From the earliest times physicians had recognized the importance of studying the blood; but owing to inadequate means it has only been within the past ten or fifteen years that a systematic study could be undertaken. The microscope has brought to the aid of the physician a means whereby a more careful and effectual study of the blood is afforded, especially the improved objectives, oculars, and other microscopical appurtenances.

The author emphasized the fact that testimony given as regards the particular animal from whence came a given specimen of blood was valueless, as the blood-corpuscles, even in the same animal and species, varied in size. Dr. Wythe pointed out that the blood is not simply an aggregation of corpuscular elements, but that the plasma is capable of exerting powerful influences on the economy. This he referred to as particularly noticeable as regards its bacteriacidal powers, as already established by American and foreign investigators. He believes this power to be due to the solvent action of the serum. Changes in the specific gravity as well as in the acidity and alkalescence of the blood should be noted—these often pointing to diseased conditions, and due probably to the absorption of certain toxines, ptomaïnes, or leucomaines, etc.

The structural changes occurring in the cellular elements of the blood, as a result of morbid process, has been extensively investigated by Ehrlich. In a number of observations made by the speaker, he said varied changes occur in the red blood corpuscles, when closely observed for a length of time and by the aid of the most modern instruments. The information thus gained conveyed to his mind the impression that the changes had a definite relation to diseased conditions. Furthermore, when we consider the various functions performed by the blood, it is not strange that we should have a variety of structure in its cellular components.

In conclusion, and as a plea for more thorough investigation of blood states, the speaker cited eighteen cases of beriberi, in which the blood of the affected persons was sent him for examination. In all cases he found the red corpuscles in various stages of disintegration. Basing his therapy on the observed facts under the microscope, he advised the use of ferrum, quinine, and generous diet, with the result that every case improved.

Digitalis in the Treatment of Pneumonia.—DR. WILLIAM WATT KERR, of San Francisco, outlined briefly the three principal classes of teaching as regards the use of digitalis in pneumonia. He said the first class regarded it as a specific; the second say it has little or no effect; the third believe its use is inadmissible on theoretical grounds—objecting on the ground that the congestion and consolidation of the lungs offer a great resistance to the pulmonary venous flow, this overcrowding the right heart, and that by using digitalis there is danger of inducing cardiac paralysis. The speaker claimed that digitalis increases cardiac systole, by stimulation of the heart musculature and the inter cardiac ganglia, and raises blood pressure. Further, it stimulates the vagi, thus prolonging diastole. Depressed cardiac action in pneumonia is due to: 1. Absorption of toxines and products of tissue-waste. 2. The pyrexia. 3. Obstruction to the circulation through the lungs.

Recognition of all the causes leading to depressed cardiac action is important. Prolongation of ventricular diastole is important: it gives the heart rest. The speaker never found digitalis produce any but good results when the indications pointed to its use. There are two conditions contra indicating its use: 1, When pneumonia occurs in patients with fatty or degenerated heart; 2, when the patient is extremely plethoric. Here he uses nitroglycerine to overcome arterial tension.

Digitalis is beneficial in certain cases of pneumonia, but no claim is laid for its being a specific. So long as the heart is doing its work well it should be left to itself and the course of treatment directed to the other morbid conditions; but just as soon as there is evidence of cardiac weakness, give digitalis, ℥xv., every three hours, till the pulse shows evidence of the effect; then reduce dose sufficient to hold heart steady. When a patient comes under observation, after the heart is overcrowded, the speaker believes the best line of treatment is blood-letting and digitalis.

Tincture aconite and tincture veratrum viride are more harmful than good. Digitalis frequently fails in the treatment of pneumonia, because its action is essentially on the nervous system, and this is overcome by the pyrexia and toxæmia; hence this should be overcome by the use of strychnine, etc. In closing, the speaker urged a more competent and thorough study of the pulse, it being the great indicator of the drug action of digitalis.

DR. WASHINGTON AYER, of San Francisco, called particular attention to Professor Kerr's approval of venesection. He believed the lancet a most excellent agent, but requiring caution in its use. When the pulse is feeble, secretions thick, tenacious, and viscid, respiration very difficult, and the patient appears to be in articulo mortis, venesection is the only thing that offers any hope of relief.

Digitalis should not be used without proper consideration. We ought to return again to the much-abused lancet in the severe and dangerous forms of pneumonia.

DR. DEWITT, of San Francisco, stated that his personal experience shows ℥xv. per dose of tr. digitalis too much. He has found a "reflex action" occur, making him fearful of the dosage; and further, with such large doses, he always found nausea followed.

DR. YOUNG, of Tahoe, was glad of the tribute paid by Professor Kerr to the ense of touch as possessed by the older practitioners. He would not use such large dose as suggested by Dr. Kerr.

DR. HURST, of Indiana, cited two cases in his early practice where digitalis was being given in ʒj. doses of the infusion. One case presented a pulse of forty per minute, profuse sweat and nausea, when the speaker was called in. He stopped the digitalis, gave whiskey and general stimulating treatment, and saved his patient. The other case ended fatally, and, in the opinion of the speaker, because of too much digitalis injudiciously used. He believed that gtt. v –viij. of the tincture was as much as could be given at one dose without inducing nausea. He further endorsed the use of the lancet in many cases.

DR. E W. KELLOGG, of Milwaukee, stated that he considered tincture digitalis unreliable.

DR. LOVING, of Chico, endorsed digitalis, but found that, as a rule, not more than one or two doses of ℥ xv. could be tolerated. He usually used only ℥ viij. per dose, and found nausea occurred almost uniformly under larger dosage.

DR. HOLDEN, of Vermont, called attention to the action of digitalis on the nerve centres. When first administered there results an intermission of the pulse. This shows a slowing of the heart. Large doses of digitalis is "whipping up a horse going as hard as he can" in its action on the heart. Digitalis should be used only when there is a weakened heart action, and as a source of strength: further, it should be combined with nitroglycerine, to keep the blood in the extremities. In some cases venesection is of undoubted service.

DR. JENKINS, of Iowa, remarked that there is nothing

better than digitalis and nitroglycerine at about the crisis, and in addition plenty of whiskey. This line of treatment is particularly good in asthenic cases.

Dr. Ayer, of San Francisco, uses whiskey and ammonium carbonate when the heart becomes weak. Use diligently and fearlessly is his advice. Unless some stimulation is resorted to there is liable to be venous stasis in the lungs.

Dr. Kerr, in closing, said that the dosage of ℥xv. digitalis referred to the U S. P. tincture, and he again emphasized the fact that this dose was to be diminished as soon as the pulse showed the drug action. He had rarely had any nausea result in patients suffering with croupous pneumonia, although he had observed nausea result from digitalis in some heart cases. The speaker does not advocate the indiscriminate use of digitalis in pneumonia, but in those cases indicating its use there is always benefit. He condemns modern cheap text-books that give the routine treatment for various diseases, without a proper consideration of the indications for drugs.

Leprosy in San Francisco.—Dr. Douglass W. Montgomery, of San Francisco, presented a paper which was read by the secretary, Dr. Pierson. The author took the ground that leprosy was a contagious disease, proved by clinical evidence, and such being the case, care should be taken by all municipal authorities to isolate those suffering with the disease. Dr. Montgomery took the Chinese quarter of San Francisco as an example of a favorable soil for the growth of leprosy.

He cited a number of cases that had come under his observation, in the persons of Chinese, that would seem to show the disease was contracted in this country; but a more careful investigation of the history showed, in every instance, it was probably contracted in China. The author stated he had never met with a leprous Chinese native of this country.

The period of incubation, from the cited cases, was very variable.

Importance of Early Diagnosis and Prompt Treatment in Acute Catarrhal Pneumonia.—Dr. W. R. Cleaveland, of Biggs, Cal., said that careful physical examination of the chest should be made especially in the old and in the debilitated subjects in whom there was a suspicion of pneumonia. This will often serve to avoid a catarrhal pneumonia. Percussion will clear up the diagnosis between catarrhal and croupous pneumonia. Auscultation will first give warning of the impending trouble. The earlier free expectoration can be brought about, the better the chances of the patient.

In the experience of the speaker many cases follow la grippe, and the majority of cases of catarrhal pneumonia occurred in strong and robust individuals. Treatment includes the application of a jacket of surgeon's lint, covered with oiled silk or mackintosh, the internal use of ammonium carbonate and ammonium iodide as expectorants. Air of the room should not be dry, but kept moist with an atmosphere of ol. eucalyptus and ol. terebinthin.

Strychnia should be used, also quinine, in tonic or stimulating doses. Alcohol, in form of whiskey, as eggnog, is of utmost service; in fact, alcohol in some form must be used. For the febrile symptoms acetanilide or phenacetin may be used. Apomorphine is an important and most excellent expectorant. Cases taken early, free expectoration being established, the digestive apparatus attended to, and we are in a position to look for favorable results.

Digitalis and trinitrin may be used in cases with weak heart. Vesicants should be used to hasten absorption of consolidated areas, giving internally, syr. acid. hydriodic. and syr. hypophosphites of lime and soda.

Second Day, Wednesday, June 6th.

The Influence of Atmospheric Pressure upon the Prevalence of Pneumonia.—Dr. C. M. Richter, of San Francisco, presented a careful study of the influences of atmospheric pressure in pulmonary disease. He claimed that pneumonia presents no evidence of having a bacillary origin, and that even in well-marked cases the specific germ is rarely found.

There are several forms of pneumonia: Epidemics generally affect children under five years of age, and adults over fifty years of age, in greater proportion.

The liability to pneumonia begins with zero at the poles, and gradually increases to a point in the temperate zone, here again diminishing toward the equator. Winter and early spring show the greatest proportion of cases; summer and early autumn the least. This, according to the speaker, may be explained by the greater maximum atmospheric pressure during the months when pneumonia is prevalent, or, summing up, the greater the continued maximum high atmospheric pressure, the greater the occurrence and mortality of pneumonia. Statistics were given, covering a number of years, and including the large cities of Europe, America, and Australia, which went to bear out the speaker. However, in closing he urged a more extensive and thorough line of research with the view of finding the effect of continuous, or extreme, high atmospheric pressure on the organism.

Dr. A. W. Perry, of San Francisco, said he did not believe that high pressure was a causal agent of pneumonia, giving as his reasons the following:

Pneumonia is common in the mountain towns of California. Is it more prevalent or more fatal because of the high barometric pressure? From information gained in talking with confrères practising in these towns, he thought not. Further, he would like Dr. Richter to state if he meant that pneumonia was caused by high or low barometric pressure; by the oscillations, or by bursts of pressure.

Dr. Richter, in closing, said that from his statistics pneumonia was not more prevalent in the mountainous districts than in valley towns and cities. It is not the oscillations of pressure, but the maximum continued high pressure he referred to.

Dr. Kellogg, of Milwaukee, wanted to know if the statistics given by Dr. Richter were made from deaths or all reported cases.

Dr. Richter replied that the statistics were derived from deaths only, there being no means of getting the actual number of cases.

The Relations of Micro organisms to Fever.—Dr. Washington Ayer, of San Francisco, read the paper, in which he assumed a negative position as to the germ theory—stating that he considered some conservatism necessary in this day of bacteriology. He said fever is an important factor in almost every disease. In its generic sense fever means an exalted temperature of the blood as a result of increased tissue destruction. Mutation and nutrition are interrupted.

He called attention to the fact that even the same type of fever shows great variations in different patients, and even in the same individual. From this he concluded that if germs were the materies morbi there would be more uniformity. Does convalescence show that the germs have ceased to proliferate, or that they are afraid of the fusillade of remedies fired into their camps?

Typhoid is generally milder in course on the Pacific slope than on the Eastern coast, and yet the causa belli is claimed as one and the same. Why? In the opinion of Dr. Ayer, one example, viz., intermittent fever, makes the germ theory for fevers untenable. In concluding the speaker said, more careful work in practical medicine and less in the dreamland of microscopy was needed. At present all the investigations have only proved the existence of organisms.

Dr. W. N. Miller, of Pennsylvania, believed in micro-organisms to a certain extent, but thought practical medicine and conservative judgment were needed in conjunction.

Tubercular Peritonitis.—Dr. McNutt, of San Francisco, presented the reports of four cases upon which he had performed cœliotomy for primary tubercular peritonitis.

In all these cases complete recovery took place, and has been permanent. He emphasized the point, that from his investigations all these cases were primary, no evidences of a tubercular process in other organs being found. In all four cases the peritoneum was found thickened, covered with thousands of miliary tubercles, and in the cavity an exudation, varying in character in the different cases. Microscopical examination of a piece of the peritoneum, the site of tubercles, made by Dr. Montgomery, of San Francisco, showed the histological elements to be those of tubercles, although no tubercle bacilli could be detected; however, the macroscopical and microscopical appearance was distinctly tubercular. One other point dwelt upon by the speaker was the peculiar shape of the abdomen noted in cases of tubercular peritonitis with effusion. It resembles that found and due to cystic disease, and not as is generally found in ascites. This Dr. McNutt attributes to the fact that the effusion occurs into the thickened peritoneal wall.

Dr. J. F. Carpenter, of Pennsylvania, would like to know if drainage, when employed, was from the most dependent part, through and through, and was any medicine employed?

Dr. McNutt said that ordinary abdominal drainage required no medication.

The Pathology of Tetany.—Dr. John F. Carpenter, of Pottsville, Pa., said that from recent contributions made to the pathology of tetany it is now recognized as a nervous disease. No post mortem changes have been found to show the exact nature of the disease. A second cause of pathological uncertainty lies in the fact that the disease occurs in various forms, viz.: 1, Rheumatic; acute or epidemic tetany; generally fatal. 2. Chronic, due to chronic diarrhœa, prolonged lactation, etc.; recovery usual. 3. Occurring in the course of dilatation of the stomach. 4. Surgical tetany, following removal of thyroid gland especially; generally fatal.

Tetany is found to follow such diseases as produce a morbid discharge from mucous surfaces, and due to sepsis.

This is especially true of the puerperium, when complicated by septic infection. The speaker, in summing up, said that, in his opinion, sepsis is clearly traceable as the causal agent of tetany. In all the conditions predisposing to its occurrence septic infection is clearly probable. Furthermore, sepsis and septic absorption will account for other grave nervous disorders, this being due to the fact that blood-poisoning by septic material causes a profound anæmia, this being the proximate cause of nervous irritation. Several cases occurring in the practice of Dr. Carpenter were cited to prove his views. Habit also has an influence. He found attacks of tetany kept up owing to an unstable equilibrium, which was set up by the original attack. At the present time, thanks to antiseptic precautions, tetany is but little known, and the speaker expressed the belief that in the near future it would be wholly a disease of the past.

(To be continued.)

Disposition of Professional Tools and Records.—A correspondent writes: "Sir: Can anyone tell what becomes of the instruments, office furniture, diplomas, and case-records of deceased physicians?"

The Reconqueror of Algiers.—After the conquest of Algiers by the French, during the period from 1834 to 1840, a very fatal disease of unknown nature decimated the army of occupation. A young military surgeon, named Maillot, set himself to study the scourge, and came to the conclusion that it was malarial in origin. He instituted the treatment by large doses of quinine, and the mortality fell at once from twenty-five to five per cent. In the very first year, this medication saved 1,437 lives in one hospital. What a triumph for clinical medicine! We may well say that the illustrious Maillot reconquered Algiers for France.—Huchard.

Congress of American Physicians and Surgeons.

Third Triennial Meeting, held at Washington, D. C., May 29, 30, 31, and June 1, 1894.

(Continued from page 7[illegible].)

AMERICAN SURGICAL ASSOCIATION.

Fifteenth Annual Meeting, held at Washington, D. C., May 29, 30, 31, and June 1, 1894.

Second Day, Wednesday, May 30th.

Methods of Teaching Surgery was the title of a paper by Dr. John S. Billings, of Washington, D. C. We have to consider, Who are to be taught? What is to be taught? How is it to be taught?

Who are taught?—Those to be taught are the average medical student and those wishing to specially fit themselves for surgical work.

What is taught?—The instruction to the average student should in all cases include the diagnosis and best methods of treatment, together with the selection and administration of anæsthetics. Is it worth while to go into the details of cerebral and abdominal surgery, excision of organs, and kindred operations? Is it not enough to tell the average student what can be done in these directions, and refer him to special courses for further information?

How are these subjects to be taught?—There are five principal methods: Didactic systematic lectures; recitations; demonstrations; theoretical clinical lectures; and practical clinical instruction to small groups.

In old-time schools the professor of surgery taught surgical pathology, or the principles of surgery and surgical anatomy. He was the clinical as well as the systematic teacher, and the student was not bewildered with the conflicting views of different professors as is the case in the present day. How the subject of surgery can be subdivided among the several professors of surgery without involving useless repetitions and embarrassing contradictions is one of the most difficult problems in the organization of a large medical school.

Theoretically, every professor desires only the best interests of his pupils and of his school, and there are frequent consultations to secure harmony in their teachings.

Practically, there are usually two or three strong-minded men in the faculty who settle what shall be done, and the rest find it expedient to submit, although they may not agree.

As regards the teaching of surgical anatomy and operations upon the cadaver, by a teacher distinct from, and entirely independent of, the professor of surgery on the one hand, and the professor of anatomy on the other, there are widely different opinions as to its expediency.

Might it not be best that the attendance on such an independent course be purely voluntary on the part of the class?

Didactic and Clinical Instruction.—As a rule, clinical material is not available to cover the entire field for any school, no matter how large its hospitals and dispensaries; hence, there mus tbe some systematic didactic teaching. Is it best that this should be a complete independent course covering the whole field, merely using for any particular subject such cases as may happen on that day to be available?

On the other hand, there are certain advantages in deferring the systematic lectures until toward the end of the course, and then devoting them mainly to subjects which had not been illustrated in previous clinical teaching; but to make this plan a success it would be necessary that the systematic lecturer have given all, or be familiar with all, clinical instruction that had been given.

What are the Advantages in the Present Mode of Clini-

cal Instruction?—How much does it profit the student to witness from the rear benches of an amphitheatre such operations as may be performed? It seems to me two hundred men cannot possibly obtain any special information from surgical clinics in an amphitheatre, which they could not obtain equally well in a didactic lecture, or with illustrations by means of lantern slides.

With regard to allowing students to treat or operate upon the patients in the hospital, the patients would naturally object and avoid such hospitals.

Recitations and Quizzes.—These are excellent methods for the majority of students, but are only well adapted to small classes or sections. These are at present mainly conducted by private individuals, but if made part of the official course and applied especially to clinical teaching, one good result of this would be to discourage the reliance on quiz compends, which I think invariably do more harm than good.

Modes of Lecturing should be definite, selective, and to a considerable extent dogmatic. What the student sees and hears during the first half hour of the lecture is what he remembers best. Therefore, let the teacher describe the method which he prefers, first. If the reasoning is given before the conclusions are stated, the student is apt to get confused.

If the lecturer will fix in his mind the half-dozen questions he would test the students' knowledge of the subject upon which he is going to speak, and answer those questions clearly, definitely, and fully, he can hardly fail to give a good lecture. Too much history of medicine and surgery should be avoided. Students wishing to fit themselves especially for surgeons should make a special study of surgical anatomy, practical laboratory work in bacteriology, pathological histology, and experimental pathology and physiology.

Use of Animals for Instruction.—Much of the operating technique can be learned on animals, but much of it also requires work upon the cadaver.

Also, would it not be well that the first dissections be made on cats and dogs until a good technique has been acquired, so that the supply of cadavers, which is always insufficient, can be fully utilized to the best advantage? I also think it unwise to have the final examination in anatomy one or two years before the other final examinations; the anatomy should be kept up throughout.

Residence in Hospitals.—This is most important of all, the working as assistant to a surgeon, the seeing and handling cases, and not merely looking at them from a distance.

Finally, are there not some subjects which occupy too much space in the undergraduate curriculum, such, for example, as inorganic chemistry and embryology?

Limiting the Number of Pupils.—If our first-class popular medical schools would fix a limit to the number of students which they would receive either in the first or in the third year, or in both, and enforce this limit by competitive examination or by higher fees, or by both, it would bring the best men to them, and would enable them to do thoroughly good work.

Dr. Warren, of Boston, thought what was first needed was a thorough preparatory education of the student before entering the medical school. He would only admit students having the A.B. degree, so that by spending four years in an academy, four in a medical school, one in the hospital, and one year abroad to finish his studies, it would make ten years in all. He thought during the first year there should be little or no work done in surgery, and the student should be excluded from clinics. During the second year he should have exercises in bandaging and experimental work upon animals, together with the application of sutures, dressings, etc. During the third year he should get as much clinical teaching as possible, but systematic didactic teaching should not be discarded entirely.

Dr. Keen, of Philadelphia, was strongly in favor of thorough instruction in anatomy and dissection of the lower animals, which could be killed when wanted and thus provide fresh tissues, which are wholly unlike those of the cadaver subjected to post mortem changes for perhaps months. The tissues of the cadaver greatly differ from those with which the surgeon has to deal. First-year students should not be allowed to attend clinics. Clinical work will never replace the didactic work. What are text-books to the voice? Recitation work should count upon the final examination. The student also wants only your exact views, and wishes to leave the lecture room with clear ideas.

Dr. Warren further added that in the didactic work all kinds of fractures could be shown which would be impossible to show in the amphitheatre. All students should be taught practically how to administer anæsthetics, and the coming college must have a hospital of its own.

Dr. Connor, of Cincinnati, claimed that it would be unjust to insist upon all students to first be in possession of the B.A. degree and then possibly have to practise at some country cross-road where the people around him were unable to speak a single sentence correctly.

Dr. Forbes, of Philadelphia, thought the students of to day were given more work than they were capable of doing, and it caused mental indigestion.

Dr. Weir, of New York, said in the college with which he was connected the students of the first year have nothing to do with clinical work. In the second year there is a small amount of practical work, such as bandaging, etc. In the third year the work was principally didactic, while the fourth was almost entirely composed of practical instruction.

Dr. Prewitt, of St. Louis, agreed with Dr. Connor that it was impossible and uncalled for, that all students should have the degree of A.M. or B.A. If a man is a good English scholar, why should he know Latin and Greek?

The paper was further discussed by Drs. Nancrede, of Ann Arbor; Owen, of Chicago; and J. E. Mears. A paper from Dr. Chene, of Edinburgh, was also read as part of the discussion.

The Surgery of the Kidney was the title of a paper read by Dr. L. M. Tiffany, of Baltimore. He said that bi-lateral organs were more than sufficient to carry on the functions of the body, but to what extent the kidneys may be impaired and still work is uncertain. The amount of urine passed and the solids it contains would best answer the question. In every case examined after injury during the past six months, albumin was present. In a few cases casts were found, but in the majority they were absent. After accidents, the amount of urine in all cases was extremely small for the twenty four hours. The amount of urine passed is a better indication of the patient's ability to stand an operation than the albumin or casts. In almost all cases the nephritis has been an ascending one. I believe a low temperature with a moderate amount of urine is more important than anything else; especially is this the case with a very low temperature.

Diagnosing which Kidney is Affected.—Here the cystoscope will be of great use in the future, but at present I rely upon digital examination. Acid urine with pus points strongly toward infection of the kidney.

Treatment before Operation.—Increase the amount of urine, and get the temperature normal. After the operation, strychnine has proved more valuable than anything else.

Suppurative Nephritis.—The pain is often absent from kidney and located elsewhere, in the side, and even in the bladder.

Wounds of Kidney should be treated as a wound elsewhere. The kidney should be explored from behind, and uncovered as much as necessary. It should be sutured, tamponed as any other organ. Unless the kidney is greatly disorganized, nephrectomy is uncalled for. It should be treated as any other portion of the body, *i.e.*, remove only as much of it as its condition calls for.

ASSOCIATION OF AMERICAN PHYSICIANS.

Ninth Annual Meeting, held in Washington, D.C., May 29, 30, 31, and June 1, 1894.

Third Day, May 31, 1894.

Tetany in America.—Dr. J. P. C. Griffith, of Philadelphia, reported five cases of tetany of varying types, some of them continuous, approaching or including the carpo pedal spasms of some authors; some of them paroxysmal in nature. The cases show that those authors are probably correct who include all these forms under one general heading, "Tetany." All gradations seem to exist between the mildest and the severest cases. Certainly, in the present state of our knowledge, we are unable to make any sharp distinctions.

Considerable confusion exists as to the characters of the disease. Many forms have been described, but in this country very few cases had been reported. One is surprised at the paucity of American records, as he had only been able to collect seventy two cases. The definite cause of the disease is not known, nor is it possible to locate its pathological seat in any part of the body.

Up to the present time the only treatment had been by sedatives. The relative rarity of the disease in this country may be inferred from the infrequency of laryngismus stridulus, which is undoubtedly an allied condition.

Leucocytosis in Febrile Conditions.—Dr. F. P. Kinnicutt, of New York, presented charts showing studies in the amount of leucocytosis in febrile diseases, as observed in cases at St. Luke's Hospital. There was no discussion

Lead Palsy in Children.—Dr. Wharton Sinkler, of Philadelphia, read the paper. Lead palsy in children is a rare disease, although there is no apparent reason why children should not be affected as readily as adults. But few cases of this kind can be found in literature.

Lead palsy in children very closely resembles polio myelitis anterior, and is probably often mistaken for this disease; and this may account for the small number of cases of lead palsy in children which have been recorded. The rarity of the disease in children might be because lead is eliminated so easily by them. Even in adults susceptibility varies very much. In children poisoned by lead sensory disturbances are rare, but cerebral symptoms common; lead encephalopathy is more common than in adults. The author reported cases of three children in one family suffering from this affection, the disease being traceable to white lead for painting, which was kept in the house. He had only been able to find eight cases in literature. In children the distribution of lead palsy differed from adults in that the legs were equally liable to paralysis with the arms.

Dr. J. J. Putnam, of Boston, referred to experiments upon dogs which showed in them that the spinal cord participated somewhat in the pathology of the disease.

Dr. A. Jacoby, of New York, had seen two cases in which the arms and legs were equally affected.

Dr. M. A. Starr, of New York, reported two cases in children. One was fatal, and autopsy showed an absolutely normal cord, but neuritis, most marked toward the extremities.

A Study of the Temperature in Cerebral Apoplexy.—Dr. C. L. Dana, of New York, discussed the effect of cerebral hemorrhage and acute softenings upon: 1. The general bodily temperature. 2. In causing unilateral rise. 3. The comparative effect of the two processes in causing temperature disturbance. 4 The question of the localization of lesion in reference to temperature.

He endeavored to show that hemorrhages cause elevation of temperature, and more on the affected side. That softenings do not cause such elevation; that all apoplectic temperatures are low and have no diurnal variations; that temperatures above 103° F. are evidence of complications (pneumonia). That lesions of the thalamus may cause a high temperature. That a close study of temperature helps greatly in diagnosis and prognosis of the apoplexy.

In fatal cases the temperature averaged 101° F. The general law is that temperature rises after severe hemorrhagic laceration of the brain, but not after embolic processes. The axillary temperature on the paralyzed side averaged one degree higher than on the healthy side. The localization of a heat centre in the brain had not been much assisted by pathological observations. Fever depends more upon the amount of laceration than its locality. Discussion by Drs. J. J. Putnam, of Boston, and Dr. C. G. Stockton, of Buffalo.

The Mild Character and Diminished Prevalence of Syphilis, and the Infrequency of Visceral Syphilis.—Dr. J. H. Musser, of Philadelphia, wished to prove that syphilis of the present day is of mild type, and is infrequent as compared to a period of twenty years ago. He discussed the questions whether it is, 1, because the community is becoming immune; 2, because the virus is less active; or 3, because of the change in the habits of cleanliness of the public. When the infrequency of visceral syphilis is considered, and the fact that syphilitic disease of the lungs, liver, and kidneys is extremely rare, are we warranted in the belief, therefore, that this infection is the cause of so-called nervous syphilis or of nervous diseases due to syphilis?

The author acknowledged that definite statistics were not available, but from his studies of the records of the Philadelphia Hospital he believed that the percentage of cases was one-half that of twenty years ago, and of a less malignant type.

Dr. E. G. Janeway, of New York, said it would be a mistake if we overlooked syphilis as a factor in disease. Locomotor ataxia and general paralysis seem to be due to syphilis. He had seen four cases of visceral syphilis, one of which was mistaken for phthisis. Again, syphilis stands very strongly as an ætiological cause of aneurism.

Dr. H. M. Lyman, of Chicago, said that in the Hawaiian Islands the disease had at present assumed a much milder type than formerly. All great outbreaks of syphilis had been coincident with great movements of population.

Dr. I. E. Atkinson, of Baltimore, said that it is difficult to discuss a paper based upon statistics, but that his experience in Baltimore was directly contrary to that of the writer.

Dr. Post, of Boston, said that he was constantly seeing more and more and graver and graver cases of syphilis. He disagreed with the writer.

He said that, considering the lack of control of syphilis in the United States, it would be strange if the disease did diminish.

Some Remarks on the Significance of Albumin and Casts, Especially in those past Middle Life.—Dr. F. C. Shattuck, of Boston, read the paper. The frequency and the presence of albumin has been carefully studied; also the number and frequency of casts. Analysis of private and hospital patients during the past five years with reference to these points, seems to show that some traces of albumin, hyalin, and granular casts are the rule rather than the exception after middle life, and that their prognostic import is often trifling.

The presence of albumin and casts formerly meant Bright's disease, and the presence of a fatal disease was predicated. This view has now been much modified.

The best clinical test for albumin is nitric acid and heat. Casts should be carefully looked for. The author is always sceptical when albumin (of renal origin) is reported without formed elements and casts. Casts of small diameter, hyalin or slightly granular, are extremely common.

He had found albumin and casts in a large percentage of non-nephritic patients, which percentage increased rapidly with age. The pathological significance is difficult to follow. It is probably due to senile changes.

Dr. I. N. Danforth, of Chicago, had long ago come to regard transitory albuminuria as of little import. He

considered the study of the character of casts of much importance.

Experimental Phthisis in the Rabbit, with Formation of Cavities; a Demonstration.—Dr. T. M. Prudden, of New York, showed a large number of the lungs of rabbits which had been the subjects of intra-pulmonary injections of bacteria. The lesions closely resembled those seen in man. He had studied the effect of the streptococcus and of the tubercle bacillus, and then the results of the two together. An informal discussion of the specimens, which had excited much interest, followed. The existence of cavities in rabbit pulmonary tuberculosis had been denied by many experimenters.

Cough, Aggravated by Horizontal Posture on one Side, as a Strongly Suggestive Symptom of Unilateral Tuberculosis.—Dr Norman Bridge, of Los Angeles, Cal., said that in early phthisis the cough may be produced by lying on the affected side. Later the disease invades the other lung, and then the phenomenon is reversed. When the position of the patient is such that secretions gravitate toward the smaller bronchi, cough is excited; when they flow toward the trachea no cough may be produced. No discussion.

A Report of the Ultimate Results Obtained in Experimental Eye Tuberculosis by Tuberculin Treatment and Anti-tubercular Inoculation.—Dr. G. L. Trudeau, of Saranac Lake, N. Y., sent a paper which was read by Dr. Loomis. In the great majority of cases the tubercular process, which has been apparently cured in the rabbit's eye by tuberculin treatment, slowly relapses. This tendency to relapse may show itself as soon as the injections are no longer capable of producing reaction in the eye, or an apparent cure having taken place. The process may remain arrested and the eyes well for months before the tendency to relapse manifests itself. The inhibitory influence exercised by the treatment on the more chronic forms of this type of tuberculosis seems demonstrated, though in most cases only temporary.

Protective inoculation by means of graded doses of living avian bacilli, gives results more satisfactory, and which seem more permanent. Relapses, it is true, do occur in a fair majority of cases, but, even on these, the inhibitory influence of the preventive treatment is manifest. In some the disease runs a chronic course, and, even when the eyes are ultimately entirely destroyed, this does not occur until many months after it has taken place in the controls. In other of the relapsing cases the inhibitory influence of the preventive inoculation is frequently so marked that the disease progresses almost imperceptibly, and is characterized by long periods of complete arrest. In a fair proportion of animals, however, the eyes recover completely from the tubercular inoculation, and the degree of persistence of this apparent immunity is shown by the fact that inoculation, six months later in the sound eye, may follow the same typical course as in the first instance, and the second eye, also, be completely restored.

Though dangerous to the animal's life, and uncertain in its protective effects, a study of anti-tubercular inoculation indicates that the reaction of living tissues to tubercular inoculation can be modified artificially, and thus the production of a relative, and in a few cases an apparently complete, artificial immunity is a possibility.

Photographs illustrating these points, and taken a year after the virulent inoculation, were shown with the paper.

(To be Continued.)

Yellow Fever was imported into Brazil, says Dr. Bulhoes Carvalho, in the *Brazil-Medico*, from New Orleans, in 1849, the first cases seen in Rio de Janeiro being in 1850.

Methyl Mercaptan is the substance to which the peculiar odor of the urine after asparagus has been eaten is due. It was isolated by Nercki.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, May 17, 1894.

D. B. St. John Roosa, M.D., President, in the Chair.

The Nature and Management of Functional Gastric Disturbances.—Dr. Charles G. Stockton, of Buffalo, N. Y., read the first paper. Functional gastric disorder, he said, was very rarely primary. In reviewing a series of five hundred cases, seen since the beginning of 1893, and of which he had made a careful study, in not a single one could it be said that the functional gastric disturbance lay primarily in the stomach. This, however, did not impeach the possibility of such an occurrence. While it was readily conceivable that an overtaxed stomach alone might give rise to a gastric neurosis, yet in point of fact one rarely found gluttony the essential cause. Something had gone before or accompanied the over-indulgence. It was remarkable how many insults the stomach would tolerate, and if a subacute gastritis resulted it would subside under the rest attending a diminished appetite, so that no permanent trouble followed.

What, then, were the influences which invited persistent functional disorders of the stomach, was a question which should arise in the physician's mind whenever a case presented itself. The stomach, like a mirror, reflected almost every influence to which the human organism was subjected. Irritation of the brain, cord, kidneys, uterus, and of various other organs, might lead to anorexia or vomiting. One had not far to go for an explanation of this fact, as scarcely any portion of the system had so complex a sympathetic nerve supply as the stomach. If the stomach contents were examined under these conditions, no evidence would be found of subacute gastritis, no ropy mucus which inexperienced men wrote so much about; but evidence would be found of serious derangement in gastric innervation, exhibiting itself under some slight excitement, some depression, etc. While there might be some deficiency of hydrochloric acid or evidence of a defective state of the peptic glands, yet the physician must not rest satisfied with discovery of this fact and prescribe a drug simply for immediate and temporary relief, but should look further and find, if possible, the reason for the nervous energy being diverted from its ordinary course. One should look for central or peripheral nerve irritation, or toxæmia. The nerve irritation might be due to structural or functional disease, perhaps mental strain, or some defect in organs of special sense, particularly the eye. Among spinal cord affections which might give rise to functional gastric disturbance were lordosis, tabes, hysterical spine, etc. Kelly and Mann had called attention to ureteritis as a cause of reflex gastric troubles.

Dr. Stockton then took up the influence of toxæmia in the production of functional gastric disturbances, mentioning functional or organic inadequacy of the kidneys, alcohol, tobacco, malaria, gout, some of which doubtless acted through the medium of the blood. Syphilis had been a cause in a few of his cases, as shown by the history and response to anti-syphilitic treatment.

In regard to the question whether given irritations, especially reflex and toxic, would produce distinct varieties of gastric neurosis, the answer must be that in the main they would not. In his experience gastric neurosis was not likely to be due to organic lesions of the stomach.

Successful management included correction of the diet and removal of the cause where this could be discovered.

To recapitulate: It was held, 1, that functional gastric disorders generally arose from influences outside the stomach; 2, these causes were to be easily found in some reflex irritation or toxæmia; 3, among the toxæmic causes syphilis was occasionally found; 4, structural changes in the stomach were not so much the causes, as they were the result, of functional disorders; 5, treatment to be successful must include removal of the exciting cause.

Clinical Observations on Erosions of the Stomach and their Treatment.—Dr. Max Einhorn read the second paper (see p. 780).

Dr Kinnicutt regretted that he had been unavoidably absent during the reading of Dr. Stockton's paper.

Dr. Einhorn's observations were novel ones to him, and deserved more extended study. He not infrequently had detected shreds, and occasionally even pieces, of gastric mucous membrane, as large as those described by Dr. Einhorn, in the washings from the stomach; the latter only when aspiration had been employed. He could say, however, that he had never seen appreciable evil follow. He had believed that these bits of mucous membrane were the result of injury done by the tube. The spraying of the gastric mucous membrane in the manner described by Dr. Einhorn, certainly was most ingenious, and it seemed to him might be of much practical aid in various morbid conditions.

Dr. Einhorn had been led to believe that a very rapid healing of what, from his description, must represent a serious lesion of the gastric mucosa, followed the particular medication which he had described.

From anatomical considerations and from the clinical history of ulcers of the stomach, he thought that such an inference should be received with caution.

Dr. Northrup had seen nothing analogous to the exfoliation of the gastric lining membrane described by Dr. Einhorn, although he had now and then found some of the superficial stomach cells entangled in mucus. He could not understand how, unless there were traumatism, the lining membrane down to or including the submucosa, could be cast off in pieces or produce so little trouble.

Dr. J. Fuhs, of Brooklyn, remarking upon Dr. Stockton's paper, expressed the opinion that, while a variety of diseases affecting various organs might cause functional gastric disturbance, yet we were often unable to trace the relationship, and we were therefore compelled to do something for the cases aside from removing the first cause, as this was unknown to us. For instance, there might be hyperacidity; the cause being unknown, the indication for treatment was to neutralize the acidity. In another case the indication might be to overcome muscular spasm or paralysis. In one case the stomach was found to contain a large quantity of food an hour and a half after the meal; but on examination half an hour later, he was surprised to find the stomach empty. There was one organic condition which constantly gave rise to reflex gastric disorder, namely, disease of the pelvis of the kidneys. In a case related, discharge of pus from the pelvis of the kidneys was followed by relief of the stomach symptoms. The vomited matter in this case contained so much hydrochloric acid as to produce a burning sensation on the teeth. In certain biliary cases he found hyperacidity between the attacks, diminished acidity during the attacks.

Regarding Dr. Einhorn's paper, Dr. Fuhs said he had seen two cases which possibly might have belonged to the same category.

The President regretted the author of the first paper had not dwelt a little longer upon the question of functional disturbance of the stomach resulting from eye-strain, for the relationship to it had not been made perfectly clear to his mind. Almost everything had been attributed to some trouble in the eye, unless it were a fractured limb.

Some closing remarks were made by the readers of the papers.

Action on Amendments to the Constitution.—Amendments to the constitution having been proposed at the last meeting, to create two new standing committees whose chairmen were to be members of the council, a house committee and a committee on nurses, Dr. A. Jacobi desired that they be rejected; whereupon a warm discussion followed, taken part in by Drs. Jacobi, Gray, A. M. Jacobus, R. Van Santvoord, Hanks, the President, and others. There being antagonism between certain members of the council and the committee on nurses, the latter desired representation in the council, in order that misunderstandings might be avoided in the future; while on the other side it was argued that the council was already too large, being composed of fifteen members, and that the house committee and the committee on nurses were as yet only in the experimental stage. When the motion was put on the adoption of the proposed amendments, there were twenty four votes in the affirmative, seventeen in the negative. A three fourths majority being required to change the constitution, the motion was lost.

Against Reducing the Army Medical Corps.—Resolutions were adopted against the reduction of the Army Medical Corps, as proposed in Congress.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, March 2, 1894.

Charles L. Dana, M.D., President, in the Chair.

Notes on the External Use of Guaiacol and Creosote.—The President, Dr. Dana, related some experiments which he had made with the external use of guaiacol and creosote since December, 1893. The external use of guaiacol was first suggested, he believed, by Sciolla, of Italy, a little over a year ago, and subsequently by two French physicians, Robillard and Guinard, and reports upon its use had been made in this country by Dr. Solis-Cohen and Dr. Foster. It was shown that by rubbing twenty or thirty drops of guaiacol upon the skin a reduction of temperature took place, varying from two to five, or even more degrees. The temperature sank rather rapidly, remained down one or two hours, and gradually returned to its former level. The action was much like that of other antipyretics, except that one seldom noticed chills or cyanosis. Dr. Dana's house-physician at Bellevue Hospital, Dr. Farrington, had used guaiacol in a number of cases of disease with fever, and charts were exhibited, showing its effect in reducing the temperature. There were five cases of acute lobar pneumonia, one case of typhoid fever, one of phthisis, one of chronic bronchitis, one of acute miliary tuberculosis, and others. The charts showed that the action of the drug was very striking in some cases. It very rarely failed to produce the desired effect of reducing the temperature. In some the fall was only one or two degrees; in one it was nine degrees, down to 96° F.; in another Dr. Dana saw a fall from 105.5° to 99°. In one case there was a slight chill, but disagreeable effects were seldom seen.

It seemed to the speaker that the guaiacol had more effect in modifying the temperature about the beginning than toward the end of the acute fever. In pneumonia it seemed that rubbing the guaiacol on the skin about the fourth or fifth day hastened the crisis, and the crisis was less typical than usual. In two cases in particular, the crisis seemed to have been brought on very promptly after the use of the guaiacol.

By using the agent three or four times a day the temperature could be kept under control. He was not prepared, however, to say whether the drug used in this manner had any positive therapeutic value. At any rate it did not seem to act harmfully, and in some cases of tuberculosis it certainly had added to the comfort of the patients.

The method in which the drug applied externally caused lowering of the temperature, was not well understood. Given internally it had no such effect. He believed the same was true when it was inhaled. He had had no experience with it administered hypodermically. One French experimenter had made some investigations in order to determine the *modus operandi* of reduction of the temperature when the drug was applied to the skin, and had come to the conclusion that it was a reflex nervous effect, but Dr. Dana thought this view was hardly

tenable. The drug was undoubtedly absorbed, for it had been found in the urine of patients in whom it had been rubbed into the skin.

Dr. Dana said further, that he understood guaiacol was the active principle of creosote, creosote containing eighty or ninety per cent. of guaiacol, and producing an effect similar to that of the latter when rubbed into the skin. He had tried creosote once or twice, but found it a little more irritating than guaiacol, and therefore not so satisfactory. Dr. Farrington, at his suggestion, had tried eucalyptol in one case, but it had no effect. Since guaiacol seemed to act much like other antipyretics, it had occurred to him that it might have some anodyne effects, and in a case of sciatica in which it had been used Dr. Farrington reported that it had relieved pain quite promptly and seemed to have checked the course of the attack. Dr. Dana had also used it in some cases of neuralgia about the face and arms, but was not yet prepared to report the result.

Guaiacol—Its Mode of Reducing Temperature, was the title of a paper by Dr. W. Gilman Thompson, of New York. The fact that guaiacol is capable of reducing the body temperature in certain varieties of fever gives great interest to the probable physiological mode of action of this product. It is generally believed that the lowering of the body temperature is accomplished by the rapid absorption of the guaiacol which enters the circulation, and acts upon the heat-producing organs through the medium of the blood, after the manner of antipyrine, phenacetine, creosote, and other coal tar derivatives. This view is held by Bard,[1] Sciolla,[2] Robillard,[3] and others who have used the agent extensively. On the other hand, it is claimed by Guinard,[4] as a result of numerous experiments upon animals, that the heat-reduction occurs too promptly to be the result of absorption, and that it must therefore be due to cutaneous stimulation which affects the nerve-regulating mechanism of heat-production through the thermic centre. He states: First, that after ligation of the sciatic nerve in dogs guaiacol, applied to the skin of the leg, fails to reduce the temperature. Second, that when precautions are taken to exclude the vapor of guaiacol from the air inhaled, it never appears in the urine when rubbed into the skin. Third, that the drug acts more profoundly when the surface to which it is applied is kept covered, and that its effect is directly proportional to the extent of surface over which it is applied, and to the greater irritability of certain preparations.

I have recently experimented with guaiacol rubbed gently over the skin of various animals, and I find that in all cases it produces a very remarkable reduction of the normal rectal temperature. In dogs with a normal rectal temperature of 103.8° F., 10 gr. of guaiacol cause a reduction of 4.2°, which begins in about five minutes and continues for five or six hours, when the temperature rises slowly to normal, no other symptoms appearing. In the guinea-pig, with a normal temperature of 102.3° F., 5 gr. of guaiacol produce a reduction of 5° F. In rabbits with a normal temperature of 103 6° F., the reduction produced by five grains of guaiacol amounts to 7.6° F. in an hour. In the pigeon, whose normal rectal temperature is 109° F., I have observed a reduction of 10° in the course of seven hours. (In one of the cases of chronic bronchitis reported by Dr. Dana there was a fall of 9° F.)

To aid in determining whether the reduction was occasioned by increased heat loss, rather than by diminished heat production, I placed several animals in atmospheres slightly warmer than their normal body temperature, after a fall had commenced from the application of guaiacol, and in every instance the body temperature rose again to normal, but fell a second time on removing them to the temperature of the room. Thus to a pigeon with an initial temperature of 109° F., two grains of guaiacol were applied with a brush to the feet merely. In twenty minutes the temperature fell 1.5° F. On being placed in air of its own normal body temperature (which is cooler than that often temporarily inhaled by men and animals in the tropics, and, in fact, in certain parts of this country in midsummer), the rectal temperature rose in twenty minutes to 109.2° F., and again fell below 107° F. on removal. The animal meanwhile appeared in every way normal.

The remarkable changes of temperature which cold-blooded animals like the frog always undergo in adapting themselves to thermic alterations in their environment are not disturbed by guaiacol. A frog in water of 40°, 60°, or 80° F., still takes approximately the temperature of the fluid medium after one grain of guaiacol has been applied to it. Used in somewhat larger quantities, guaiacol is fatal to the lower animals in a few hours, death apparently resulting from heart failure, although the heart is usually found in systole. No macroscopic post-mortem changes are apparent.

For these reasons it does not seem possible that the drug acts in any other manner than by immediate absorption by the blood in the cutaneous vessels. It is difficult to conceive, as maintained by Guinard, that an agent which causes no apparent cutaneous irritation to either man or animals can cause death in the latter by purely reflex action through sensory nerve terminals. Moreover, agents like cantharides, iodine, and mustard, which produce far more local irritation, have no such extraordinary effect in reducing the body heat as measured by the thermometer. In regard to the sciatic nerve experiment above quoted, it should be borne in mind that this is a mixed nerve whose section and consequent irritation profoundly modify vascular tone, and may inhibit absorption as well as abolish the transmission of cutaneous nerve currents. If the drug does not reappear in the urine, as stated by Guinard, this does not necessarily disprove its absorption by the blood—too many different factors control its excretion. Moreover, others[1] have repeatedly observed its presence in the urine after inunction, and when precautions were taken to prevent the guaiacol vapor from entering the lungs.

If the effect of the drug applied to the leg is produced through the sciatic nerve terminals and not through the blood, then it should still act after everything in the leg but that nerve has been ligated. This experiment I performed upon an etherized animal in which the sciatic nerve was left uninjured while the remaining structures of the leg were all included in a very tight ligature. Guaiacol was then painted below the ligature, and during an hour's time there was no fall of temperature. As soon, however, as the opposite sound foot was painted with the guaiacol, the temperature fell at the rate of 1.5° F. in fifteen minutes. In another experiment the spinal cord was severed in an anæsthetized rabbit in the upper dorsal region, five grains of guaiacol were then rubbed into the groin, and in one hour the rectal temperature fell 7° F., but rose 3° when the animal was put for fifteen minutes into an atmosphere a few degrees warmer than its body. In this experiment there could have been no communication between the cutaneous nerves at the site of application of the drug and the medulla, and it must therefore have acted through absorption into the blood.

Whether this particular coal-tar product proves of clinical value or not upon further trial, it certainly possesses phenomenal power over the body temperature, and its method of application offers such decided advantages that one is led to hope that it may at least prove the forerunner of some new and valuable therapeutic agent of the same class.

Dr. Andrew H. Smith said that after having read Dr. DaCosta's article he had used guaiacol in a few cases at the Presbyterian Hospital, but the results had been so

[1] Bard: Lyon Méd., No. 23, 1893.
[2] Sciolla: La Semaine Méd., 1883.
[3] Robillard: Soc. de Biol., Séance du 8 juin, 1893.
[4] Guinard: Bull. Gen. de Thérapeutique, 1893. 4ome liv., p. 339.

[1] Linoissier et Lannois: La Semaine Méd., February 7, 1894. Lannois, Lyon Méd., No. 32, Août 6, 1893.

uncertain that it had been abandoned. Sometimes the temperature fell a few degrees; sometimes it remained unchanged, so that the house-staff had come to take little interest in it.

Dr. Kinnicutt said, with regard to the internal administration of guaiacol, that he had found pretty large doses, twenty or thirty grains a day, produced no evil results. This remark applied to the carbonate also, and he suggested that since this form had not the disagreeable odor of guaiacol, it might perhaps be properly prepared and used externally instead of the latter.

Dr. Farrington was invited to make some remarks, and said that in most cases the fall in temperature was prompt, but in some it seemed to be delayed and did not take place until after the lapse of six or eight hours. The nurse rubbed the drug over six or eight inches square surface of the chest with the tips of her fingers. A strip of rubber prevented much odor spreading in the room. In phthisis, if the highest temperatnre took place at 5 P.M., he began using the guaiacol at 9 A.M., the temperature ceased to rise by 3 P.M., and was thus kept within reasonable bounds. The patients in whom it seemed to have no control over the fever yet expressed relief from the disagreeable paroxysm. Also where the temperature fell but a degree or half a degree, the patients had experienced great comfort from the drug. Only two patients among twenty five or thirty objected at all to the odor. Replying to a question, Dr. Farrington said the pure oil of guaiacol was rubbed on the skin, without admixture with other substances.

Modifications in the Technique of Vaginal Hysterectomy.—Dr. Clement Cleveland read the paper (see p. 777).

Dr. William M Polk thought it advantageous to elevate the buttocks while performing vaginal hysterectomy, since in that position the intestines gravitated out of the way. With a specially devised table the buttocks could readily be lowered during irrigation. The ligature carrier was a valuable instrument, one which he often used. He had not carried out Dr. Cleveland's method in its entirety, but did not doubt that it was a good one. Where the vagina was capacious and the uterus movable, vaginal hysterectomy could be performed with facility, but where the uterus was fixed it was a difficult operation. If in addition to immobility of the uterus the vagina were narrow, the difficulties became so great that he preferred to do the combined operation suggested by Dr. Cleveland some years ago.

Supposing the uterus were fairly movable, and it had been decided to do vaginal hysterectomy, the chief point was, how to control hemorrhage. The principal sources of hemorrhage were the uterine artery and vessels coming from the utero-sacral ligament. The latter constituted the source of annoying hemorrhage more frequently than some had appreciated. Dr. Polk's plan had been to cut down as nearly upon the artery as he could, beginning the incision at the side of the cervix, running down the vagina about an inch, introducing the finger through this opening, and separating the loose tissues about the lower portion of the uterus. If it seemed necessary he made another opening just back of the cervix, entering Douglas's pouch with one finger. Having thus gained access to and mapped out the uterine artery, he encircled it with a ligature carried up with a sort of aneurism needle, having a long shank. The farther out one ligated the vessel the less would be the hemorrhage, but care was required not to go so far as to injure the ureter. One could push the latter out of the way with the finger. It was now important to ligate the utero-sacral ligaments, after which there would be very little bleeding from the posterior wall. The bleeding from the anterior wall amounted to little and could be easily controlled. From this step Dr. Cleveland's suggestion regarding the method of amputation was very valuable. The field was cleared of tissue and any oozing points from vessels which might have escaped the primary ligatures, and, coming from the uterine vessels, could be easily secured. The only other source of hemorrhage would be the ovarian vessels, which one could include in a single ligature, after which the uterus could be removed.

Where the uterus was fixed he thought it better to work from above. The danger of infection, which was nearly always from the body of the uterus, could be obviated by packing with gauze. One could use the ligature below to secure the vaginal artery if he wished, and then open the abdomen and complete the operation from above. Here the advantages of the Trendelenburg posture were very great. Further, after opening the abdomen one could recognize enlarged glands which could not be felt from without, and perhaps learn that it would be useless to subject the woman to the dangers of total removal of the uterus.

Dr. W. T. Lusk said there was no doubt but what, by opening the posterior cul-de-sac and using the finger as a guide in tying the broad ligament, the operation was made very simple where there were no adhesions, but in such cases, the operation, he believed, was simple under any circumstances. But his own experience had been that, where there were adhesions, hysterectomy was not worth doing; the patients had died from three to six months after its performance, much sooner than where the operation had been limited to the lower uterine segment. Schroeder, who, during his lifetime, had been a strenuous supporter of hysterectomy, had admitted that after the malignant disease had advanced beyond a certain point, amputation of the lower uterine segment was followed by a more or less prolonged period of recovery, whereas total removal had led to a promptly fatal result. That had been Dr. Lusk's experience, but he would be glad to learn that that of others had been more favorable.

Dr. Robert Abbe had had no experience with removal of the cancerous uterus. He had operated a number of times for fibroids, not by the vaginal but by the abdominal method. He was under the impression that recent statistics favored the abdominal method in malignant disease also, on account of its enabling one to go out farther toward the side of the pelvis and thus get rid more completely of possible sources of infection. He thought the method described by Dr. Cleveland for removal of the uterus through the vagina must be a very good one. It seemed, however, that stripping the peritoneum up on the posterior wall of the uterus as far as possible above the cervix was unnecessary and objectionable, because, having been in so close contact with the malignant disease, it might be a source of reinfection.

Dr. Polk added that another advantage of the abdominal operation was the fact that it gave opportunity for extirpation of the upper vagina, which was important in cancer of the cervix. While the shock was greater in extirpation of the cancerous uterus from above than from below, yet supra-vaginal extirpation was in its infancy in this disease, and with further experience we had reason to believe the results would come to be much more favorable, as they were already in removal for fibroids.

Dr. Cleveland, in closing the discussion, said he thought Trendelenburg's position was an excellent one for doing the operation, but it was objectionable with regard to drainage. The blood settled toward the diaphragm, formed clots, and adhered to the intestine and all tissues with which it came in contact.

He did not believe in removal of the uterus for cancer when there were adhesions of much extent. If it were decided to remove the organ in the presence of extensive adhesions, it were better to operate through the abdomen, but for his own part he preferred to let such cases alone. As to removal of the tubes and ovaries, he thought that where the disease was not so extensive as to contra-indicate hysterectomy, it was just as well to leave those organs in; their presence made little difference if the patient had reached the menopause. In cancer of the body of the uterus, he thought Dr. Abbe's remarks held good.

Dr. Andrew H. Smith had used salicylic acid externally in the manner described by Dr. Kinnicutt, in one case of rheumatism affecting the ankle joint, the temper-

ature fell rapidly, and the effect had been very satisfactory.

Dr. Dana said that in his service at Bellevue he had had salicylic acid employed externally in a manner which he thought was even better than that described by Dr. Kinnicutt. The joint was painted with an alcoholic solution of salicylic acid and a little menthol. It was readily absorbed.

(To be concluded.)

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE INFLUENCE OF SOIL ON THE BACILLI OF CHOLERA AND TYPHOID.

London, May 30, 1894.

An important paper was read and discussed at the last meeting of the Medical and Chirurgical Society on the influence of different kinds of soil on the comma and typhoid organisms. It contains the result of a research which was carried out in Professor Macfadyen's laboratory at the British Institute of Preventive Medicine. This research was undertaken with a view to answering the following question: Had the soil in itself any action favorable or injurious to the life of the comma bacillus of cholera Asiatica and the bacillus of typhoid fever, or did the length of life of these organisms in soil simply depend upon the amount of moisture that might be present? The action of the saprophytic bacteria present in the soil was left out of consideration. Sterilized soils alone were used. The experiments were carried out with white crystal sand, yellow sand, garden earth, and peat. These were sterilized by means of moist heat. In white crystal sand, comma bacilli were alive on third but dead on fourth day; in yellow sand, alive on third but dead on fourth day; in garden earth, alive on third but dead on fourth day. The comma bacilli must have died, therefore, between the third and fourth days. Experiments were next made with a moist soil, which, however, contained no excess of moisture. In moist white crystal sand, comma bacilli were alive on the seventh day; in moist yellow sand, comma bacilli were alive on the thirty third day; in moist garden earth, they were alive on the thirty-third day.

Experiments were made to find the length of time comma bacilli would live in a soil when any excess of moisture was allowed to pass through the soil, but where little or no loss of moisture took place from the surface. Under such conditions the bacilli were alive in white crystal sand on the twenty-eighth day, in yellow sand on the sixty-eighth day, and in garden earth on the sixty-eighth day. In a soil deprived of its moisture the comma bacilli did not live longer than one to two days. In white silver sand, when moisture was allowed to escape, the bacilli were alive on the third day, but dead on the eighth day; but if evaporation of water was prevented, the comma bacilli were alive on the forty-seventh day. In white crystal sand, where evaporation was allowed to take place, the bacilli were still alive on the twenty-seventh day, with 1.57 per cent. of moisture in the sand. The bacilli were dead on the thirtieth day with 0.66 per cent. of moisture in the sand. When evaporation was prevented, the bacilli were alive on the one hundred and seventy-fourth day, and the sand still contained 7.1 per cent. of moisture: showing a close relation between the amount of moisture in the soil and the length of life of the organisms. With regard to peat, it was found that the comma bacilli were invariably dead in twenty four to twenty-six hours, independently of the amount of moisture that might be present. In sterilized 0.75 per cent. salt solution, the bacilli were still alive on the one hundred and seventy-fourth day. In sterilized urine the bacilli lived at blood-heat for fourteen days and at 22° C. for twenty-nine days.

Next as to the bacillus of typhoid fever on a dry soil where evaporation was allowed to take place: in white crystal sand the bacilli were found up to the ninth day, in yellow sand up to the eighteenth day, and in garden earth up to the fourteenth day; but in moist crystal sand the typhoid bacilli were alive on the twenty third day, in yellow sand and in garden earth on the forty-second day. On soils which had been deprived of their moisture the bacilli were only found up to the seventh day.

Experiments made with peat showed that on this soil the bacilli did not survive longer than twenty four hours. Peat was the only one of the four soils used which exercised a distinct destructive action on the organisms, independently of the amount of moisture present. Experiments made to test the filtering capacity of the soils showed that with a filter six inches thick, white crystal sand held back 99.6 per cent. comma bacilli, yellow sand held back 99 9 per cent. comma bacilli, garden earth held back eighty-nine per cent. comma bacilli, and peat held back one hundred per cent. comma bacilli. On the other hand, a current of water could carry the comma organisms through two feet and a half of porous soil. Conclusions: White crystal sand, yellow sand, and garden earth had no marked action on the organisms—their length of life in the soil depending chiefly on the amount of moisture. Peat, on the contrary, was very deadly to both the comma bacillus and the typhoid bacillus. The soil acted as a good filter, holding back most of the organisms; but it was possible for them to be carried through two feet and a half of porous soil by a current of water.

Brigade Surgeon Scriven said the research showed that one soil at least was hostile to the comma bacillus. In India they recognized certain places as being out of the cholera area, such as Multan in the Punjaub, while the neighboring district of Lahore was often decimated. It would be most useful to regiments moving to escape cholera to know of a soil deadly to the bacillus. Cholera did not last long upon a dry soil, but it was always present in damp Bengal, where cases often broke out apparently sporadically. The tendency of the research was to bring us nearer to acknowledging the possibility of the *de novo* production of disease; for if the bacillus could live for one hundred and seventy four days in soil, it would not be possible to prove its previous existence in another person.

Murchison held this view with regard to typhoid. While a moderate amount of wet was favorable to the development of cholera, a heavy rain was inimical, for it washed the bacilli down into the soil.

Dr. Washburn thought Dr. Dempster's research confirmed the work of previous workers, some of which he mentioned. He asked what was the reaction of peat and what salts it contained, and also if it contained a number of saprophytic bacteria.

Mr. Ward Humphreys said that the water-supply of Cheltenham had hitherto come from the hills, but it was now proposed to bring in a further supply from the Severn. The Worcester sewage went into the river just above the proposed intake, and asked if the well-known presence of peat in the Severn water would, in solution, act injuriously on any bacilli that might be present.

Dr. Kenneth MacLeod referred to the researches of Douglas Cunningham on typhoid bacilli in milk. He could not admit it to be absolutely demonstrated that the bacillus was the *causa causans* of cholera, though that view served as a good working hypothesis. Temperature was also important, and had a good deal to do with the development of cholera. There were degrees of moisture unfavorable to its development; too much moisture stopped it. Great excess and great diminution of heat were also unfavorable.

Dr. Cayley said that typhoid fever was at present extremely prevalent among the English troops in India, under circumstances which were not connected with the contamination of water or of milk, but it appeared to be spread by dust. As Uffelman had shown that the

bacillus of typhoid fever could live for ten weeks in dry earth and for forty days on dry wool, it was quite possible for bacilli in dust to be alive and active. If this were true it demonstrated the fallacy, in a dry country like India, of further developing the dry earth latrine system, for the earth impregnated with typhoid stools and spread upon the land might be one cause of the recent extension of typhoid fever in India.

Mr. Shirley Murphy said that the favorable action of moisture in the development of typhoid bacilli might help to account for its constant prevalence in certain districts in the East of London.

Dr. Allan Macfadyen replied, in the absence through illness of Dr. Dempster, who, he said, was aware, at the time that he started the investigations, that the path he was taking was not a novel one, but the importance of the subject led him to pursue it. He himself was of opinion that the truth lay between the view of Pettenhofer and that of Koch. Experiments conducted upon the surface soil were most important, because the surface-soil was most likely to be contaminated by pathogenic organisms from man, etc.; and acting as it did as an efficient filter, it retained a large number of such organisms in its upper layers. The deeper layers of the surface soil did not possess a suitable temperature for the continued life of pathogenic bacteria; and, again, the influence of saprophytic bacteria was only exerted in the uppermost layers of the soil. For practical purposes the surface-soil could be regarded as consisting of three layers: 1, The extreme superficial layer, which was usually either very dry or very moist; 2, an intermediate layer, which was always damp, and which did not admit of evaporation; and 3, a deeper layer, lying immediately above the subsoil, which was kept wet by capillarity from the subsoil. The three factors to be considered in studying the questions raised in the paper were the soil, the water, and the action of other bacteria. The paper itself dealt with the first two of these, and, with regard to the third, a later communication would be made; but they had ascertained already that organisms would live in soil a long time side by side with saprophytic organisms. Peat contained a large number of spores of bacteria, and a point for their future investigation would be to compare the number of bacteria present in peat with those in other soils. The peat was acid in reaction, and some complex soil acids were present. At present no direct experiments had been made with peat in solution. They were now engaged in working out the effect of the presence of filth on the growth of the micro-organisms. There was evidence to show that temperature also played an important part. The presence of summer heat and of a salt solution lengthened the life of a comma bacillus. In conclusion, Dr. Macfadyen bore testimony to the patience with which Dr. Dempster had conducted these experiments, and expressed gratitude to Mr. Cobb, the founder of the scholarship, who had so generously defrayed the expenses of this important research.

A REPLY FROM "FAIR PLAY."

To the Editor of the Medical Record.

Sir: Through some delay in my accustomed perusal of your interesting columns, I have only just learned, and to my surprise, that Dr. C. has undertaken to reply to my discussion of an important general principle:

1, By recapitulating the facts I had already related;

2, By dragging into the controversy a number of personal details, entirely irrelevant to the question at issue. I had no personal grievance against Dr. C. (unless that he took no notice of my personal written protest until it had appeared in carefully veiled form in the Medical Record); and had I had one, I should not have burdened even your friendly columns with it. But I am seriously interested in principles of delicate honor and sincerity in professional relations; and have always felt that both were liable to be lacking when the famous New Code principles, about which so much controversy was waged, should be applied in practice. So I find reiterated observations of facts, near at hand to me, have taught me that it is very possible to build up a large family practice, though invariably refusing to accept a call from any one but the patient or the really responsible member of the family; and a large consulting practice, though steadily declining to listen to the "dictates of humanity" in regard to Mr. A., B., or C. who "was very ill," unless at the written or oral request of the attending physician. It is therefore not only theoretically just, but practically useful, both to self and patient, to be, first, a physician; secondly, a man; and thirdly, a man of business; and it is not necessary in any interest to reverse this order of sequence.

Pardon me for this further intrusion on your valuable space, which trespass I will not again commit.

Fair Play.

Therapeutic Hints.

Perityphlitis.—One hundred cases of peritionitis from perforation of the vermiform appendix were found in 18,000 autopsies in the Pathological Institute of Munich. Ninety-one per cent. of the cases are due to perforation of the appendix. Primary perforation of the cæcum occurs in only nine per cent. Perforation of the vermiform process is seldom caused by the presence of foreign bodies, and in such cases usually by hardened and inspissated masses of fæcal matter.—H. Einhorn.

Tetanoid Convulsions of Peripheral Origin in an Infant.—Excision of umbilicus, immediate improvement.—Ronaldson.

Intussusception.—Inflation does not appear to be safer than injection, and neither is advisable as a prelude to laparotomy.—Mortimer.

Appendicitis.—By the second or third day, and with strong reasons later, the operation should be done if the following indications are present: 1. If there is abdominal pain most marked in the right iliac fossa. 2. If there is rigidity of the right abdominal wall. 3. If there is fever up to 100 or 102 degrees F. 4. If by a minute and careful palpation tumefaction and increased resistance can be discovered, with possible dulness and rarely fluctuation. 5. If there is œdema of the abdominal wall.—Keen.

Bromides, combined with opium, will often prevent the nauseating effects that opium has on many persons.—Hare.

Chloral, when the nervous irritability of alcoholism requires it as a sedative, should be combined with strychnine.—Hare.

Picric Acid for Superficial Burns.—Wet gauze compresses with a saturated solution of picric acid, wring them dry, and apply directly to the surface of superficial burns. If the dressing remains antiseptic, it does not require frequent changing, not oftener than every three days at first, then every five days. No impermeable protective covering is necessary, for the gauze compresses dry on the burn. Picric acid is antiseptic and healing, and allays pain.—Tilleul.

Protection of Boys from Assault.—Mr. Tait insists that the criminal law should be amended in order to protect boys against being induced by adult women to have sexual intercourse with them. According to Mr. Tait this is by no means a rare offence; "relatively," he says, "I am not sure if it is not as common as its converse." There is no doubt that, while every protection is afforded to the female sex by the act in question, the male sex are placed at a great disadvantage, not only in the manner pointed out by Mr. Tait, but also in the power which women possess of bringing false charges against men.

Medical Items.

Contagious Diseases — Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 16, 1894.

	Cases.	Deaths.
Tuberculosis	145	94
Typhoid fever	10	4
Scarlet fever	114	18
Cerebro-spinal meningitis	5	6
Measles	122	9
Diphtheria	244	43
Small-pox	15	3
Cholera	0	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0

Guaiacol is recommended for the relief of various neuralgic and muscular pains. It is mixed with equal parts of glycerine and applied to the painful region.

Disease in Railroad Coaches —In the laboratory of the Imperial Board of Health of Germany experiments have recently been made which show that the seeds of consumption were found in abundance in the dust collected, not only on the floors, but on the walls and seats of carriages. Samples of dust were taken from 45 compartments of 21 different passenger cars and 117 animals were inoculated with them. Part of these died very soon thereafter of various contagious diseases before they had time to develop consumption; of the rest, killed four to six weeks after inoculation, three had tubercles. These three, however, were inoculated with sleeping-carriage dust, taken, not from the floor, but from the walls, cushions, and ceilings. Bacteria at the rate of 78,800 per square inch were found on the floor of a fourth class carriage, and 34,400, 27,000, and 16,500 per square inch on the floors of the third, second, and first-class carriages. Thus, even in the latter, the average passenger, who usually has at least half a compartment to himself, say 3.000 square inches of floor, has an army of 49,500,000 deadly enemies aiming at his vitals on the floor alone, to say nothing of other millions in front and rear, on both flanks, and overhead. It would seem impossible to escape; but the Board of Health is said to have reported measures for removing or reducing the danger which the railroads are considering.

Glycerophosphates and their Therapeutical Uses.—Dr. Albert Robin, professeur-agrégé of the Paris Faculty, can lay claim to the distinction of having created as much sensation last week by the announcement of his discovery of the glycerophosphatic treatment as the late Dr. Brown-Séquard did with his orchitic extract. Inspired by the fact that many neurasthenics void in their urine comparatively large quantities of incompletely oxidized phosphorus, the source of which is probably the lecithin of the nerve-tissues, the idea occurred to him that this nerve waste could be best met by supplying the system with phosphorus in organic combination most nearly approaching to that under which it exists as lecithin in the nerve centres. Since 1888 Dr. Robin has experimented with the glycerophosphates of calcium, sodium, and potassium, either isolated or associated, and both subcutaneously and through the stomach. He asserts that their influence on nutrition is indisputable. Thus, the hypodermic injection of twenty-five centigrammes of glycerophosphate of lime increases the total residue of the urine, the only ingredients remaining unaffected being the uric and phosphoric acids, the latter body appearing to undergo diminution. The glycerophosphates seem to act antagonistically to antipyrin, which is the remedy for heightened nervous excitability. Their action when swallowed is less marked than when they are introduced into the system through the lymphatics. Dr. Robin claims to have had successes in the following conditions: convalescence from influenza, and certain infectious diseases; nervous depression; neurasthenic phosphaturia; torpid form of chlorosis characterized by diminished oxidation of proteids; phosphaturic albuminuria; and simple phosphaturia. He further cites the case of a young man, aged twenty three, affected with Addison's disease, and very thin and weak. Twenty five centigrammes of glycerophosphate of lime injected subcutaneously daily, from January 5th to the 25th, brought up his weight from fifty six to fifty-nine kilogrammes, and restored his strength in a remarkable degree. He resumed his work on February 9th, and the improvement had continued up to April 5th, although the pigmentation persisted. Dr. Robin opines that the really active agent in testicular juice is phosphorus in organic combination, and that its frequent failure in this form may be explained by the instability of the gland extract. This instability is avoided when the artificial product is employed.—*The Lancet.*

From Iron to Hæmoglobin.—The absorption of iron by the body, though very important and interesting, is exceedingly difficult to trace, because when iron unites with organic substances its reactions are masked. The investigations of Professor A. B. Macallum, of Toronto University, lead him to conclude that hæmoglobin is formed from nuclein, and possibly from prozymogen. His experiments in feeding the inorganic compounds of iron to guinea-pigs and other animals showed that the intestinal mucosa absorbed these to an extent which varied with the nature of the compound and with the quantity fed. With small doses absorption occurred only in that portion of the small intestine adjacent to the pylorus, extending only a few inches from the stomach. When one large dose was given, the absorptive area sometimes included all of the small intestine. With the small dose the result appears to depend on the complete precipitation, as hydroxide, of the iron of the salt unabsorbed in the thoroughly mixed bile, chyme, and pancreatic juice. With one large dose the alkalinity of those fluids is first destroyed by the iron salt, the great excess of which is unaffected, and remaining in solution undergoes absorption. When the amount absorbed is small, the intestinal epithelial cells transfer the absorbed iron at once to the underlying elements, but with a large amount absorbed the epithelial cells are found to contain some of it. A part of the absorbed iron is carried into the general blood circulation by the sub-epithelial leucocytes of the villi, but it is probable that the blood plasma is the more important agent in the transferrence of the inorganic iron to other parts of the body. The administration of the albuminate or of the peptonate of iron to guinea-pigs seemed to stimulate the leucocytes to invade the epithelial layer of the intestinal villi. The mode of absorption of the organic compound of iron present in egg-yolk was obscure, but the process seemed to be connected with the fat which is so closely associated with the iron compound formed in egg-yolk. The liver and the kidney, in man, are the most active organs in the excretion of any excess of iron thus absorbed by the lining cells of the small intestine to help form the hæmoglobin of the red blood-cell.

The Holy Coat of Treves.—The Bishop of Treves has published a book recounting eleven miraculous cures effected during the exposition of the Holy Coat in that city in 1891. One case was that of a child named Wecker, who, according to a certificate signed by Dr. Koeller, of Berlin, was suffering from intestinal tuberculosis. He was taken to Treves and allowed to touch the relic, and was then pronounced cured. Drs. Koeller and Schultze, of Berlin, certify that the boy is now in good health. The good bishop holds that the boy could not have been cured by natural means, and that therefore his present condition of health is evidence that a miracle has taken place.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 45, No. 26.
Whole No. 1234.

NEW YORK, JUNE 30, 1894.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

A CASE OF ACUTE INFLAMMATION OF THE MIDDLE EAR, TERMINATING IN PURULENT PERIPHLEBITIS OF THE LATERAL SINUS; OPERATION; RECOVERY.[1]

BY ALBERT H. BUCK, M.D.,

NEW YORK.

CLINICAL PROFESSOR OF THE DISEASES OF THE EAR, COLLEGE OF PHYSICIANS AND SURGEONS, COLUMBIA COLLEGE, NEW YORK; CONSULTING AURAL SURGEON, NEW YORK EYE AND EAR INFIRMARY AND THE PRESBYTERIAN HOSPITAL.

THE patient, a man of strong physique, about fifty four years of age, consulted me on January 29, 1894, for the relief of pain in the left ear. For several days previously he had been suffering from a "cold in the head," and on the preceding day he had taken a sleigh ride; but he had not been conscious of having experienced at the time any chilling of the body. The pain had first been felt early in the morning of the day following that on which he took the sleigh ride—that is, only a few hours before he came to my office. I examined the ear, and found the membrana tympani, especially the upper half, markedly hyperæmic. There was also a decidedly congested and swollen condition of the naso pharyngeal mucous membrane. No secretion had as yet accumulated in the drum cavity. An application of a fifteen-grain silver nitrate solution was made to the vault of the pharynx, and hot poulticing and rest in bed were prescribed.

On the following day I visited the patient at his home, and found that he had experienced very little if any relief from the pain in the ear. The appearance of the drum membrane showed that the drum cavity was already full of secretion and that the inflammation was increasing in violence, despite the hot and moist applications. I accordingly made a long, crescent shaped incision in the posterior half of the membrane, affording a free outlet to the pent-up, blood-stained serum, and I ordered a continuance of the poulticing and the free use of the hot-water douche.

The paracentesis afforded a measurable degree of relief, but only for a short time. On February 3d, 5th, 7th, and 10th it was found necessary, on account of the rapidity with which the opening healed, and on account of the return of pain whenever the opening ceased to be of fairly large size, to repeat the paracentesis. Soon after the first operation the discharge became purulent in character and quite abundant. On February 11th or 12th there was slight tenderness on pressure behind the ear, and accordingly three leeches were applied to this region.

On the 14th, as the leeches had afforded only temporary relief, a Wilde's incision was made; and on the following day a seton was established at this point. A very broad, curved needle (made specially for the purpose), with cutting edges and armed with six or eight threads of coarse silk, was introduced at the bottom of the Wilde's incision and pushed out backward through the skin at a spot about one inch distant from the point where it had entered.

The discharge from this artificial sinus, kept in an irritated condition by the presence of the mass of silk, failed to exert any marked impression upon the amount of discharge from the middle ear or upon the subjective pain experienced by the patient. After the seton had been in place for four or five days, the patient had a sharp chill, which lasted for a few minutes, but was not followed by any appreciable rise in temperature. (The patient's body temperature was tested nearly every day and sometimes twice a day, but it was always found to be either normal, or at most two- or three-tenths of a degree above the normal.) At the time, I felt confident that this chill was due to the imprisonment of pus in the seton channel; for when I examined the parts, one or two hours afterward, I found both orifices practically closed by the drying up and caking of the discharge at these points, and even in the light of later developments I am still disposed to look upon this as the correct explanation.

On February 21st Dr. Herman Knapp saw the patient with me in consultation. The pain had not been materially diminished by any of the measures which I had instituted—repeated paracenteses, hot poulticing and frequent douching of the external auditory canal, the application of leeches to the mastoid region, a Wilde's incision followed by the introduction of a seton, an occasional dose of calomel, the daily employment of the Carlsbad Sprudel salts, etc.—and it was becoming more distinctly hemicranial in character. I therefore felt that the time had arrived when it would be wise to establish a free outlet from the mastoid antrum through the mass of bone lying outside of it. On this particular day, however, the patient felt decidedly better than he had felt for several days previously, and we accordingly agreed to postpone, at least for the moment, the consideration of the question of operative interference. It was decided, however, to remove the seton, for it was apparently accomplishing no good purpose, and yet, at the same time, it was preventing us from estimating correctly, by aid of such signs as tenderness on pressure, swelling, etc., of the skin, how the underlying mastoid inflammation was behaving. Dr. Knapp's examination of the patient's left eye with the ophthalmoscope gave a negative result.

On the following day (February 22d), the patient once more complained of decided pain in and around the ear; and, as the opening in the drum membrane had by this time again become insufficiently large for free drainage of the inflamed middle ear, I excised a small portion of it by first making a flap (with its base below) and then snaring off its upper free extremity. The incision which marked the posterior limit of this flap approached very closely to the curved line corresponding to the insertion of the membrana tympani in the sulcus tympanicus, and as the knife passed through the thickened tissues of the membrane there was a sudden escape of thick creamy pus quite different from the muco purulent secretion escaping from the old opening in the membrane. By further manipulations I succeeded in dislodging, through the opening, a core-like mass as large as a No. 3 shot. The introduction of a bent middle-ear probe revealed the fact that the posterior wall of the cavity from which this creamy pus and this core-like mass of broken down tissue had been evacuated was bone denuded of its covering of mucous membrane. In other words, I had accidentally evacuated a separate collection of pus, located at the posterior end of the tympanic cavity, between the surface of the bone and the mucous membrane (periosteum) just beneath the entrance to the mastoid antrum. In the natural state the bone at this point is somewhat rough and irregular. From the sense

[1] Paper read before the American Otological Society at its meeting in Washington, D. C., May 29, 1894.

of touch alone, therefore, I could draw no safe conclusion as to its condition. There could be no doubt, however, about its being in a state of inflammation.

The relief afforded by this operation was but very little if at all greater than that afforded by my previous simple paracenteses.

On March 1st Dr. Knapp again saw the patient with me, and it was decided to cut down to the antrum. The operation was performed in the usual manner. No well-marked pneumatic cells were encountered until I had chiselled away the bone to a depth of nearly half an inch. These cells were all found to be filled with granulation tissue, and at all points the bone substance was found to be in a condition of marked hyperæmia. Close to the antrum, however, it was found to be of a bluish-black color and softened. No pus was encountered until the antrum was reached, and then only a barely recognizable amount. Every portion of the wound, the antrum, and the tympanic cavity proper, was thoroughly irrigated with a 1 to 4,000 bichloride solution: the fluid escaping freely from the middle ear into the external auditory canal. No sutures were employed, and the wound was dressed with iodoform gauze.

From March 1st to the 16th nothing worthy of special note occurred. The operation caused the pain to almost disappear at first, but gradually it returned and steadily increased up to the date last mentioned. Then, in the belief that there might perhaps be some obstruction to the free escape of pus, I reopened the wound freely, and, with a Volkmann's spoon, cleared away all the granulation tissue which had formed in the antrum and in the excavation made in the bone, outside of the antrum. This procedure, however, afforded only temporary relief. From time to time during the following three weeks I tried different kinds of drainage-tubes and contrivances, in the hope of securing complete freedom from pressure upon the mass of escaping pus; for whenever I succeeded in accomplishing this, even for a short time, I observed that the patient experienced comparative freedom from pain. But the discharge was abundant and granulation tissue repeatedly blocked the openings in the drainage-tube, thus re establishing the condition of pressure which was so undesirable. It was during this period that the patient had the second and last chill that he experienced during the entire illness. The drainage-tube, at the time, was completely blocked, and there was an appreciable increase in tension of the skin surrounding the outlet. I am unable to state whether this second chill was or was not associated with a rise in the body temperature.

Toward the end of the period now under consideration there was a noticeable increase in the redness and swelling of the integuments covering the lower and posterior part of the mastoid process, and the lateral movements of the head caused some distress. But there was no tenderness along the side of the neck, and the tenderness over the tip and posterior aspect of the mastoid bone was but little if at all greater than one usually finds in the vicinity of a still open mastoid wound. The discharge, however, was more copious than it should be from such a wound, and I made up my mind that there must be a centre of active osteitis in the lower part of the mastoid bone. Accordingly, on April 9th, the patient was put under the influence of chloroform, and a considerable portion of the lower part of the mastoid process was removed by chiselling. No centre of pus was found, but everywhere the bone appeared to be in a markedly hyperæmic state.

During the week following this operation the patient's condition steadily grew worse in the following respects: The movements of the head became more painful, there began to be an appreciable degree of tenderness below the mastoid process, and the swelling, tenderness, and pain in the region lying between the mastoid bone and the occiput increased to an appreciable degree. Then, besides, he found that he could read for only a short time, on account of the pain which it produced in the left eye. On the other hand, the body temperature did not rise above 99 4° F., the pulse-rate did not exceed eighty two beats to the minute, and the patient continued to take his food with relish. The symptoms just enumerated, however, satisfied me that the inflammation was extending in a backward and perhaps inward direction, and that a bolder search for some centre of pus should be made in these directions. This conclusion was still further strengthened by my finding, on April 13th, that pus from some new source, situated below the artificial opening in the bone, was burrowing down the side of the neck in front of the sterno cleido mastoid muscle.

On April 14th the patient was brought under the influence of chloroform, and I proceeded to chisel away the outer and posterior surface of the mastoid process. At all points the bone was found to be markedly hyperæmic, but no pus or appreciable softening of the bone substance was found until the immediate wall of the channel for the lateral sinus (sigmoid groove) was reached. At this point, situated at a depth of fully half an inch from the outer surface of the mastoid process, the bone seemed to have undergone a certain degree of softening, and odorless, creamy pus welled up from this cavity as soon as the chisel cut through the surrounding softened wall of bone. By means partly of the chisel and partly of a medium-sized Volkmann's spoon I enlarged the opening until it measured about three-eighths of an inch in diameter. The outer wall of the exposed vein was found to be granulating, but not softened, so far as I could judge from pressure with the probe. The absence of all tension warranted the belief that the vein was thrombosed at this point. So far as I could judge, the pus surrounding the vein came partly from some point higher up and partly from below. I fully expected to discover roughened bone, or the opening of a fistula, at some point along the anterior aspect of the sigmoid groove; but my probe revealed no such point.

The situation of affairs, as brought to light more fully by this operation, made me feel that I could no longer do full justice to the case; that, in the further search for centres of pus, regions would have to be laid bare with which I did not feel myself to be sufficiently familiar; and that, therefore, a general surgeon should be summoned. Accordingly, Dr. Theodore Lange was invited to take charge. The patient was once more anæsthetized (April 16th), and Dr. Lange proceeded first to expose thoroughly the downward track of the pus along the jugular vein. Then he removed, by chiselling and by the use of the rongeur forceps, all that remained of the mastoid process; thus laying bare the jugular vein from its situation in the sigmoid groove down to a point perhaps one inch below the level of the tip of the mastoid process. All of the jugular vein thus exposed to view was evidently in a thrombosed condition, as its walls showed no changes in tension when firm pressure was made upon the side of the neck, lower down, or when the patient coughed. Dr. Lange also removed, in an upward direction, enough of the squamous portion of the temporal bone, where it forms the outer wall of the vertical part of the lateral sinus, to give him free access to any collection of pus that might exist in this part of the cranial cavity. No such collection, however, was found. Then, finally, he worked his way cautiously downward and inward until he had exposed the styloid process, the trunk of the facial nerve as it emerges from the stylo mastoid foramen, and the region beneath the foramen lacerum. The probe was passed through this opening into the cranial cavity; but no collection of pus was found. All this work, I scarcely need to state, was performed under constant aseptic and antiseptic precautions. After the operation was completed, a drainage-tube was laid in the wound, with its inner end resting against the deepest part of the excavation, and iodoform gauze was packed around it. A few turns of a bichloride gauze bandage served to keep the dressings well in place.

On the day following the operation the temperature

rose to 100.4° F., and then gradually fell, during the course of the following week, to normal. The pain in the left eye brought on by reading, gradually disappeared, and with it the slight alterations observed by Dr. Knapp, shortly after the operation, in the fundus of the eye. At the end of three weeks the patient was allowed to leave his bed, and at the present time of writing (May 27th), the wound has progressed so far toward healing that its complete cicatrization may be looked for in the course of the next two or three weeks. No drawbacks of any kind have occurred during this period.

The discharge from the middle ear, by way of the external auditory canal, ceased on the third or fourth day after the first operation upon the mastoid process; but on two or three subsequent occasions it returned for brief periods of time. It was not clear to what these slight relapses were due; but it is probable that some interference with the drainage from the antrum, by way of the outside wound, caused sufficient back pressure to reopen the perforation in the membrana tympani.

Throughout almost the entire attack the hearing in the affected ear remained fairly good, and soon after the last operation it returned to a practically normal condition.

Comments.—The most striking feature in this case, as it seems to me, is to be found in the fact that the disease began, almost at the very start, as an osteitis. There was, it is true, the usual antecedent naso-pharyngeal inflammation, and this inflammation spread in the usual manner to the mucous membrane of the middle ear. But the course which it pursued, after it had reached the latter cavity, was certainly very different from that which we are accustomed to see in the vast majority of cases. I have often said to myself, and have perhaps expressed the view to others, that if an acute inflammation of the middle ear (not associated with diphtheria, measles, scarlet fever, small pox, or typhoid fever) could be subjected to suitable treatment within the first twenty-four hours it would never progress so far as to seriously involve the neighboring mastoid process. In the present instance the patient presented himself within a few hours of the time when he felt the first twinges of pain in the ear. Simple antiphlogistic measures were employed immediately, and then, as soon as any secretion had accumulated in the drum cavity—that is, at the end of twenty-four hours—a very free opening was made in the drum membrane, in order that intra-tympanic pressure—the factor which is believed to play perhaps the most important part in the aggravation and further spread of an acute middle-ear inflammation—might be quickly done away with. But it is evident that in the present instance only a very transient beneficial effect was produced by this and the succeeding efforts to reduce intra-tympanic pressure to a minimum, or by the other antiphlogistic measures employed. The most plausible explanation of this lack of success in arresting the inflammation is to be found, I believe, in the assumption—which is strengthened by the facts revealed in the later course of the disease—that already at this early stage the inflammation of the adjacent bone, particularly that portion which lies near the posterior end of the tympanum and around the antrum, had gathered considerable headway. It is not unlikely, furthermore, that there may have been certain anatomical peculiarities which rendered this mastoid bone more than ordinarily liable to participate in any inflammation that might develop in the contiguous tympanic mucous membrane. As favoring this view, I may mention the facts that seventeen years ago I operated upon this same patient's right mastoid process, and that one of the most troublesome features in the case was an obstinate tendency to the formation of firm granulation-tissue around a small spot of bone caries situated at the posterior end of the tympanum, just beneath the entrance to the antrum.

The absence of fever and of chills (the two mentioned in the history of the case were, I believe, due to special conditions) may also be noted as something unusual. The absence of these symptoms probably indicated that up to the time of my last operation the inflammation had not gone much beyond the stage of periphlebitis of the lateral sinus, and that whatever actual phlebitis existed must have been of a mild, non-infective character, simply active enough to create a thrombus.

The present case and others of a more or less similar nature that are to be found recorded in medical literature justify the establishment of a rule something like the following: *The persistence of deep seated pain behind the mastoid process, continuing after the antrum has been opened into and thoroughly drained, is sufficient warrant for making an opening into the sigmoid groove for the lateral sinus; and it is not advisable to wait until the patient has chills, or until the body temperature rises to an appreciable degree, before resorting to operative interference in this direction.* If we wait for the corroborative evidence furnished by the symptoms last named, we shall lose lives that might otherwise be saved.

SCORBUTUS IN INFANCY.

By WALTER LESTER CARR, M.D.,

NEW YORK.

As an introduction to a brief clinical paper on "Scorbutus in Infancy," the following report of a case is of interest.[2]

A. W——, male, born January 26, 1893, was nursed for a few days and then given cow's milk, as his mother's supply failed, owing to her want of strength caused by nephritis. The baby thrived on cow's milk and was a well-nourished, healthy infant. At the age of five months he was taken away from New York, and the food was changed to malted milk, which was afterward replaced by lacta preparata. From the mother I learned the following:

In July the baby had diarrhœa, which increased in severity and was accompanied by vomiting. There was, probably, an entero colitis, as blood and mucus were seen in the movements, which were very offensive. "Small spots like bites" were observed on the body and legs, but ecchymoses were not noticed. The proprietary food was persisted in, although the baby failed to improve with its use. Swellings appeared around the knee joints and were spoken of as "rheumatic." A grave prognosis was given.

The infant was aged nine months when he was brought back to New York. When I first saw him he was lying extended on a pillow, and did not seem to have enough strength to move. He was extremely emaciated and anæmic. His face wore an anxious expression and his complexion was an earthy white. The skin was dry and desquamating. There was a papular eruption on the upper part of the trunk and the buttocks were erythematous. There were no evidences of subcutaneous hemorrhages or discolorations. The head was comparatively large, with the forehead square and the anterior fontanelle well open. The back of the head was almost denuded of hair, and was bathed in a profuse perspiration which wet the pillow. The neck and shoulders showed the same transudation. There was no cranio tabes. The examination of the occipital region occasioned pain, but not more severe than when any part of the body was handled. The dread of being touched was so great that the little patient would utter agonizing screams whenever anyone came near him. When he cried he did not move his limbs as is observed in a healthy baby. The thighs were swollen over the lower half, but the swellings did not extend into the joints, being limited by the epiphyseal junction. The right thigh was larger than the left. Enlargement of the epiphyses was evident. Below the knees there were swellings over the tibiæ. The synovial sheaths did not appear to have undergone any change; it was impossible to detect thickening or increase of fluid. Induration or œdema of the muscles did not exist.

[1] Read before the Medical Society of the County of New York, April 23, 1894, and by invitation before the Medical Society of New Jersey, June 27, 1894.

[2] See also report of Case of Scorbutus in an Infant, MEDICAL RECORD, October, 8, 1892.

The skin was not glazed, nor was there heat, redness, or venous stasis. Bony crepitus could not be elicited.

The forearms presented well-marked swellings over the lower ends of radii and ulnæ, just above their epiphyseal lines—the left arm being more enlarged than the right. The swellings covered the lower third of the shafts of the bones. A considerable enlargement of the distal epiphyses gave further evidence, if that were needed, of the rachitis. The upper third of the humeri were exquisitely tender, but no swellings could be detected. The scapulæ were not thickened. The ankles were slightly œdematous but the hip- and elbow-joints were normal. The ribs were not beaded, but the thorax was indented corresponding to the attachments of the diaphragm. A few, large moist râles were heard over the lungs. The abdomen was not enlarged, but was tender on pressure. The liver and spleen were normal. The lymphatic glands in the groins and cervical region were as large as peas and could be rolled under the fingers. The gums were not swollen, and petechiæ were not to be seen. As the teeth had not been erupted the appearance of the mouth could not be accepted as diagnostic. The tongue had a yellowish-white coating, and the breath was not offensive. All of the mucous membrane was pale. The temperature in the rectum was 100° F.; the pulse was 122, and the respirations 27. The urine was normal. The blood was not examined.

A trained nurse was secured for the baby, and he was placed in her care with orders to feed him fresh beef juice, fresh milk, orange juice, and brandy. The brandy was ordered because of the extreme weakness. Paregoric was administered to ease the pain and relieve the intestinal irritation. Local applications of alcohol and belladonna liniment, diluted, were made to the swollen parts.

From the first feeding with fresh food improvement was noted. The baby began to use his limbs soon after he was fed the anti scorbutic diet. Although he was still emaciated the tenderness lessened, and he was able to bear handling. The arms improved first, and he used them at the end of a week. The subsidence of the swellings of the thighs left a thickening of the periosteum which could be felt for two or three weeks longer.

The movements from the bowels, which had been frequent, very fetid, and contained mucus, improved with the changed diet. Irrigation had, apparently, a favorable influence.

The temperature range for the first week of treatment was 99° to 102° F. The highest temperature was observed in the morning; the afternoon point was always lower.

The baby made steady progress, and although all signs of rachitis have not disappeared, the scorbutus, except for the anæmia, has left no trace.

We have here the history of a baby who, though bottle-fed, was healthy until he was over five months of age. With a change in location and diet he had dyspepsia, enterocolitis, and atrophy. Accompanying these disorders of digestion and nutrition, there were disinclination to use the extremities, swellings on the shafts of the long bones, most noticeable on the femora, and great tenderness over all the body.

A diagnosis of scurvy could be made from the history. To be sure, the gums were not bleeding, but swelling and hemorrhage are not often present when the teeth have not appeared, and are not always seen even in severe cases after dentition.

The dietetic management of the case gave such immediate relief that, had any further confirmation been required, we would have had it in the prompt recovery of the baby from all scorbutic symptoms.

Scorbutus in childhood and infancy is a rare disease. Its occurrence is due to faulty methods of feeding, which are easy of correction. If the symptoms are appreciated a change in diet, without medicinal measures, will effect a cure; but if the scorbutus is not relieved it often progresses to a fatal ending.

The rarity of scurvy among dispensary patients is to be seen by the figures taken from my records of the Children's Class, in the Out-door Department of Bellevue Hospital, by Dr. G. E. Neuhaus. Of 2,352 patients treated in eighteen months, there were 264 with rickets, or 11.23 per cent., and among the whole number there was only one case of scorbutus. My service of one thousand new patients at the Out-patient Department, St. Mary's Free Hospital for Children, did not furnish one child with scurvy. Dr. H. R Purdy had but one case during a year's service at the Dispensary of the Church Hospital. The comparative infrequency of the disease is commented upon by Northrup, who has furnished us with a history of scurvy as it has been observed in this country.

As practitioners come to have a more accurate knowledge of scorbutus, the number of cases recorded will, without doubt, be much greater.

The disease is commonest under the age of two years, and in artificially fed babies. After two years a child has a varied diet, and unless there is an actual deprivation of fresh food, he is not so liable to become scorbutic.

Scurvy is a blood dyscrasia due to nutritive disturbances occasioned by the want of fresh food, especially by the absence of vegetable and fruit acids. Bacteria undoubtedly have a part in its production. Some observers believe that purpura and scurvy are identical, and are caused by the same micro-organism, but this is not yet accepted.

As it is observed during the two first years of life, scorbutus presents symptoms which conform to the disease as it is seen later, but during infancy other evidences of malnutrition may divert attention from the scurvy. Rickets is a state of the system due to imperfect nutrition, with which scorbutus may coexist.

Cheadle [1] questions whether the cases of acute rickets are not in reality rickets with a mild degree of scurvy. The dietetic errors which cause rickets will, in a certain percentage of cases, add scurvy to it. In private practice among the well-to-do and wealthy, an artificially fed baby is provided with one food, often proprietary, which is given at regular intervals. If the food does not contain the ingredients required, scurvy may be added to rachitis, because no opportunity is afforded the baby to get anti-scorbutic food. Among the poorer classes the baby has more latitude, and although the diet may not furnish material that will prevent rickets, yet he is fed from the table and so secures articles, especially potatoes, which are anti-scorbutic.

The symptoms that are regarded as diagnostic and that are usually present are:

1. Swellings of the limbs, most commonly the thigh, with extreme tenderness and pseudo paralysis.
2. Changes in the gums, which may be swollen and bleeding, or show only a few hemorrhagic spots.
3. Vascular changes in the skin and mucous membranes: petechiæ, ecchymoses, and hemorrhages.
4. Irritability and other disturbances of the nervous system.
5. Anæmia, wasting, and loss of strength.

The three first symptoms are the most palpable, but the irritability and anæmia precede the more conspicuous signs, which we shall study first.

It is a matter of anatomical interest that the greatest hemorrhage and swelling occur at the lower end of the femur. The epiphysis of this bone is the first to appear and the last to ossify. The nutrient arteries of the lower extremity are directed away from the knee-joint. In infants the subperiosteal hemorrhages are more common than in adults, because of the growth of bone tissue.

The hemorrhage between the periosteum and bone produces the swelling and occasions the pain by stretching the membrane. The effects of this subperiosteal hemorrhage are, as has been mentioned, most frequently observed in the femur.

The swelling of the thigh is sausage-shaped or fusiform,

[1] Artificial Feeding and Food Disorders of Children.

and extends one-third or more of the length of the bone. The greatest enlargement is at the lower end. If both thighs are involved one is usually larger than the other. The skin of the affected part is white, smooth, and does not pit on pressure, unless there is infiltration of the muscles. The superficial veins may be distinct but heat and redness are rare. If œdema be present it is usually of the thigh or foot.

When the tibia is implicated and the swelling is both below and above the knee joint, there may be superficial evidence of synovial effusion, which an examination will show is caused by the changes in the bones, and not from fluid in the joint. The fibula is not diseased with the same frequency as the tibia.

The limb is kept as quiet as possible, as the baby dreads the slightest movement. Early in the disease the position is one of semi-flexion, but later the limb is extended and there is pseudo paralysis. When the epiphysis is separated the part can be handled with less pain than in the early stages.

The bones of the forearm at the wrist are, next to the femur and tibia, the most frequent sites of periosteal extravasation. The swelling is not so extensive as is observed in the lower extremity. The shafts of the bones show plainly the limitation of the hemorrhagic tumor at the epiphyseal line.

The arm is not affected so often as the forearm, and when it is the upper end of the humerus is involved. The bones at the elbow do not seem to suffer. Other bones liable to subperiosteal hemorrhage are the scapulæ, ribs, bones of the skull and pelvis. When separation of the epiphysis occurs it is a fracture of the bone just beyond the line of junction, and the femur is the bone most often broken. With complete pseudo-paralysis and extension of the limb, the grating of the bone can be easily detected, as the manipulation of the part is not resisted.

The changes in the gums are characteristic, and are next to those of the bones in diagnostic importance. There is a tumefaction around the teeth and over those that are erupting. The gums are dark, bleed when touched, and may be so swollen as to protrude from the mouth. When the teeth have not been cut or the disease is not severe, a few hemorrhagic spots may be all that are to be seen. The breath is foul and the tongue coated in the cases with the swelling of the gums, but in the milder inflammation the tongue is often clean and the breath not disagreeable. The tissue around the teeth and over those that are oncoming is spongy and vascular. It is probable that the retention of particles of food, mucus, etc., causes a septic condition which gives the fetid breath, and produces in severe cases a necrosis of the gums and swelling of the palate. The gums are not swollen or inflamed in some cases where other signs of scorbutus are well marked.

Subcutaneous hemorrhages are frequently observed, and vary between petechiæ and the ecchymotic patches that are often mistaken for bruises. Ulceration may result. Usually the lower extremities and trunk show these changes best. Ecchymosis of the conjunctiva and the orbital tissues is a conspicuous symptom in some cases.

There are hemorrhages from the mucous surfaces; epistaxis and bloody discharges from the intestines are not uncommon.

Fretfulness and irritability are present early, and increase with the progress of the disease, until it is evident they are caused by physical suffering. The baby is tender when handled or touched, and cries with pain. The face has an anxious expression, which in severe cases is one of agony.

The skin is a dirty, "earthy" white or yellow, which is quite noticeable to nurses before the patient is supposed to require medical aid. Besides the hemorrhages that have been mentioned, there are papular and vesicular eruptions, which leave the skin harsh and dry. Perspiration is usually profuse.

Anæmia, wasting, and a general failure of strength are constant symptoms, but in fat rickety babies there may be a deceptive appearance of health.

The gastro-enteric tract is deranged; loss of appetite, vomiting, and diarrhœa accompany the disease, though they are not always persistent symptoms. The movements from the bowels are dark in color, contain mucus, sometimes blood, and are very offensive.

The abdominal viscera do not, in most cases, show signs of enlargement.

Catarrh of the bronchial tubes is common, due in many cases to the existence of rickets. Pulmonary hemorrhages, pneumonia, pleuritic and pericardial effusions, are found in debilitated and exhausted patients.

The urine often contains albumin, and at times blood is passed. It is probable that a greater number of cases would show evidences of kidney changes if it were possible to examine the urine during the acute stage.

The temperature range is not high, seldom more than 101° or 102° F. In a mild degree of scurvy it may be only a half-degree over normal. Inflammation or severe catarrh will, of course, increase the febrile movement.

The treatment of scorbutus is simple and has so little to do with drugs, that a brief mention of dietetic management is all that is required.

Give at once fresh milk, beef juice, and fruits or vegetables. Orange is liked by almost all children, and is greedily devoured. When orange does not agree or is distasteful, other fruits or vegetables will do as well.

The relief of the symptoms of scorbutus is so rapid under this regimen that medicinal agents are seldom needed, except as here indicated.

Local applications of evaporating lotions to the swollen parts seem to afford relief. An opiate is useful in allaying pain and irritability, and in checking severe diarrhœa. Stimulation is frequently needed to support the system. Iron is of service to combat the anæmia, but it does not hasten recovery if the dietetic management is neglected. Cod-liver oil and phosphorus are valuable in the cases where scorbutus and rachitis coexist. Sunlight, fresh air, and good hygiene are powerful aids to recovery. The fractured bones are to be treated mechanically until the anti-scorbutic diet has had its effect.

6 East Fifty-eighth Street.

A Medical Syndicate.—We read in one of the religious weeklies an enthusiastic notice of the adoption, by two churches in a town in Iowa, of a plan of assessing every church member fifty cents per month, and in return offering free medical attendance and $3 a week during illness, with the entire funeral expense in case of death.—*Polyclinic.*

Mrs. Amory's Bequests to Hospitals.—The will of the late Mrs. Jeanne P. Amory, of Braintree, directs the executors to sell within two years all her right, title, and interest in the real estate at 111 West Fifty-seventh Street, New York City, and to divide the net proceeds equally between the Massachusetts General Hospital in Boston, the City Hospital in Quincy, Mass., the Woman's Hospital, and the Skin and Cancer Hospital, both in the city of New York.

Preventive Inoculation for Cholera in India.—The method of preventive inoculation for cholera worked out by M. Haffkine in the Pasteur Institute in Paris, and applied extensively in India by the investigator himself, has been put to the test of actual experience near Calcutta. Dr. Simpson, the health officer, took special steps to make the inoculations made in the neighborhood of Calcutta to serve as tests of the efficacy of the method in man as severely scientific as possible. A telegram in the *Times* states that one of these tests has recently been completed. Of the 200 inhabitants of a native *bustee* (hamlet), 116 were inoculated with the protective vaccine. Not long afterward, an outbreak of the disease occurred in the hamlet; ten persons were affected, none of whom had been inoculated, and seven died. All those who had been inoculated remained free.

Progress of Medical Science.

The Treatment of Severe Albuminuria associated with Pregnancy.—In a paper read before the London Obstetrical Society, Dr. Herman concluded a valuable series of observations on albuminuria associated with pregnancy and labor. Every practitioner who observes his cases must have noticed that there are at least two main groups of kidney disease in this association. Albuminuria in a more or less marked degree is a very common complication of pregnancy, but in a large proportion, the majority, of the cases it does not lead to any of the graver symptoms to which pregnant albuminuric women are liable. In a certain number of such patients, however, not only is the disease acute in its onset and violent in its manifestations, but we get the dreaded eclamptic convulsions which threaten the life of the mother and jeopardize that of the unborn infant. The risks dependent upon the renal disease are, then—first, the life of the mother; secondly, that of the fœtus; and, lastly, the danger of the acute phase giving place to a chronic form of Bright's disease after delivery. The main points which still call for discussion are the means of distinguishing between the cases which are likely to comport a grave sequel and the best method of obviating the danger of usual defects and renal disease as a sequel. Dr. Herman tells us that the acute form attacks mainly women who are pregnant for the first time, and he points out that when the albumin in the urine consists mostly of serum albumin the prognosis is grave. It is, therefore, necessary for the practitioner to accustom himself to testing for the presence of paraglobulin as compared with serum albumin. One of the common symptoms associated with the albuminuria of pregnant women, as in albuminuria from other causes, is failure of vision, attributable to the presence of albuminuric retinitis, and possibly sub-retinal hemorrhages. In the graver cases this may go on to complete loss of perception of light. Although in most cases the cæcity passes off more or less when delivery has been safely accomplished, this is by no means always the case, and the preservation or protection of sight becomes one of the points to which treatment must be directed. Now, the treatment of the albuminuria of pregnant females is practically confined to the induction of premature labor. As soon as the uterus has been emptied, the symptoms usually promptly subside; indeed, the promptness of this subsidence is one of the most remarkable features of renal disease associated with pregnancy. The speakers, in the discussion that followed, accepted this conclusion, and did not hesitate to recommend that the uterus should be emptied forthwith in all really serious cases of albuminuria associated with pregnancy. The child is sacrificed, it is true, but its chances of survival in the presence of eclampsia, or even of severe albuminuria, are small indeed, so that this fact cannot and ought not to be allowed to weigh in the balance, especially as the mother is thereby rescued from one of the most terrible complications that can threaten the pregnant woman. Then, too, in the cases presenting indications of albuminuric retinitis. These are always severe cases, and most of them die if left unrelieved. Moreover, the further the case is allowed to go on the greater is the damage done to the delicate structures of the eye, and the greater are the risks of permanent impairment of vision. This is a serious point well worthy of consideration, and in future obstetricians will be well advised if they adopt the suggestion to empty the uterus as soon as, at latest, ophthalmoscopic examination reveals the familiar and easily recognized signs of albuminuric retinitis. There remains as an additional reason for adopting this course the fact that even in women who either do not have, or who survive, the fits, the kidneys do not always recover from the disturbance to which they have been subjected, and the patient not unfrequently remains the victim of chronic Bright's disease. On these grounds, therefore, severe albuminuria ought to be added to the list of indications for the induction of premature labor without waiting for the supervention of eclamptic convulsions before coming to a decision. This is not a specialists' question. It is one which any practitioner may be called upon to consider at any moment, and it is to be hoped, in the best interests of his patient, that he will henceforth recognize the extreme and manifold gravity of the risks attending the continuance of albuminuria in pregnant women.—*The Medical Press.*

Diabetic Neuritis.—Dr. Davies Pryce would distinguish two forms of this disease: 1, The motor or paralytic, and 2, the sensory or ataxic, the latter including Leyden's neuralgic group. He relates three cases of diabetic pseudo-tabes. (*The British Medical Journal.*) In all three cases, besides the ataxy, the knee jerk was absent. In Cases II. and III. the pupils reacted normally to light and accommodation, but in Case I. the reaction to light was sluggish. In Cases I. and II. sensation was affected in the feet and lower part of the legs, but in Case III. the feet only were involved. 1. A man, aged fifty-six, with diabetes and perforating ulcers of the feet, died in coma. The peripheral nerves of the right leg were examined and found diseased, especially the posterior tibial nerve, the lower part of which was thickened and embedded along with the atheromatous tibial artery in a mass of inflammatory tissue. Changes were also reported in the large anterior cells in the lumbar cord. 2. A man, aged seventy-two, had diabetes and gangrene. He had suffered from sciatica for ten years. A peculiar erythematous œdema of the feet was present at times. Changes were found in the anterior and posterior tibial as well as the sciatic nerves. Arterial disease was marked. 3. A diabetic man, aged sixty-two, also died of gangrene. The nerves and vessels were here also found diseased. In respect to the vascular disease, there was no evidence of rheumatism, alcoholism, or syphilis in the two last cases. The chronic course, the presence of ataxy, the absence of paralysis, the age (beyond middle life), the preponderance of sensory, vasomotor, and trophic symptoms, and the existence of arterial disease were the chief points in these cases. No relationship was apparent between the severity of the nerve symptoms and the amount of sugar present except that the erythematous œdema coincided with increased sugar excretion. The author does not think diabetic neuritis solely due to a specific toxic agent, but mainly to vascular disease and malnutrition. The posterior tibial artery is especially prone to degeneration, and the posterior tibial nerve supplied by this artery was chiefly implicated. Morphine and antipyrin were useful in allaying the pain. Operative procedure would, in the author's opinion, only have accelerated death.

Tachycardia in Pulmonary Tuberculosis.—Bezançon has published his views on the tachycardia occasionally observed in pulmonary tuberculosis. It is always a grave phenomenon. After it has persisted for a short period the heart begins to fail, the pulse becomes so feeble as to be uncountable at the wrist, and the patient suffers from dyspnœa, cyanosis, and œdema of the lower limbs. In some cases the tachycardia may be due to pressure on the pneumogastric by enlarged mediastinal glands, but this explanation will hardly apply to any cases except those in which the pressure is so great as to suspend completely the functions of the nerve. Slighter pressure might rather be expected to produce a slow pulse. Other cases may be explained by supposing a diminution in the calibre of the air-passages, since Marey has shown that by breathing through a narrow tube respiration becomes slower and the heart faster. But these explanations leave many cases unexplained. The author suggests that in them the hurried action of the heart may be due to certain toxins produced either by the bacillus tuberculosis or by the microbes (staphylococci, streptococci) of the secondary purulent infections so common in phthisis. Bouchard obtained from tuberculin a substance, to which

he gave the name of "ectastine," which produced dilatation of the vessels, and toxins with a similar property have been obtained from the products of the bacillus pyocyaneus by Charrin and Gley, and from those of the staphylococcus by Arloing. By acting as vaso dilators these substances would tend to produce tachycardia, since the heart tends to act more rapidly as the peripheral friction diminishes. In other cases it is possible that toxins may cause tachycardia by producing a neuritis of the vagus.—*Revue de Médecine.*

Arrested Growth of the Testes.—The term Eunuchoid is proposed for persons who have been found to be like eunuchs in all respects, except that in the former the testes, though small, are in the scrotum These persons have large frames, narrow shoulders, and broad pelvis. The face is beardless, the neck round and plump, and the voice is often high-pitched. The breasts are large, the penis and scrotum small, not being larger than they are in a ten-year-old boy. This condition of the testes is found in many idiots, and the arrest of development seems to take place in early life. In the *Journal of Anatomy and Physiology* Dr. Joseph Griffiths summarizes his study of two of these eunuchoids. The testes were small, and were found to be almost entirely formed of fibrous tissue, the seminal tubules being represented by fibrous rods with fissure like lumina containing atrophied epithelial cells. The testes were of normal shape, but the relative size of the epididymis was large. The tubules in most of the lobules of the globus major were normal, though in some lobules they were changed as if by a chronic inflammation. The prostate gland was small, tough, and fibrous. The glandular tubules were few in number, and these imperfectly developed. The seminal vesicles were small sized and empty. Both testes were affected, while in mumps followed by orchitis the inflammation is generally on one side only, and rarely destroys all the seminal tubules. When the testes lose their power of growth, from any cause, the patient develops at puberty, like a eunuch deprived of his testes in early life. Such a eunuchoid may have erections and ejaculations, but the secretion is devoid of spermatozoa, and the individual is sterile.

Operative Indications in Traumatic Stricture of the Urethra.—Drs. Legueu and Cestan gave the results of their observations on cases seen in the service of Professor Guyon. There were seventeen cases in the wards almost simultaneously. The lesion most often sustained is as follows: The ruptured portion of the urethra is usually on its lower wall, and the upper is either intact or else there is at least a strip of unruptured mucous membrane at this point. On this account operations are not to be done in these cases which contemplate a complete division of the canal. The obstruction in old cases comes at times from fibrous masses which are separated from the urethral canal by a less dense tissue, thus allowing of their removal without injuring the urethra. Excision *en masse* is to be avoided for the same reason. When there is no fibrous mass to be felt in the perinæum, then dilatation may be tried; but when they exist, then dilatation is only to be used as an adjunct to other measures. Internal urethrotomy may be done as a primary measure when dilatation is impossible, or it may be employed as a secondary measure after dilatation has failed. Internal urethrotomy is not regarded as curative, it being often followed by a return of the obstruction. In the milder cases in which the stricture is small in extent it sometimes succeeds admirably. In performing external urethrotomy when the wound is deep and it is impossible to find the urethra, one of two courses may be pursued: One is to allow the patient to recover and watch, when he urinates, where the urine comes from, and the other is to do a supra pubic cystotomy and retrograde catheterization at once. The latter is mentioned favorably. Resection of a part of the urethra and immediate suture are advised when the two parts are not separated too widely, too deeply situated, or too much surrounded by hard cicatricial tissue. In some cases a new urethra is constructed by uniting the sound tissues over a catheter. This is left in place three to five days. The surrounding callosities must all have been carefully removed and all granulations carefully curetted away.—*University Medical Magazine.*

Resorption of Bacteria into Recent Wounds.—According to the Berlin correspondent of the *Medical Press*, Hr. Schimmelbusch said that at the last Surgical Congress he had reported on experiments he had made on animals in disinfecting wounds infected by disease germs. The results were surprisingly unfavorable as regarded such attempted disinfection. In spite of making use of the most powerful disinfecting material, no results could be obtained. In the search for protective material, he had performed amputation, especially the tails of mice, shortly after infection, and had satisfied himself that even such amputations performed a few minutes after infection inoculations gave no result. From his observations he drew the conclusion that the micro organisms passed into the body juices with great rapidity and penetrated beyond the root of the tail in a very short space of time. In Bramann's klinik Niessen found that anthrax spores were demonstrable in the lymph-glands in them from one and a half to three hours after infection. The speaker had in later experiments attempted to ascertain in how short a time infective germs inoculated into wounds were found in the internal organs—liver, lungs, spleen, and kidneys. These experiments were carried out last summer. He had wounded mice at the root of the tail or on the back, had infected them with anthrax, and after a certain time had killed them. The minced organs were then either placed on a platter or implanted into healthy mice. After he had obtained practical evidence from three to five hours after infection he shortened the time of infection gradually, and found that in a large number of cases virulent anthrax bacteria could be demonstrated in the organs. The question now arose, did this happen in the pathogenic organisms only, or was it also the case with the saprophytes? In the case of rabbits killed five minutes after infection, he found after many experiments that numerous saprophytes were already present in the organs. As regarded plate cultivation, he remarked that it was necessary to take the whole or the greater part of the organs. Proofs of the presence of micro-organisms in the organs were never obtained when a few drops only were taken. At the first moment, the fact that such bacteria should be found within internal organs within such a short space of time appeared strange, but this fact alone gave an answer to the observation that amputation of the tails of mice a few minutes after infection was no longer of use. It was known that fatty emboli containing cinnabar did not take five minutes to reach the heart from the marrow of the bones. Resorption was naturally varied, according to the quality of the germs. In case of the excitants of sepsis, the animal was already lost even a few minutes after infection, and not to be saved by local treatment. Hr. Pfuhl was able from his own experiments to confirm the statements of the previous speaker. When wounds were from twenty-four to forty-eight hours old, however, and the germs were scattered over them, the animal was in many cases not infected at all. This fact was deserving of consideration. Hr. Schimmelbusch said he had paid a good deal of attention to old wounds, especially burns. Poisonous material was not readily absorbed from the superficies or from fascia. The receptivity also disappeared quickly from other wounds, probably in consequence of the formation of products of coagulation, which afforded protection. Burns also were not readily infected. He had never succeeded in infecting a cauterized wound. As regarded the disinfection of catgut, he said that in v. Bergmann's klinik it was disinfected in a one per cent. solution of sublimate, and that this solution rendered the disinfection perfect in one second, while hot air at 140° C. had no effect in two hours.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 43, 45, & 47 East Tenth Street

New York, June 30, 1894.

MURDER, INSANITY, AND THE MODERN JURY.

A FEW weeks ago a woman of this city, not previously considered insane, bought a pistol and went out and shot the mistress of her husband. She was examined by a commission and pronounced sane at the time of the examination. She was tried for murder and promptly acquitted, on the ground of insanity at the time of the act. The woman was related to a high police official.

Several months ago, a woman named Mrs. Halliday committed some horrible murders. She was tried at Monticello, N. Y., last week. The testimony showed that she had been three times confined in different asylums for insanity, and the superintendents testified that she is now insane. In fact, all the evidence of any moment was to the fact that the woman is insane. Her physiognomy and past history show her to belong to the lowest type of the mentally degenerate class. Despite the evidence, however, the jury brought in a verdict of guilty of murder in the first degree. Unless someone interferes, the demented creature will be killed by electricity in the approved and legal method.

The assassin, Prendergast, who shot the Mayor of Chicago, has also been practically pronounced sane and responsible by the marvellous intelligence of the modern jury.

The histories of the cases cited show how crude and illogical is our modern system of rendering justice, and how little attention is paid to those higher abstract principles about which one hears so much from our standard orators, and reads so much in our standard books.

It is agreed, theoretically, that an insane person is irresponsible and should not be hung or punished. This is also our law. Yet, when the crime is very outrageous, juries will promptly bring in a verdict of guilty against the evidence of experts, of experience, and even their own common-sense. On the other hand, a murder which appeals somewhat to their sense of justice will easily enable a jury to believe in the most transient and accommodating forms of insanity.

Now, if the juries are right in these cases, then the law and the ethics of to day are wrong. There is a direct conflict and antagonism which cannot be explained away. And we ought either to reform our law and admit that some lunatics are responsible, and some murders justifiable, or else reform our jury system into a condition of consistence with the theory of the schools and the practice of the courts.

THE DEATH-WOUND OF CARNOT.

THE death of the President of France by a stab of the liver is an instance of rare wound occurrence. We do not at present recall a similar case of fatal termination. Rupture of the liver from contusions and perforations of the substance of the organ by bullets are not very uncommon, but deep knife-wounds inflicted by an assassin are almost unheard of. It is quite evident that the wound in the case of the lamented victim was fatal from the moment of its infliction. The cablegrams state that the substance of the organ was penetrated, as shown by the autopsy, to the depth of five inches, that the aortic (evidently the cava ascendens) vein was wounded, and that two quarts of partly clotted blood were found in the peritoneal cavity. The distinguished victim died from the shock of sudden internal hemorrhage. Almost immediately after the thrust the mortal character of the wound was clearly indicated by the quick collapse. The futility of performing laparotomy for the arrest of such a condition was demonstrated by the results in this instance. It is still a question whether or not it is advisable to explore such wounds while the patient is in a condition of profound shock. If the hemorrhage from a wounded liver is of sufficient magnitude to induce rapid collapse, it seems quite clear that exploring the wound in the vain hope of securing a large vessel, only adds to the gravity of the situation by intensifying the shock and proportionally reducing the ultimate chances of the patient. If, on the other hand, the bleeding is small enough to be controlled by tamponing the liver substance, it will do no special harm if left to itself. It is quite probable, however, that the bleeding was very rapid, that syncope occurred very quickly, and that the hemorrhage had ceased of itself long before death. At the worst, it was a mercy that it was so soon over.

SUICIDE AND HEAT.

THE wave of heat which passed over this region last week caused excessive discomfort, and probably increased the mortality rate somewhat, especially among children. Quite a number of suicides were reported, and the ever-alert reporter has not failed to dwell on the current statements of the books, which show that suicide increases in hot weather and bears a definite relation to meteorological conditions.

A critical study of the statistics of Morselli and others does not furnish much support to the hot weather theorists. In this city, for example, the largest number of suicides occur in the spring, next in the summer; but the differences are not very great, being for eleven years 417 and 412, respectively (Ogle).

Furthermore, it is very doubtful whether the fact that more suicides occur in the hot weather, as stated by European statisticians, shows that the high temperature has a causal relation. The probability is rather that the climatic changes of the spring, by producing an increase of insanity, lead to suicide later.

A great deal of undue stress has been laid upon the cosmic influences leading to suicide. Many curious facts result from the manipulation of large numbers of statistics,

but it may be questioned whether the deductions made are often not merely coincidences. For example, it can be shown that more suicides occur in the last quarter of the moon and at the period of the year when the days are longest; also, that most suicides occur between 6 A.M. and 12 M.; that more occur in valleys than among mountains; and that there is in the east of Germany a "suicidigenous" area.

After all, however, it is the factors of race and civilization which are most important, the German race representing one extreme, the Scottish the other. In this country the foreign-born commit suicide oftener than the natives.

European statistics show a steady increase, both relative and absolute, in suicide; but in this city, according to Ogle's statistics, no such unfortunate tendency exists. The highest yearly rate up to 1880 was 1,805, when there was one suicide to every 3,017 inhabitants; the lowest rate was in 1864, when the ratio was 1 to 23,827. There has never been an epidemic of suicide in New York, though such phenomena have been reported in Europe.

News of the Week.

Dr. E. Allen Wood, of Pittsburg, died, on June 4th, of cerebral hemorrhage, in Philadelphia, where he had gone to attend the meeting of the Pennsylvania State Medical Society. He was born in Wood's Run, Pa., in 1834. He was the organizer of the South Side Medical Society, the oldest medical organization in Pittsburg, and had been president of that society, of the Allegheny County and of the Pennsylvania State Medical Society. He was also one of the organizers of the Western Pennsylvania Medical College, and was the first Professor of Dietetics in that institution. He served in the State Senate in 1875 and was instrumental in framing the Anatomical Dissecting act. In addition to his medical writings he was the author of several widely read novels, poems, and plays. He was a graduate of the Western Reserve Medical College in Cleveland. In 1859 he married Miss Lizzie Hopkins, of Brownsville, Pa., who survives him.

Myomectomy as a Substitute for Hysterectomy.—Dr. E. C. Dudley, of Chicago, writes: "In my paper with this title, read before the American Gynecological Society and abstracted in the MEDICAL RECORD of June 16, 1894, page 768, is a statistical error. The statement was made, that there had been no death in the past two years. There has been one death following this operation. The patient was atheromatous and over fifty years of age. During the first eighteen hours after the operation there were no unfavorable symptoms, when suddenly the pulse became imperceptible and death occurred almost instantly."

An Impostor.—Dr. Willis G. Tucker, registrar of the Albany Medical College, writes that during the last fortnight he has received inquiries from physicians in Lambertville, Keyport, and Perth Amboy, N. J., concerning a young man who has lost his left hand and claims to have been a student in the Albany Medical College. He gives the name of George, with different given names in different places, and is soliciting aid from physicians and druggists under various pretexts. He exhibits a letter of recommendation purporting to have been given him by Dr. Tucker, but the latter knows of no such man and says that there has never been a student answering to his description at the Albany Medical College.

Medical Protection in Rome.—The medical practitioners of the city and province of Rome have determined to form a "College" or association for the protection of their interests not only in their relations with patients, but against public authorities and hospital governing bodies. At a recent meeting of the Società Lancisiana, an elaborate report on the scheme, which has been for a considerable time in contemplation, was presented by Professor Sciamanna, and a provisional executive committee was formed to carry the proposal into effect.

A Biography of the late Sir Andrew Clark is to be written, with a preface by Mr. Gladstone.

Professor Gussenbauer, of Prague, has been chosen to take the chair of surgery at Vienna, occupied by Professor Billroth.

A Remedy for the Alleged Hardships of the Higher Medical Education.—In an address on higher medical education, before one of our State Medical Societies, the orator dwells on the alleged hardship to the student when he fails in his finals and says: "If the law compels a young man to study four years, it ought to give him some guarantee that he will be fairly dealt with. Were our medical schools compelled to refund one half the expenses of the student who fails to get his diploma (*i.e.*, one-half the cost of three years' maintenance and of three years' loss of time), if the schools were obliged to refund all moneys expended on lectures, the graduating class would not be reduced in numbers, but the ten per cent. that fail at their final examinations would have some redress." This is just the kind of a proposition that would be apt to strike favorably a certain class of legislators, and it would not be in the least surprising to see it, in the near future, embodied in "An act entitled an act," etc. Meanwhile, the *Journal* commends, to the author of the address under consideration, the following cold facts which have already appeared in these pages: In round numbers, there are upward of 118,000 doctors in this country, which, with a population, also in round numbers, of 65,000,000, gives an average of one doctor to every 550 men, women, and children; this population increases at the rate of about 2.5 per cent. per annum, but every year we add over five per cent. of new doctors. It does seem that we might worry along without making it any less "hard and unsatisfactory" to become a doctor, for the present at least.—*Journal of American Medical Association.*

The Progress of Surgery.—

TIME, A.D. 1870.

Scene: Surgical Ward.

Surgeon.—How is Jones doing?

House Surgeon.—Extremely well, sir: the wound is suppurating *nicely*.

Surgeon.—That's all right.

TIME, A.D. 1894.

Scene: The same as above.

Surgeon.—How is that amputation of the breast?

House Surgeon.—I'm sorry to say, sir, the wound is suppurating.

Surgeon.—What! Suppurating!!! *Do you say suppurating?* Well—I'm—— (Left gesticulating.)

Fable.—1. Under existing circumstances we deem it advisable not to point the moral.—*Medical Press.*

Officers of the American Medical Association.—The list of these, given elsewhere in this issue, shows a comparatively large number of names not widely known to the profession, and a deficiency of prominent members of the profession from the large medical centres of the East. This is likely to be the subject of unfavorable comment; and it has already been suggested that it indicates unfair discrimination; but such a view is not supported by facts. These prominent members of the profession were simply not present at the meeting, and, therefore, could not be chosen. Take the case of Philadelphia, which has been especially mentioned. Of the eight members present from this city, five either held official positions or were elected to them at this meeting, while, on the other hand, among those honored last year by important appointments, one who was to deliver a general address, two section officers, and six members of the general business committee, failed to attend the meeting.—*Philadelphia Polyclinic.*

The Polyclinic does not tell quite all. The State of New York contains one-tenth of the medical profession of the country, including a good many men who might be called leaders. But the State is practically disfranchised, because its State Society has no Code but that laid down in Holy Writ.

Small-pox in Chicago is Decreasing.—During the first seven days of May 162 cases were reported; during the first week of June, only 50 cases. At present there are less than 350 patients in the small pox hospital. The deaths from small-pox for May numbered 290. Over 500,000 vaccinations were made during the month. The entire city has been gone over once and a portion twice. Much of the opposition to vaccination, which has been so strong in the foreign quarters of the city, has been overcome by the courage and tact of the physicians in the Health Department.—*Chicago Medical Recorder.*

A New State Hospital for the Insane, under homœopathic management, is to be established on the Collins Farm, thirty miles distant from Buffalo.

New Asylums in New York.—The State Custodial Asylum, at Rome, N. Y. (formerly the Oneida County Almshouse), an institution for the care and treatment of imbeciles and idiots, has begun its work in the field by relieving some of the State Hospitals of patients of that class.

The Prevention of Tuberculosis.—The Pennsylvania State Board of Health, at a recent meeting, adopted the following timely resolutions:

Resolved, That it is the sense of the State Board of Health of Pennsylvania that the time has come when the State should provide hospital accommodations for persons suffering from pulmonary tuberculosis in the case of those who cannot be properly cared for in their own homes, and who through carelessness might be dangerous to the community at large. It is believed that the establishment of such hospitals might be of great value in educating the people.

Resolved, That it is the sense of the State Board of Health of Pennsylvania that all inmates of prisons, reformatories, almshouses, hospitals, schools, and other public institutions be vaccinated immediately on admission.

This action is in the spirit of progressive and preventive medicine, and should be the precursor of legislation looking to the enforcement of the views so well expressed.

New Railroad Hospitals.—It is reported that the "Big Four" railroad will establish hospitals at Cincinnati, Columbus, Cleveland, Sandusky, Peoria, Kankakee, Cairo, St. Louis, and Indianapolis. To support them, each employee with a salary of more than $50 monthly will be taxed 50 cents per month.

Medical Cabinet Officers.—The New French Cabinet includes two representatives of the medical profession among its members. Dr. Viger retains the portfolio of Minister of Agriculture, which he held in the last ministry, and Dr. Lourties has been appointed Minister of Commerce.

Consumptive Hospital for Baltimore.—Baltimore is trying to establish a hospital for consumptives. A meeting of medical men and others interested in the project was held on May 15th.

An American Doctor a Mandarin.—Dr. William H. Park, a medical missionary and surgeon in charge of the Methodist Hospital at Soo Chow, China, has been given the rank of mandarin. The honor was bestowed on account of Dr. Park having successfully treated a Chinese general for his wounds.

Vaccination Test Cases.—Last week (Saturday) Judge Bartlett, of the Supreme Court, issued an order to show cause why writs of mandamus should not be granted to compel the principals of public schools to allow the children to attend school. The children were excluded from the schools on the ground that they were not vaccinated. The parents refused to allow them to be vaccinated. The cases are brought under the advice of the Anti Compulsory Vaccination League.

The American Association for the Advancement of Science will hold its next annual meeting in Brooklyn during August. Brooklyn citizens have raised $5,000 to defray the expense of entertaining the scientists. This sum, we believe, is nearly as much as that given by the American Government to entertain the Pan-American Medical Congress.

Yellow Fever has not yet made its summer appearance in this country, but several infected vessels have been quarantined in Florida ports.

A Number of Colored Physicians of Baltimore have decided to organize and open a hospital and dispensary. A building has been secured, and in a few weeks the work will begin.

The Sale of Patent Medicines.—There is a lively war in England just now between the apothecaries and grocers over the sale of patent medicines. The druggists, suffering from competition, have prosecuted the grocers for selling poisons without license. The latter dealers are retaliating by all manner of prosecutions for technical violations of the pharmacy laws.

A Small Small-pox Epidemic has been found in Staten Island.

Modes of Cholera Propagation.—A correspondent of the *British Medical Journal*, in looking over his note-books recently, found the following, written in 1870 by a medical contributor of the *Bombay Times*:

Surgeon-Major Bryden's View.

"Earth grown, wind blown;
Air and vapor hatch'd and sown;
Thus the pest o'er earth has flown."

E. N. Macnamara's View.

"Man bred, man shed;
Anon diffused in watery bed—
Multiplied and further spread;
Thus the pest o'er earth has sped."

Bryden's view was "wind-blown" farther than its subject; it lived long, despite Macnamara's demonstrations of its fallacy.

New Asylum in Maryland.—The recent Legislature of Maryland passed an act to erect a $75,000 insane asylum for the better care of the insane of the State.

An Insane Human Ostrich.—An interesting operation was performed recently at the Lancaster County Lunatic Asylum upon William Fitzpatrick, one of the inmates. This man, some time ago, took to swallowing things, and on one occasion he ate one hundred and ninety-two flooring nails, which naturally upset his digestion. During the operation, which lasted two hours, the surgeon took from his stomach the one hundred and ninety-two nails aforesaid, varying from one and one half to three inches in length, a half of a screw, a piece of wire, two buttons, and a mass of matted hair. The nails alone weighed nearly two pounds.

We are Quite in Sympathy with our esteemed contemporary the *New York Medical Journal* in its remarks about the unnecessary and at times grotesque nudity of medical photographs. But why does our esteemed editor publish in a subsequent issue such startling examples of genital exposure.

The Chinese Plague.—From Hong Kong reports concerning the plague are very discouraging: thirty-five deaths occur daily, and the malady is spreading to all parts of the native city, and now threatens the foreign quarter. The slaughter of pigs has been prohibited, as well as the catching of fish, for fish are said to be infected by the disease. So virulent is the plague that many have been struck down as they were being borne through the streets in sedan chairs.

Ontario Medical Council.—At the annual meeting of the Council of the College of Physicians and Surgeons of Ontario, held at Toronto on June 12th and four succeeding days, the following named officers for the ensuing year were elected: D. L. Philip, Brantford, president; William T. Harris, Brantford, vice-president; Robert A. Pyne, Toronto, registrar; William T. Aikins, Toronto, treasurer. Executive Committee—The president, vice-president, and Dr. Campbell, London, Ont.

Taxing Physicians.—The city of Louisville, Ky., taxes each physician $10. Charlotte, N. C., also taxes medical men to the tune of $15 a year. Thus the former city secures an annual income of $3,400, and the latter $405, and yet it is expected and demanded of medical men in both of these cities to give a large share of their time and skill to public institutions and charity. Why are not lawyers and clergymen taxed as well? It would seem fully as appropriate.—*Medical Age.*

The Journal of the American Medical Association publishes this fortuitous combination of items:

"The American Academy of Medicine will meet in Jefferson, N. Y., August 29th and 30th."

"℞. In debility from seminal losses, elixir nutrans, ℥ viij. Sig. Dessertspoonful four times a day, after meals and at bed-time."

The British Medical Association will hold its sixty-second annual meeting in Bristol, on Tuesday, Wednesday, Thursday, and Friday, July 31st, and August 1st, 2d, and 3d, under the presidency of Dr. George Hare Philipson, of Durham. Among the Americans who are announced in the *British Medical Journal* to take part in the proceedings are Dr. J. J. Chisolm, of Baltimore, and Dr. George T. Stevens, of New York.

The International Medical Missionary Society is again at the front, and announces plans for a $250,000 building for the purpose of educating medical missionaries. We have the utmost sympathy with the medical missionary movement, but we cannot see the least use for a special college in order to educate this class of persons. The medical missionary, if he expects to do creditable work, must receive a good medical education, and there are abundant opportunities in this city and elsewhere for the purpose.

The Society of Physicians and Naturalists of Germany hold their sixty-sixth anniversary in Vienna from the 24th to the 30th of September next. Among the many who will take part in the celebration may be mentioned Professors Helmholtz and Leyden, of Berlin, and Forel of Zurich. The sections into which the ordinary business of the society is divided will on this occasion be headed by Viennese *savants*, such as Gustav Tschermak (Rector of the University), Nothnagel, Wiederhofer, Krafft-Ebing, and Politzer. For the expenses of the celebration the Austrian Government has voted 10,000 florins; while the municipality gives a grand reception on the 27th. A ladies' committee, organized for the entertainment and general convenience of their foreign sisters, is already working in co-operation with the central committee; and no effort will be wanting to make the anniversary worthy of the noble society whose sixty sixth birthday it commemorates.

The New Outcrop of Cholera Abroad simply confirms the record made last fall, at the meeting of the American Public Health Association by members who had been in correspondence with Continental, English, and Canadian health authorities. Owing to the many foci established by the disease last year, in Europe, a sharp recrudescence was to be expected. Now it remains for the health authorities of this country and Canada to be on the alert for our common enemy. The Canadian quarantine station at Grosse Isle is reported as being in perfect order, in reality one of the most extensive of modern plants. The island is in the St. Lawrence, below Quebec, in an ideal situation. There are forty buildings, and in case of necessity three thousand persons can be housed. The effects of one thousand immigrants can be scientifically disinfected in twenty-four hours. Dr. Montizambert is in charge. The government of Canada has named him Superintendent of the Canadian Quarantine System.

Society Reports.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, April 23, 1894.

SENECA D. POWELL, M.D., PRESIDENT, IN THE CHAIR.

Advertisers Admonished.—The Comitia Minora, having received a report from the Committee on Ethics with regard to advertising by certain members, had, in accord with the report, admonished the offenders.

Registration of Births.—DR. DANIEL LEWIS called attention to the faults of the bill before the Legislature relating to the registration of marriages and births, and offered a resolution recommending its amendment so as to make it obligatory upon parents, instead of upon physicians, to report births to an officer, similar to the manner in which it was done in England, the records to be such as shall be admitted as evidence in courts of law. The resolution was adopted.

Brown-Séquard's Methods.—DR. PAUL GIBIER, in a paper with this title, outlined some of the more important work accomplished by Brown-Séquard, and then passed to his introduction of animal extracts in therapeutics and physiological study. His discoveries with relation to the nervous system were of a character, Dr. Gibier thought, to prevent his name falling into oblivion. His investigations into the action of the animal extracts had not been limited to the testicular fluid in rejuvenating the aged, as some had maliciously suggested. It was no credit to certain physicians high in the profession that they had not even mentioned his name when writing upon the thyroid extract in the treatment of myxœdema.

Dr. Gibier then passed to his own experience with the animal extracts in the treatment of locomotor ataxia, cancer, paralysis agitans, and other affections, in all about twenty-two cases. The extracts usually employed were testicular, pancreatic, or nervous, or a combination of these. In this list he did not include cases of epilepsy treated by cerebral extract. In two cases of cancer, one of the breast and one of the uterus, there had been improvement of the general health, and in one cessation of hemorrhage. In two cases of diabetes there had been diminution of the sugar and general improvement. In at least two cases of locomotor ataxia of marked degree, the bladder and intestines being involved, there had been great improvement in the ataxia and other symptoms. In one case of bulbar paralysis, sent him by Dr. C. L. Dana, the respiratory and cardiac symptoms and dysphagia had threatened soon to terminate life, but under large hypodermic doses of testicular and nervous matter the man had returned to about his former healthy state. The difference in result from the same treatment in apparently similar cases led Dr. Gibier to remark that there probably was a difference in the pathological lesions not yet recognized in the classification of the cases.

Scorbutus in Infancy.—DR. WALTER LESTER CARR read the paper (see p. 811).

Adds Cream to Cow's Milk.—DR. JOSEPH E. WINTERS never knew scorbutus to be mistaken for any disease except rheumatism. The baby should be examined when asleep. There was no possibility of any baby being properly nourished on condensed milk or any artificial food on the market. Even cow's milk would cause scurvy if after the proper dilution cream were not added to bring the proportion up to four per cent. In other words, when the casein had been reduced sufficiently so that it could be digested by the stomach, one should add cream.

DR. HENRY KOPLIK made some remarks upon the nature of scorbutus, whether it was an infectious disease and whether related to rickets. He thought it was independent of rickets.

DR. CRANDALL thought statistics of the frequency of scorbutus were liable to be deceptive if based solely on dispensary records, for the class of people who visited dispensaries were likely to give their babies the freedom of the table, or such a variety of food as would prevent scurvy, whatever else it might lead to. The large majority of reported cases had occurred in private practice.

DR. CARR, in his closing remarks, said the rapidity of recovery was much greater when the patients were given fresh fruit and fresh food.

Paludism in Children in New York.—DR. H. D. CHAPIN read the paper. The rarity of paludism in New York rendered the subject somewhat difficult to deal with. He had seen fourteen cases in children, at the Demilt Dispensary, the past eighteen months, the diagnosis having been confirmed by finding the plasmodium in the blood. The oldest of the patients was about thirteen years of age, but most of them were much younger. Fever was the chief manifestation, and it was often difficult to make out the distinct periodicity mentioned in the books. The tendency of the disease in the city was toward spontaneous recovery. It responded to quinine. It was most frequently mistaken for catarrhal condition of the intestinal tract. One case had been diagnosed tuberculosis. A certain form of rheumatism sometimes simulated malaria, so also a mild form of typhoid, or a condition arising from bad feeding and foul air; but here the plasmodium was absent.

A communication which Dr. Chapin had received from Dr. Osler, of Baltimore, stated that out of 240 cases of malaria seen at Johns Hopkins, only 17 were in children. Dr. Osler had learned to place more and more reliance on examination of the blood in diagnosis.

Relies on Examination of the Blood.—DR. HENRY KOPLIK thought the plasmodium was unmistakable, and examination of the blood was so easy that there should be no excuse for not making a correct diagnosis. In his cases there was, as a rule, no distinct chill, but a chilly sensation. In all of them the malaria had been contracted outside of the city. No reliance could be placed upon a large spleen in the diagnosis of malaria in infants. If quinine were given before examining the blood, the plasmodium would probably not be found.

DR. W. L. STOWELL thought poisoning by bad air was frequent in the city, but not by the plasmodium of malaria. The majority of children said to be suffering from malaria were set all right by a cathartic and stomachic. He referred to an English work which conveyed the impression that malaria was one of the chief diseases in New York City, whereas it was very rare. All cases with the regular symptoms of the diseases seen by him had come from without the city.

DR. CHAPIN, in closing, remarked that he thought the term paludism a better one than malaria, since the latter meant bad air, of which we certainly got enough in New York, but it did not produce the plasmodium.

Changes in the Medical Department of the University of Virginia.—Dr. William Christian has been elected to the Chair of Anatomy, and Dr. J. Staige Davis Adjunct Professor of Pathology and Hygiene.

New Surgical Hospital for Newport.—Mrs. F. W. Vanderbilt has given to the Newport Hospital corporation a large sum of money, and plans have been made for a building for surgical purposes. It will be known as the Vanderbilt Surgical Building, in honor of its donor, and will be of brick and iron, 52 by 36 feet. It will have an accident-room, operating-room, and etherizing and other necessary apartments.

The Tragic Side of Medical Life.—Another name has to be added to the ever-growing list of medical martyrs to professional duty. Dr. A. L. Copner, of Ilfracombe, England, has died of diphtheria, contracted while in attendance on a child suffering from that disease. The child refused to take any remedies, and when it was sought to apply medication directly to the diseased parts by means of syringing, struggled and coughed, bespattering Dr. Copner with infective marerial.

Correspondence.

OUR LONDON LETTER.

From our Special Correspondent.

CLINICAL SOCIETY CONCLUDES THE WORK OF THE SESSION —ANNUAL MEETING—PANCREATIC CYSTS IN DIABETICS — PURPURA AND PEMPHIGUS TREATED BY SULPHO CARBOLATES—ULCERS OF LEG TREATED BY CHLORINE—THE QUEEN'S BIRTHDAY HONORS—THE "NOBLE PROFESSION" IGNORED—GENERAL MEDICAL COUNCIL—WARNING DELINQUENTS—SCOTTISH UNIVERSITIES AND THE CURRICULUM—AN IRISH SQUABBLE—THE DENTISTS AND THE COUNCIL.

LONDON, May 31, 1894.

ANOTHER society, the Clinical, has concluded its work for the session. The annual meeting was held on Friday last, when the office bearers for the ensuing year were elected and other routine business transacted. It was agreed in future to devote three whole evenings each session to the exhibition of living specimens—these exhibitions having proved very attractive. The same evening ordinary work was also carried on which I will briefly report.

Dr. Churton gave an account of a case of pancreatic cyst which formed in a diabetic patient, a man, thirty-five years of age. He applied for pains in the abdomen and back, and complained also of rumbling in the bowels. The epigastrium was prominent, and the pyloric third of the stomach, evidently pushed forward by a tumor behind it, splashed on palpation. The whole left hypochondrium was dull. The transverse colon was separated from the stomach by a dull area of varying width. The urine contained sugar; its specific gravity was 1.033; its quantity was not yet markedly increased. The patient had become mentally and physically rather slow and weak: his face and lips were pale. Had never had any abdominal injury. Exploration in the eighth left intercostal space in mid-axillary line, found fluid of a dirty olive color, containing very little ordinary albumin. A slight circumscribed peritonitis followed the puncture on its subsidence in a few days; an incision was made in front by Mr. Ward, who drew off the fluid through a trocar, and then, having enlarged the opening in the cyst, passed his finger through the cavity to its posterior wall below the last rib, made an incision at that part for drainage, and closed the cyst and the wound in front. Patient was treated with pancreas extract, or liq. pancreaticus, and various kinds of diet, including grapes, one-third of a pound daily, which appeared to considerably increase the quantity of sugar in the urine. In February there was a trace of acetone in the urine. In March the discharge from the sinus, which had been clear and watery, became again purulent, but remained small in quantity until September, when it was increased, and there were signs of reaccumulation of pus behind the stomach, and purpura appeared on the feet and legs. For two or three months he had been an out patient and insufficiently fed. Sinus was enlarged, liberating much pus; but the suppuration afterward, in spite of further incisions, spread behind the peritoneum, invaded the ureters and kidneys, and the patient died on January 7, 1894. On autopsy the pancreas was a mere mass of fibrous tissue in which no trace of gland tissue could be discovered by the microscope. In the duodenal end there was a very small cavity, apparently the remains of a former cyst. There was no calculus. Surgical opinion seemed to favor incision of pancreatic cysts rather than aspiration; but the author, instructed by the present instance, considered aspiration preferable in cases associated with glycosuria, since—1, the glycosuria is a sign that the pancreas has become atrophied; 2, that being so, it does not appear that life can be much prolonged, even with the aid of pancreas extracts; 3, diabetic patients are more likely to become a prey to septic organisms; 4, pancreatic cysts have been cured by aspiration; 5, in eight successful cases treated by incision to which the author had been able to refer, glycosuria was not present; 6, he had not been able to find records of any successful cases in which it existed.

The president, Mr. Hulke, observed that stress was laid usually upon the nature of the cyst contents in arriving at a diagnosis, but though this might possibly be of some value in new cysts it did not hold good of older cyst formations. For operative purposes he divided these cysts into two groups: First, those which were stalked and connected with only a small portion of the pancreas. These could easily be drawn up and drained. Secondly, those which were more or less sessile, and these were much less easy to deal with. Mr. A. Gould considered aspiration of these cysts a rather dangerous proceeding, and had never done it himself; but having opened three such cysts, in addition to having assisted at the opening of another, he said that in every instance he was thankful that he had not attempted aspiration, for it would in every case have exposed the patient to the risk of wounding one or more of the large vessels running in front of the cyst, the stomach, or the duodenum. He pointed out that the contents of such cysts were usually too thick to come away freely through an ordinary aspirator, and he repeated that the aspiration of abdominal cysts was unnecessary and dangerous. With reference to the indication afforded by concomitant glycosuria, he suggested that in the presence of marked glycosuria it would be preferable to let the case alone. Such cysts, moreover, refilled with great rapidity, and no one would regard repeated aspiration as a safe or desirable practice.

Mr. Wallis concurred in this view, and in one instance had seen alarming symptoms follow aspiration.

Dr. Churton, in reply, said he only looked upon aspiration as a *pis aller*. He had been very much impressed by the failure of the operation in his case, especially as such patients were peculiarly liable to take on septic changes. He pointed out that hydatids were sometimes cured by a single aspiration, and in most text books it was stated that in certain instances cysts of the pancreas have likewise yielded to a single puncture. If this were so, then he thought it was worth trying. If, on the other hand, aspiration always failed to afford permanent relief in diabetic patients, he agreed that it would be better to leave such cases alone.

Dr. Sansom then related a case of purpura hemorrhagica with acute pemphigus, probably induced by influenza, treated by half-drachm doses of sodium sulphocarbolate every four hours, and terminating in recovery, in a girl, aged twelve. He referred also to a second case, equally successful.

After this Dr. E. Diver explained a plan of using chlorine gas in the treatment of chronic ulcers of the legs, and related two cases. The gas was formed by pouring on about two drachms of potassium chlorate, ʒ j. or more of HCl, in a pickle or marmalade jar, the outside of which was covered by brown paper. After this a disk of white paper was introduced, and on top of the paper a sufficiency of absorbent wool; a large cork was then fitted to the neck of the jar. The wool, yellowish green on the surface when at first exposed to view, was then placed over the ulcer in each case and quickly covered by a gutta percha tissue: then the patient was left to bandage the leg as accustomed to. No rest was enjoined. The gas was probably chiefly Cl, with some peroxide of Cl in mixture. He had been led to try chlorine gas by observing the extraordinary way in which it increased the germinating power of poor samples of barley. This had induced him to try it as a stimulant in these two cases.

LONDON, June 2, 1894.

The Queen's birthday has passed with the usual list of honors conferred on the occasion, but the recognition of medicine is as slight as usual. Professor Grainger Stewart is knighted, a distinction by no means equal to his professional fame, and which may be looked upon as merely a mark of his court position—physician to the

queen in Scotland. The same distinction has been conferred on Mr. Seymour Haden; but this, too, not as a medical man but as the President of the Society of Painter-Etchers. Dr. Bucknill also receives a knighthood, again not for his medical work, which has been great, but in recognition of the fact that he was the originator of the Volunteer force in 1852. He would probably have been passed over even now, but that his brethren and admirers have lately determined to show him honor in his old age, and to place the fact of his service to his country in initiating the Volunteer force beyond historical doubt. So the opportunity of official recognition has at last been taken. It is the usual thing where a man who has done something is "only a doctor." Either his claim is passed over altogether or until forced recognition in old age makes it worthless. Liberal governments have generally been most illiberal to the profession. It is very well for Mr. Gladstone to come to the Andrew Clark meeting and make a fine speech about the "noble profession;" but in all his years of power what has he done to recognize its nobility? True, he gave a baronetcy to Clark, his own devoted doctor, and he knighted Foster for his electioneering services. But such left handed recognition deserves the contempt rather than the gratitude of our "noble profession." Bucknill has reaped all the honor his brethren could give before his public services were noticed. Dr. Russell, the Lord Provost of Edinburgh, has also been knighted, and similar criticism might be made. He has never engaged in private practice, but his services to Edinburgh and his authority on questions of public health are well known. Some other honors conferred on army and navy surgeons, and those in colonial public positions of importance, read the same lesson as to the value set on medicine by our politicians. Had either of the above been a brewer or distiller, the present government, notwithstanding its so-called "temperance" leanings would undoubtedly have followed precedent and made him a lord at the very least.

The General Medical Council extended its meeting over six days. I last week sent you an account of the chief subjects discussed and have now only to supplement that with remarks on the later proceedings. A good deal of time was consumed in the amendment or regulation of the penal procedure. The Council seemed desirous of postponing a sentence or of receiving evidence after it had given its verdict, but wisely took the advice of its legal assessor and ultimately adopted his suggestions. The question came forward on three separate days—on one it was said the object was to meet the case of young men who had recently passed and had been entrapped into the offence of "covering" unqualified men by ignorance as to the Council's rules. This is certainly a very poor case, for young men fresh from the schools are not at all likely to be so simple as not to know that this offence is infamous in the eyes of respectable men as well as dangerous to the perpetrator. If there were any doubt as to the knowledge of the young men, let the Council order the Registrar to hand to every one of them a statement of the law with the receipt for the registration fee. Such a statement as to the conditions on which they would be permitted to remain on the register might very well be printed on the receipt itself. The Council has determined to advertise a warning in the medical journals.

The Scottish Universities Commission having framed an ordinance under which some persons might evade the five years' curriculum, the President called their attention to the matter. Probably the Council will have to represent the matter to the Privy Council. It is most important that the curriculum should be enforced in all cases alike, and the Scottish universities must not be allowed to interfere with it.

The Dublin Apothecaries' Hall was attacked by the College of Physicians backed by the Education Committee and the Inspectors of Examinations. The College of Surgeons of Ireland formed a conjoint board with the apothecaries, as well as one with the Dublin College of Physicians, which wants to keep medicine in its own hands. *Hinc illæ lachrymæ.* To be sure there is no denying that the Dublin Hall is the weakest licensing body in the three kingdoms, and the representatives of its college rival would gladly see it abolished. It could very well be spared from the long list of rival bodies, but then so too could any one of the others. Indeed some of us would not object to make a clean sweep of them all, and the Council too. But the Hall has legal rights and the delegates of the other vested rights could not agree to represent its deficiencies to the Privy Council and ask for its suspension. In its thirty-five years of existence the Council has not once taken this extreme step, and so delay was urged for this reason after repeated assurances that every recommendation will be carried out. The Hall has had a narrow escape, partly perhaps due to a fear that the process of suspending corporations, if once begun, might go merrily along, *i.e.*, to the profession, though sadly to corporations. In that case this Irish squabble is worth pondering.

The dentists are to receive a warning about advertising as "easily carried so far" as to bring them under the penalty of "infamous conduct." The dentists asked to have a representative of their own on the Council, which has no power and no desire to appoint one. The best plan for the dentists would be to influence one of the colleges which grants dental diplomas to nominate one of its alumni as its representative on the Council. There are dental scientists who are also fully and even highly qualified surgeons also. Let the dentists try and they will at least learn something of the force of college exclusiveness. The office-bearers want all the emoluments, all the honors, all the loaves and fishes to divide among themselves and have nothing to spare for outsiders.

MEDICAL NOTES ON THE WRECK OF THE KEARSARGE.

To the Editor of the Medical Record.

Sir: At the request of a number of my friends, and with the hope that other medical men might be interested, who mayhap do, or do not go down to the sea in ships, I have ventured to recall certain disjointed bits of observation made recently during the night of the wreck of the Kearsarge, and during the nine subsequent days that the ship's company remained on a desert coral island in the Caribbean Sea.

The ship struck on Roncador Reef, on February 2d, at about seven o'clock in the evening, just after dark. All possible efforts to get the ship off had proven vain, and an order was passed to all departments to make ready for abandoning the ship, when that should become necessary.

The surgeon's duties were to bring the sick into a safe place, to save and preserve the medical records of the ship, to select from the medical stores the medicines which would be of most use in emergencies, to carefully guard the distilled liquors, and superintend any necessary issue of the same, and to be prepared to render immediate medical or surgical assistance where needed. After all these things were attended to, it became our additional duty to prepare convenient packages of medicine for each boat. These packages contained a half litre of brandy, or whiskey, a hundred 0.2 gelatine-coated quinine pills, about sixty grammes of Squibb's mixture, a bottle of tablet triturate cathartic pills, and a couple of roller bandages.

Happily the accidents which occurred during the night of the wreck, though numerous, were largely of the nature of simple abrasions or contusions; only one case of an incised wound occurred, produced by the slipping of an axe while some rigging was being cut away, the axe entering for about an inch into the calf of a man's leg. Another man was caught in a bight of rope, one end of which was attached to a gun, as it was being "hove"

overboard. He was thrown forcibly against the side of the ship, striking his chest and head; but upon application of restoratives he soon recovered consciousness, and in a few hours was none the worse, apparently, for his shaking up.

There were but three on the sick-list proper at the time that the wreck occurred. One was an apprentice, slowly recovering from a keratitis of traumatic origin; one a case of incipient phthisis complicated with a syphilitic inguinal adenitis, which rendered walking difficult; the third was an old mulatto seaman, who, in virtue of a mitral lesion, a chronic nephritis, with albuminuria and œdema of both legs, promised to soon be of more use to some pathologist than to the naval service. The keratitis patient was one of the first to spring into the water on the morning following the wreck—of course minus his occlusion bandage; and yet his corneal lesion continued during the ensuing days on Roncador Cay to decrease in size, and to heal, notwithstanding exposure to bright sunlight and the lack of appropriate treatment. The old seaman went over the side, hand over hand, down a rope for a distance of twenty-five feet or so, as did every one else, and then, with two men to support him, he waded for a mile and a half through water up to his neck. The rest of the way he was able so secure a place in one of the boats. Although fearfully exhausted on his arrival at the little island, and very near collapse, he pulled through nicely in a few days, and is now, though still at the Naval Hospital in Brooklyn, better than he has been for a long time.

During the long night of the wreck the doctors, from their coigne of vantage by the emergency outfit, the sick, and the medical stores, were able to study, among other things, examples of the psychology, expression, and even the therapeutics of fear. For example, an unemployed man, perhaps wearing a life preserver (!), and having several fathoms of rope around his waist, would come to us, and with wide-open, staring eyes and pale perspiring countenance, ask, in a voice made weak by some constriction in his throat: "Doctor, do you think we'll have to swim for it? How far off is land?" With the assurance that land would be seen at daylight, only a couple of miles off, accompanied by the gift of a cigar and a light, the "patient" would take two or three deep whiffs, and go away entirely cheerful. Very many times did we make the confirmative observation that night of the peculiar effect of tobacco in calming the nervous paroxysm produced by the unfortunate combination of dread, suspense, and inaction. Another, by no means new, observation, was the enormous rise in spirits and courage produced in every one, during the long pull from midnight to daylight, by a plate of beans, some crackers, and black coffee without sugar, which at other times would hardly have been a satisfying repast. Thus, even at night, in a shipwreck, a full stomach, and the beneficent effect of that by some abjured poison, assisted us all very materially in facing difficulty and danger and in going forward with a calm, unflinching courage to meet whatever might occur. What better argument does the smoker want?

In anchoring lines and directing the transfer of men, food, and water, from the ship to the island, a number of officers were compelled to remain in the water up to their waists from daylight until about three in the afternoon, with an intense tropical sun beating down on their heads, after the preceding night of hard work and anxiety. This caused temporary nervous collapse in one case only, and a woollen blanket (the only one we had), two hours' sleep, and a couple of ounces of brandy, were all that was necessary in the way of treatment.

In order to dry outer clothing for the purpose of having sufficient covering for the night, a great many arms, legs, and necks were exposed to the afternoon sun. In upward of a hundred and fifty cases dark red belts of sunburn quickly appeared, which toward morning developed as burns of the second degree. Linseed oil and lime-water were applied three times a day with great relief, and before a week had passed one could peel off great sheets of epidermis from the arms, legs, or face of almost any one. On account of the fierce rays of the sun it became necessary to issue a prohibitory order to the men, to prevent unnecessary exposure, between the hours of eleven in the morning and three in the afternoon. Those who were compelled to remain out wore a sort of "puggaree," improvised out of a handkerchief, in order to protect the back of the neck.

In regard to water and food: Brackish water was obtained from a well dug in the sand, and it was very welcome, inasmuch as only two hundred and fifty gallons of ship's water had been saved, to last two hundred and three men for an indefinite period. Some mouldy bread made the only starchy constituent of a diet composed of canned meat, sea-birds, and fish. Sleeping arrangements were confined to little hollows in the sand for each individual, and the protection from dew afforded by overturned boats or rough-and-ready tents of driftwood and pieces of sails. Latrines, in form of trenches, were constructed at the extreme end of the island for the disposal of excreta, and these trenches were about a thousand feet from the camp.

With all this exposure only two or three took slight colds, and no case of rheumatism or of diarrhœa or indigestion developed. All abrasions and cuts healed rapidly in that germ-free air, and, without even needing a dressing, frequently. It would be interesting to know exactly to what extent the constant trade winds affected the hygiene of the place. That out of two hundred and three men no resultant illness should have occurred is truly remarkable and well calculated to exemplify the adaptability of the healthy human organism to almost any environment. In fact, it is my belief that this temporary reversion to primeval modes of living did all of us more or less good physically.

In conclusion I should like to note that the tablet-triturates which are issued to the naval service deserved the highest praise. Those in properly corked bottles went without injury through the severest test of exposure to moist air and to water. They were particularly pleasing and convenient, where no other means for weighing or compounding were at hand. The gelatine-coated pills all became sticky from the moisture of the air, and so were rather difficult to handle.

M. W. Barnum,
Asst. Surgeon, U. S. Navy.

U. S. S. Monongahela,
Naval Academy, Annapolis, Md., June 7, 1894.

Medical Items.

Contagious Diseases — Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 23, 1894.

	Cases.	Deaths.
Tuberculosis	83	81
Typhoid fever	[illegible]	3
Scarlet fever	110	18
Cerebro-spinal meningitis	0	5
Measles	117	0
Diphtheria	255	50
Small-pox	18	1
Cholera	0	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Leprosy	0	0

Care of Milk as a Means of Preventing Disease.—The gravity of this matter calls for remedies which shall be effective and far reaching. The general measures of prevention we would suggest are the following: 1. The provision and establishment of a thorough and effective inspection of all dairies which contribute to the public milk-supply, for the purpose of discovering tuberculosis and

other infectious diseases among the dairy herds; of ascertaining the conditions under which the dairy cattle are cared for, fed, and milked; of discovering the existence of carelessness in obtaining the milk by dairymen, and the quality and location of the water-supply used by the cattle and used for cleaning and cooling the vessels in which the milk is received, kept, and transported; for the purpose, also, of ascertaining the existence or not of any infectious disease in the family of the dairyman, or of those in any way coming in contact with or handling the milk before it is shipped and during its transportation and delivery. 2. The absolute prohibition of the sale of milk from cattle found to be suffering from any infectious disease, or from dairies where there is liability of the infection of the milk through infectious diseases in the families of the dairyman or of his employees; the prohibition of the sale of milk which is at all altered in its normal chemical constitution; the absolute prohibition of the sale of milk from dairies where "distillery swill" or "brewers' grains" are fed to cattle. 3. The habitual employment of "tuberculin" by inspectors of dairies for the purpose of diagnosing the existence of tuberculosis in cattle, and the prompt exclusion from the dairy herd of tuberculous cattle; the punishment for the wilful violation on the part of the dairymen of the restrictions concerning tuberculosis, including the sale of milk from tuberculous cattle, by such heavy fines, coupled with imprisonment, as would effectively remove the danger to the public health. 4. The establishment of a high legal standard of purity nearly approaching the standard of pure average milk as it comes from properly cared for and properly fed cows. There should be a standard also for skimmed milk, which is sold as such, of a sufficiently high grade to exclude absolutely the sale of "separator slop." 5. The inspection of dairy milk at the dairy, in transit to the shipping station, or at the shipping platform. Dairy milk should be required to reach the standard fixed and applied in the city where it is consumed, and under similar penalties. The watering or adulteration of milk by the dairyman or his employees should be punished by heavy fines, coupled with imprisonment. Rigid inspection of the milk while it is in possession of the city dealer, and of his method of handling and trafficking. The city inspection should also embrace groceries, drug shops, and hotels, etc., where milk is retailed to the public. 6. The prohibition of the sale or transportation of milk by the dairyman, whenever either the milk or condition of the cattle, their surroundings in the stables, or the method of obtaining and handling the milk, have been condemned by the dairy inspectors as liable to be unwholesome or infectious. 7. A monthly publication of the names and places of business of all persons who have been found to have in their possession or selling unlawful milk, in order that the consumers may be warned of their danger, and in order to cause a discontinuance of fraudulent practices where they exist, or to correct inexcusable negligence on the part of dealers who may violate the law through ignorance. 8. A requirement that vendors of milk shall be prosecuted each time they are found to have in their possession or to have sold or offered for sale unlawful milk, whether they have personal knowledge thereof or not, and the establishment of such heavy fines, coupled in the case of repetition of the offence with imprisonment, as will render the handling and sale of such milk unprofitable to the vendor. 9 No milk should be allowed to be sold in any city except by those having a license under authority of the local board of health, and this provision should apply to the regular milk-dealers, groceries, and other shops where milk is sold, drug-stores, and other places where milk comprises a part or the whole of beverages sold to the general public. No vehicles should be permitted to be used in the distribution of milk to customers, or in the transportation of milk within the city limits, except those duly licensed under the same authority. The sale or shipment of milk by dairymen should be prohibited unless they are licensed. These licenses should be good for one year only, and should be forfeited by a violation of the law regulating the shipment, treatment, or sale of milk. The establishment of this system of licensing dairymen and vendors of milk should accomplish the double purpose of rigid supervision and the raising of sufficient funds to meet the expenses of inspection and of prosecution for violation of law; and the license fees should be so assessed as to amply meet the requirements. 10. The consumer should exercise scrupulous care in the handling of milk in the dwelling. Vessels containing it should be absolutely clean and well scalded. The milk should be kept cool and protected from the air and dust as well as from all kinds of exhalations. None should be accepted from the vendor which is perceptibly acid. When the milk is intended as food for infants, unusual care should be exercised by the housewife that an excellent quality of perfectly fresh, cool milk is delivered. If milk in the slightest degree objectionable is served by the vendor, send a sample of it at once to the local health authorities for examination, and call upon them to correct the abuse. The intervention of the latter will do infinitely more good in permanently remedying the trouble than individual protests by a customer to the vendor can possibly do, and at the same time will benefit his neighbors as well as himself. Aid the health authorities in every possible manner to oblige the vendors of milk to live up to the law and respect the rights of the public. The milk intended for babes should not be kept in one general receptacle, but immediately upon entering the house should be distributed in a number of six- or eight-ounce bottles which have been perfectly cleansed and sterilized beforehand. The bottles should be at once well stoppered, either with cork or washed surgical cotton, and placed in an ice box and maintained there till used. In summer it would be better, before placing in the ice box, to heat the milk in the bottles to 160° F. for fifteen or twenty minutes, in order to kill, or at least inhibit, the bacteria which the milk may contain. This can be conveniently done by placing the filled bottles in a deep saucepan containing warm water as high as the neck of the bottles, and then placing the pan on a hot stove for a half hour. The bottles should then be taken out of the pan and set aside in a cool place for a few minutes before placing in the ice box. When it is time to feed the baby, remove one bottle from the ice-box, warm it, remove the stopper, place a perfectly clean sterilized rubber nipple over the mouth of the bottle. Avoid rubber tubes and complicated nipples, which are always difficult, if not indeed quite impossible, to keep perfectly clean and free from microbes in warm weather. Never make the mistake of using the same bottleful for two separate feedings; throw the remains away By such simple procedures, costing little trouble, the life and good health of many a bottle fed infant can be saved, even in the hottest weather and most unhealthy surroundings.

The first nine of the foregoing suggestions should form the basis of laws regulating the sale of milk, and they should be vigorously executed without leniency or favoritism. With enactment and thorough enforcement of such laws the "slaughter of the innocents," which we now have so much reason to bewail, would practically cease, and immense annual gains in the economic wealth of the nation would certainly follow the great saving of life. Meanwhile, in the absence of such laws the mothers can do much to save the lives of their little ones in the manner pointed out.—*The Dietetic and Hygienic Gazette.*

Gall-stones.—Dr. T. H. Buckler treats gall stones with chloroform and succinate of iron (*The Medical Age*, April 10, 1894). If anyone contemplates an operation for gall-stones, he says, let him first try the more quiet and less obtrusive method of dissolving it, and depend upon it, there will be no necessity for a resort to the knife.

The University of Dorpat, which is now officially known as Tvryeff, is rapidly being Russianized. The official language is now Russian, and as rapidly as vacancies occur in the professional staff the places of the Germans are filled by Russians.

INDEX.

A

Abbott, George E., salmon colored ear-cotton, 790.
Abdomen, double aspiration of the, 469.
Abdominal surgery, 637; in relation to the general practitioner, 54.
Abdominal tumors, spontaneous disappearance of, 253.
Abortion brought about by the introduction of a sound into the uterus by the woman herself, 776; is it ever justifiable for sociological reasons? 380.
Abscess, pelvic, instrument for evacuating and draining, 21; retro-pharyngeal, causation, pathology and symptoms of, 522; retro-pharyngeal, how to incise, 81; urethro-vaginal, 791.
Academy of Medicine of New York, see *New York Academy of Medicine;* of Paris, 149, 246, 278, 341, 408.
Academy of Sciences of Paris, 246.
Accident cases, physical examination of plaintiffs in, 240.
Accouchement forcé, 202, 220, 298.
Accoucheurs and surgeons, 27.
Acetonic and ethyldiacetic intoxications, 534.
Acne, paste for, 348.
Aconitine, nitrate of, 566; nitrate of, in facial erysipelas, 143.
Acromegaly, 214.
Actinomycosis, 555.
Adeno-fibroma, sarcoma developing on, 410.
After-care Association for Female Insanity Convalescents, 211.
Agnew, D. Hayes, memorial, 530.
Air-compressor, a new portable, 709.
Air-passages, method of locating metallic bodies in, 349.
Aitchinson, R. S., notice of book by, 374.
Alaska, bathing in, 445.
Albumin in the urine, significance of, in those past middle life, 801; Spiegler's test for, 120, 512.
Albuminuria in functional nervous disease, 597; in pregnancy, 154, 814.
Alcohol, hysterical manifestations due to, 221; oranges to relieve the craving for, 679.
Alcoholism, chronic, 743.
Alimentary tract, microbes in the, 310.
Alopecia, rare forms of, 764.
Aluminum, acetate of, disinfectant properties of, 60; for surgical instruments, 182.
Amblyopia, exercise of the retina in, 768.
American Association of Genito-urinary Surgeons, 760.
American Climatological Association, 762.
American Dermatological Association, 763.
American Genito-urinary Association, officers of the, 795.
American Gynecological Society, 738, 768.
American Medical Association, 728, 759, 797; election of officers, 759; officers of sections, 796; protest of the Philadelphia County Medical Society to the, 636.
American Neurological Association, 770.
American Ophthalmological Association, 766.
American Orthopedic Association, 764.
American Otological Society, 740.
American Pediatric Society, 704, 769.
American Surgical Association, 701, 799.
Americanism in modern medicine, a German view of, 48.
Amputation at the hip-joint, bloodless, 33, 124, 251, 381, 460; at the shoulder, control of hemorrhage in, 703; in children, conical stump after, 251, 423; pain in the stump after, 250.
Anæmia, and diarrhœa in cattle, parasitic, 511; malarial, 566; pernicious, the internal organs in, 341; pernicious, treatment of, 568; treatment of indigestion of, 743; value of hæmatokrit in the diagnosis of, 282.
Anæsthesia, ether, the growing popularity of, in London, 114; new and rapid method of, 61, 155.
Anæsthetic, a new local, 569.
Anæsthetics, administration of, clinically considered, 407.
Anarchism, Lombroso cure for, 692.
Anasarca following retention of urine, but without albuminuria, 504.
Anderson, R. Harcourt, portable operating cabinet, 643.
Andrews, Glenn, permanganate of potassium as an antidote for morphine poisoning, 316.
Aneurism, of the aorta, 213, 439, 471; traumatic, of the axillary artery, 248.
Angina, pseudo membranous, treatment of, 408.
Angioma, venous, of the hand, 537.
Animal experimentation, influence of, on medical science, 734.
Animals, how they practise medicine, 463.
Anthropology, criminal, 42.
Anticylic acid, 313.
Antiphthisin, 472.
Antiseptic, a new, 64, 466.
Antiseptic varnish, 160.
Antispasmine, 26.
Anti vivisection again, 337.
Antrum of Highmore, abscess of the, 393.
Anus, fissure of the, in infants, 437.
Aorta, aneurism of the, 213, 439, 471.
Apex catarrh, 5.
Aphasia and pneumonia, 149.
Apoplexy, death from, while under chloroform narcosis, 634; study of temperature in, 801.
Appendicitis, acute suppurative peritonitis due to, 313; causes of, 94; chronic relapsing, 385, 410; diagnosis of, 1, 21; enterolith mistaken for, 267; salicylate of sodium in, 539; small incision and short confinement in, 215; strictly a surgical disease, 539; the editor of *Life* on, 338; treatment of, 807.
Appendix, vermiform, inflamed, 213, 223; palpation of the, 215.
Army, an attempted legislative outrage on the medical corps of the, 427.
Arnold, W. F., bloodless amputation at the hip joint, 381.
Arsenic, doses of, usually too small, 94.
Arterio-sclerosis after syphilis, 791.
Arthrectomy, 637.
Arthropathy, tabetic, diagnosis of, 752.
Arthro-synovitis cured by plaster-of-Paris splint, 59.
Ascites, tuberculous, cured by puncture followed by injection of camphor naphthol, 407.
Ashhurst, John, Jr., notice of book by, 300
Ashmead, Albert S., a new proof that beriberi is due to carbonic poisoning, 401; why not register the male prostitute? 445.
Ashmore-Noakes, S.S., a stop-over en route for delegates to the International Congress, 381.
Asphyxia of the new-born, traction of the tongue in, 106.
Association of American Anatomists, 756.
Association of American Medical Colleges, 126, 756.
Association of American Physicians, 700, 801.
Association of Military Surgeons of the United States, 397.
Asthenopia, low-grade cylinders in, 767; not dependent upon errors of refraction nor insufficiency of the ocular muscles, 53.
Asthma, internal remedy for, 60.
Astigmatism, myopic, change from, to hypermetropia, 630.
Astley Cooper, and his work, 27.
Asylums' Board in London, alleged extravagance of the, 312.
Athletics, college, and the drinking habit, 273, 339.
Atropia poisoning from eating turkey, 14.
Austin, Dr. William G., death of, 796.
Axillary artery, traumatic aneurism of the, 248.

B

Bache, Franklin, notice of book by, 564.
Babcock test as a means of determining the commercial and nutritive value of milk, 46.
Baker, M. N., notice of book by, 436.
Baldy, J. M., notice of work edited by, 372.
Ball, M. V., notice of book by, 309.
Bannan, Theresa, a case of monstrosity, 788.
Barber shop as a source of contagion, 217, 426.
Barnes, Edwin, on the salubrity of Pleasant Plains, 352, 429.
Barnes, Justin L., and adaptation of the Maddox cylinder for use on the phorometer, 678.
Barnum, M. W., medical notes on the wreck of the Kearsarge, 822.
Bartholow, Roberts, notice of book by, 374.
Basedow's disease, 248; nature of, 408; strumectomy in, 535; thyroid theory of, 771.
Bassett, H. W., jacket support for the legs in perineal operations, 190.
Bates, W. H., treatment of myopia without glasses, 104.
Bayliss, E. B., local treatment of chronic coughs, 233.
Bazin's malady, 94.
Beane, Dr. Frank D., death of, 147.
Beck, Carl, pyothorax and its treatment, 622, 774; resection of the hyoid bone for radical cure of fistula colli congenita, 335.
Bed-pans, how to make them comfortable, 192.
Behring's serum, 160.
Bell, Victor C., notice of book by, 564.
Bemus, Dr. William Marvin, verdict for, in a malpractice suit, 212.
Bennett, C. E., how much is the fatal dose of potassic cyanide? 742.
Benson, John A., notice of book by, 373.
Bentley, Professor, death of, 96.
Benzosol in diabetes, 50.

Berg, Henry W., causation, pathology, and symptoms of recto pharyngeal abscess, 522.
Berlin Medical Society, 213, 247, 341, 409; officers of the, 243.
Beriberi due to carbonic poisoning, 461.
Bevan, D., notice of book by, 406.
Bidwell, W. Davidson, trophic disturbance of the fingers, 790.
Bile-ducts, catarrh of the, 206.
Billings, John S., notice of book by, 565.
Billroth, Professor Theodore, anecdotes concerning, 371, 403; obituary of, 176.
Biological Society of Paris, 149, 246, 310.
Bishop, Louis Fangères, the silent majority in the medical profession, 62.
Bishop, Seth Scott, essay on hay fever by, 668.
Bismuth, large doses of, in gastric catarrh, 110; sub gallate of, 130.
Bladder, aspiration of the, 26; cystoscopic examination for foreign bodies in the, 223; ectopia of the, 607; exfoliation of the mucous membrane of the, 247; exstrophy of the, 458; hemorrhage of the, suprapubic cystotomy for, 787; hernia of the, 639; irritable, in young women, 26; repair of the, after gunshot wounds, 638; resection of the, 573; sacculated hypertrophied, 150; sarcoma of the, 607; sarcoma of the, discovered by the cystoscope, 639; stone in the, modification of Bigelow's operation in cases of enlarged prostate, 760; tamponnade of the, after suprapubic incision, 110; treatment of tumors of the, 278.
Blanks, J. H. Jr., chloroform narcosis, should it be treated by the application of electricity to the pneumogastric? 415.
Bleeding, indication for, 146.
Blindness, due to neglect of a midwife, 49; legislation to prevent, 175, 370.
Blood, changes in the, in syphilis, 278; direct transfusion of, from the dog to man, 469; in purpura hæmorrhagica, 111; increase of the microbicide power of the, during infection, 270; preserving the natural color of, in specimens, 118; relation between alkalinity of, and intestinal absorption, 111.
Blood-corpuscle, structure of, and its relation to practical medicine, 797.
Blood-serum, action of rattlesnake venom upon the bactericidal power of the, 663; nuclein the germicidal principle of, 125; toxicity of, 149.
Blue glass and red glass, 276.
Boeckmann, Edward, a new surgical sterilizer, 30.
Boils, application for, 743.
Book Notices:
Abdominal Section, After Treatment of Cases of, by Martin, 468.
Abnormal Man, by MacDonald, 405.
Accounts, Audit and Tenders, Uniform System of, for Hospitals and Institutions, by Burdett, 404.
Aerotherapeutics, by Williams, 604.
Alcoholism and its Treatment, by Usher, 533.
Anæsthesia, Discovery of Modern, by Nevins, 468.
Analysis and Toxicology, Laboratory Guide in, by Witthaus, 373.
Anatomist's Anomaly Blank, by Hewson, 532.
Anatomy, by Gray, 277.
Australia, Art of Living in, by Wicken and Muskett, 374.
Auto-intoxication in Disease, by Bouchard, 468.
Bacteriology, Essentials of, by Ball, 309.
Bacteriology, Manual of, by Schenck, 405.
Bed-side Record and Dietary, by Segur, 605.
Braithwaite's Retrospect, vol. cviii., 437.
Brown-Sequard's Orchitic Fluid, Cases of Nervous Disease Treated by Wood and Whiting, 372.
Cancer, Healing of Rodent, by Electricity, by Parsons, 501.
Chemical Salts of the U. S. P., Chart of the Officinal, by Kennedy, 437.
Book Notices:
Chemistry and Physics, by Struthers, Ward, and Wilmarth, 404.
Chemistry, Medical Student's Manual of, by Witthaus, 372.
Chemistry, Physiological, of the Animal Body, by Gamgee, 603.
Chemistry, a Text-book of Physiological, by Hammersten, 374.
Childhood, Medical Diseases of, by Donkin, 373.
Cholera, by Penson, 373.
Cholera, by Wall, 373.
Cholera, Therapeutics of, by Majumdar, 309.
Climates of the United States, by Denison, 501.
Clinical Medicine, Atlas of, by Bramwell, 565.
Death from Traumatic Fever, Physiology of, by Malcolm, 564.
Development and Heredity, a Theory of, by Orr, 406.
Diagnosis, Manual of Physical, by Tyson, 404.
Diagnosis, Medical, a Clinical Text-book of, by Vierordt, 372.
Diagnosis, Medical, a Practical Treatise on, by Musser, 501.
Dictionary, Illustrated Encyclopædic Medical, vol. iv., by Foster, 436.
Dictionary of Medical Science, by Dunglison, 245.
Dispensatory of the United States, by Wood and Bache, 564.
Dispensatory, the National, by Stillé, Maisch, and Caspari, 436.
Dissections Illustrated, Parts I. and II., by Brodie, and Highley, 436.
Ear and Adjacent Organs, Diseases of, by Politzer, 501.
Ear, Manual of Diseases of the, by Field, 604.
Edinburgh, Catalogue of Museum of the Royal College of Surgeons in, by Cathcart, 532.
Electrothérapie, Technique d', par Gantier, 374.
Embryos, Early Human, by Mall, 533.
Epitheliomata, Malignant Cutaneous, by Robinson, 375.
Eye Diseases, Notes on Nursing in, by Jeaffreson, 468.
Eye, Outline of the Embryology of the, by Holden, 406.
First Aid in Illness and Injury, by Pilcher, 501.
Generation, Diseases of Male Organs of, by Jacobson, 309.
Genito-urinary Diseases, Lectures on, by Well, 605.
Genito-urinary Diseases, Syphilology and Dermatology, a System of, edited by Morrow, 375.
Gonorrhœa, by Finger, 565.
Gout, by Wade, 437.
Growths, Morbid, and Sporozoa, by Clarke, 404.
Gynecology, an American Text-book of, edited by Baldy, 372.
Gynecology and Obstetrics, Selected Papers in, by D. B. Hart, 277.
Gynecology, Clinical, by T. M. Madden, 277.
Gynecology, Guide to the Study of, by Mergler, 373.
Hair and Scalp, Diseases of the, by Jackson, 604.
Head Sections, Atlas of, by Macewen, 404.
Health Board, New York State, Annual Reports of, for 1892–1893, 436.
Health Resorts of Europe, by Linn, 406.
Heart, Congenital Affections of the, 468.
Hernia, Anatomy and Surgical Treatment of, by Marcy, 605.
Histology, a Manual of General, by Gottheil, 468.
Histology, Methods of Pathological, by von Kahlden, 604.
Histology, Text-book of Normal, by Piersol, 373.
Hospitals, Dispensaries, and Nursing, compiled by Billings and Hurd, 565.
Hospitals, Healthy, by Galton, 373.
Book Notices:
Hygiene, Manual of Practical, by Coplin and Bevan, 406.
Hypnotism, Mesmerism, and the New Witchcraft, by Hart, 533.
Index Catalogue of the Surgeon-General's Office, vol. xiv., 277.
Kinderheilkunde, Grundriss der, von Seitz, 532.
Kolas Africains, les, par Édouard Heckel, 277.
Lying-in Hospital of the City of New York, Report of the, for 1893, 468.
Massage, the Art of, by Hale, 404.
Materia Medica and Therapeutics, Treatise on, by Bartholow, 374.
Materia Medica, Homœopathic, Essentials of, by Dewey, 404.
Medical Annual for 1894, 604.
Medical Handbook for Practitioners and Students, by Aitchinson, 374.
Medicine, American Text-book of the Theory and Practice of, edited by Pepper 436.
Medicine, Essentials of Practice of, by Morris, 437.
Mental Disease, Lectures on, by Stearns, 602.
Microscope and Microscopical Methods, by Gage, 468.
Midwifery, Treatise on the Science and Practice of, by Playfair, 245.
Minor Surgery and Bandaging, by Heath, 468.
Minor Surgery, Essentials of, by Martin, 374.
Mouth and Teeth, Popular Essays on the Care of the, by Bell, 564.
Myxœdema and the Effects of Climate on Disease, by Wilson, 375.
Narrative of a Busy Life, an Autobiography, by Hassal, 404.
Nose, Krankheiten der, von Zarniko, 533.
Nervous Diseases, Text-book of, by Dana, 564.
Nervous System, Diseases of, by Hirt, 602.
Nervous System, Manual of Diseases of the, by Gowers, 375.
New Jersey Board of Health, Seventeenth Annual Report of, 564.
Nurse's Dictionary, by Morton, 437.
Nurses in Home and Hospital, Information for, by Curran, 373.
Nursing, by Hampton, 532.
Nursing, Mental, by Harding, 406.
Obstetrical Lectures, Syllabus of, by Norris, 501
Obstetrics, a Manual of Practical, by Davis, 605.
Obstetrics, Outlines of, by Jewett, 404.
Ophthalmic Science and Practice, by Juler, 405.
Ophthalmology, New Truths in, by Savage, 604.
Pathology, Studies from the Department of, of the College of Physicians and Surgeons, vol. iii., 533.
Pediatrics, Clinical Lectures on, by Jacobi, 468.
Philadelphia Hospital Reports, vol. ii., 1893, 437.
Physics, Essentials of, by Brockway, 501.
Physics, Manual of, by Peddie, 603.
Physiology Practicums, by Wilder, 405.
Physiology, Text-book of, by Foster, 374.
Poisons, Memoranda on, by Tanner, 602.
Post-Mortem Examination, Technique of, by Hektoen, 501.
Psychology and Mental Disease, a Primer of, by Burr, 603.
Rectum and Anus, Diseases of the, by Kelsey, 603.
Reference Handbook of the Medical Sciences, Supplement, by Buck, 372.
Remedies, Notes on the Newer, by Cerna, 533.
Sciatic Neuritis, by Simpson, 309.
Sewage Disposal in the United States, by Rafter and Baker, 436.
Skin, Diseases of the, by Hyde, 374.
Stomach and Intestines, Treatment of the Diseases of the, by Matthieu, 500.
Suicide and Insanity, by Strahan, 437.
Surgery, Lectures on, by Cheever, 605.

Book Notices :
Surgery, a Manual for Students and Practitioners, by Gallaudet and Dixon-Jones, 373.
Surgery, Operative, by Kocher, 532.
Surgery, Principles and Practice of, by Ashhurst, 309.
Surgery, a Syllabus of, by Senn, 533.
Syphilis and the Nervous System, by Gowers, 533.
Syphilis in the Innocent, by Bulkley, 500.
Syphilis, Treatment of, by Intra-muscular Mercurial Injections, by Cotterell, 309.
Therapeutics, Manual of, by Stevens, 501.
Transactions of the American Association of Obstetricians and Gynecologists for 1893, 564.
Transactions of the American Dermatological Association for 1893, 605.
Transactions of the American Ophthalmological Society, 533.
Transactions of the American Orthopedic Association for 1893, 501.
Transactions of the American Pediatric Society, fifth session, 532.
Transactions of the American Surgical Association, vol. xi, 404.
Transactions of the Association of American Physicians for 1893, 406.
Transactions of the Association of Military Surgeons of the National Guard of the United States, Third Annual Meeting, 604.
Transactions of the Medical Association of Georgia for 1893, 406
Transactions of the Medical Society of New Jersey for 1893, 564.
Transactions of the Medical Society of North Carolina for 1893, 564.
Transactions of the Southern Surgical and Gynecological Association, vol. vi., 605.
Treatment, Year Book of, for 1894, 533.
Tumors, Innocent and Malignant, by Sutton, 532.
Urinary Organs, Surgical Disorders of the, by Harrison, 437.
Venereal Memoranda, by Morrow, 532.
Voies Urinaires, Chirurgie des, par Loumeau, 277.
Wiener k.k. Krankenaustalten, aus dem Jahrbuche der, 532.
Borderlands and crankdom, 360
Bouchard, Charles, notice of book by, 468.
Bowles, F. T., change from myopic astigmatism to hypermetropia, 630.
Boylston Prize, award of, 795.
Boys, protection of, from assault, 807.
Bradshaw, lecture, 27.
Brain, abscess of the, 740; acute softening of, presenting hysterical symptoms, 520; cysts of the, 118; echinococcus of the, 535; glio-sarcoma of the, 120; hemorrhage of the, 25; pyogenic diseases of the, 569; surgery of the, 441, 569; the, in general paresis, 673; thrombosis of the, 120; tumor of, medically treated, 590; unusual case of gunshot wound of the, 495.
Bramwell, Byron, notice of book by, 565.
Breast, primary cancer of the, 119.
Breasts, management of, before and during the puerperal period, 649; supernumerary, without nipples, 160.
Briggs, Dr. William L., death of, 796.
Bright's disease and pregnancy, 247; gold and sodium chloride in, 31
Broad ligament, cyst of the, 118.
Brockway, Fred J., notice of book by, 501.
Brodie, C. Cordon, notice of book by, 436.
Bromethyl and chloroform narcosis, 341.
Bromide of potassium, nine drachms of, at a dose, 440.
Bromidrosis, treatment of, 317, 680.
Bronchitis, pathology of, 238.
Brown, Dillon, a new, safe and simple apparatus for subliming calomel in the treatment of diphtheria and scarlatina, 644.
Brown, Dr. George W., death of, 696.
Brown-Séquard, Dr. Charles Édouard, anecdotes concerning, 531, 640—obituary of, 429.
Brown-Sequard's methods, 820.
Bryan, Dr. J. M., death of, 606.
Buck, Albert H., a case of acute inflammation of the middle ear, terminating in purulent periphlebitis of the lateral sinus; operation; recovery, 809; notice of work edited by, 372.
Buckley, Dr. Horatio N., death of, 173.
Bucknill, Dr., knighthood conferred on, 822.
Buechner, W. H., is the Wyeth method of hip amputation properly named? 124, 256.
Building, a unique sanitary, 133.
Bulbar paralysis, peculiar form of, 409.
Bulkley, L. Duncan, notice of book by, 500.
Bull, William T., further observations on chronic relapsing appendicitis—eighteen cases, with one death—list of four hundred and fifty operations, 385, 410.
Bullard, W. M., legal requirements in Montana, 696.
Bulletins, medical, concerning distinguished invalids, 208.
Bullet-wounds, 31, 269, 712, 731.
Burdett, Henry C., notice of book by, 404.
Burns, application for, 26; picric acid for, 807.
Burr, C. B., notice of book by, 603; the real functions of a lunacy commission, 29.
Button, a new intestinal, 726; Murphy's intestinal, 35, 68, 103, 650, 684, 721.
Byers, J. Wellington, eliminative treatment of typhoid fever, 510.

C

Cable reports of medical meetings, 635.
Cadwallader, Rawlins, the treatment of pneumonia, 789.
Cæsarian section, a successful case of, 137.
Caffeine, as a cardiac tonic, 60.
Caisson disease, 130, 133, 152.
Calcium chloride as a hæmostatic, 351.
Callan, Peter A., a new ophthalmoscope, 575.
Calomel, apparatus for subliming, 644.
Canarsie Board of Health, 140.
Cancer and tuberculosis, anæmias of, 141; carica papaya in, 302; chloride in, 288; cure of, by operation, 225; developing from a benign tumor, 121; enterolith mistaken for, 267; erysipelas toxin in, 743; escharotic paste for, 317; giant-cell epithelioma of the inferior maxilla, 120; modifications of cells and nuclei in, which may be mistaken for parasites, 567; no proof of heredity of, 93; of the breast, primary, 119; of the cardiac orifice of the stomach, 24; of the clavicle, 675; of the duodenum compressing the gall-duct, 674; of the larynx, 117; of the rectum, 676; of the stomach, 119; of the stomach, gastro-enterostomy for, 250; of the uterus, extirpation of, 94; parasitism of, 567, 772; toxalbumins of, 470; treatment of, 540.
Cancrum oris, treatment of, 278.
Carbolic acid, deaths from, in England, 244.
Carbuncle, treatment of, 282.
Carcinoma, see *Cancer*.
Cardiometria, 471.
Carica papaya in cancer, 302.
Carnot, the death-wound of, 816.
Carpenter, George, notice of book by, 468.
Carr, A. G., must the parson pay? 642.
Carr, Walter Lester, scorbutus in infancy, 811, 820.
Cartilages, dislocated, results of excision of, 507.
Cartwright lectures for 1894, 417, 449, 481, 513, 545, 577.
Case-books, physicians', what becomes of? 244.
Caspari, Charles, notice of book by, 436.
Castration, effect of, upon the sexual instinct, 173; for hypertrophy of the prostate, 761, 794; of sexual perverts, 479.
Catarrh, apex, 5.
Catgut, sterilized, in a convenient and portable form, 621.
Catheart, Charles W., notice of catalogue by, 532
Caudal appendage, 673.
Causes of disease, a classification of, 470.
Cells, staining of living, 384.
Centenarian, a medical, 725.
Cerna, David, notice of book by, 533.
Chancre, di-iodoform in the treatment of, 447; of the tonsil, 104.
Chancroid, di iodoform in, 246; treatment of, by heat, 631.
Chapped hands and face, 317.
Chappell, Walter F., the annular septum knife, 189; two cases of chancre of the tonsil, 104; vexed questions in the bacteriology of diphtheria, 457.
Charcot, a statue to, 148; joint, diagnosis of, 752.
Charities, cost of public, 174; useless medical, 369.
Charlatanry, an apology for, 724
Charles, Dr. T. Cranstoun, death of, 276, 284.
Cheesman, Hobart, observations on chronic urethritis in the male, 618.
Cheesman, William S., one way to overcome criminality, 122; suprapubic cystotomy for vesical hemorrhage, 787.
Cheever, David W., notice of book by, 605.
Chelsea Hospital for women, trouble at the, 283, 441, 572, 640.
Chemistry in its relation to pharmacy, 435.
Chest, apparatus for measuring the, 260.
Chew, Roger S., leprosy and vaccination, 415.
Chicago, small pox in, 565; the civilization of, 755.
Chilblains, application for, 743.
Child, the, 32.
Children, conical stump after amputations in, 251, 423; dangers of overfeeding in, 206; diseases of, in Constantinople, 544; gavage in the treatment of acute diseases of, 524; lead palsy in, 801; opium habit in, 197, 218; scurvy in, 279, 770, 811, 820; treatment of empyema in, 247; tuberculosis in, 705.
China, the first medical college in, 426.
Chittenden, R. H., digestive proteolysis, 417, 449, 481, 513, 545, 577.
Chloral, reckless use of, 29.
Chloralose, accidents with, 408; as a hypnotic, 398.
Chlorides in cancerous diseases, 288.
Chlorine gas in ulcers of the leg, 821.
Chloroform, a new bottle for administering, 190; American, 365; anæsthesia, final results of the Hyderabad Commission on, 307; discovery of, 384; in organic disease of the heart, 457; of to-day, 423; narcosis, death from apoplexy while under, 634; narcosis, is the action of electricity on the pneumogastric of value in? 236, 415, 510; narcosis, vinegar as a remedy against vomiting in, 479; *vs.* ether, 638.
Chloroforming in sleep, 402.
Chlorosis, cold as an etiological factor in, 534; rest in, 142.
Cholecystenterostomy, with the anastomosis button, 35, 68, 103.
Cholecystotomy, indications for, 94; three cases of, for gall-stone, 215.
Cholera, influence of soil on the bacilli of, 806; the progress of, 561, 757; treatment of, 140; modes of propagation, 819.
Chondroma of the bones, 638.
Chorea, rheumatic nature of, 502; the eye-treatment of, 551, 582.
Chylangioma, cystic, 536.
Chylothorax, 535.
Cincinnati Academy of Medicine, 339; new quarters of the, 86; resolutions of, in support of the appropriation for the library of the Surgeon-General's office, 561.
Cincinnati Obstetrical Society, 148.
Circumcision, a specialist in, 727.
Cirrhosis of the liver, hypertrophic, 24.
City, a dirty, 520.
Clark, I. Pierce, Dr. Schumpert's case of locomotor ataxia, 708.
Clark, Sir Andrew, memorial of, 221, 677.
Clarke, Fisher R., chloroform in organic diseases of the heart, 457
Clarke, J. Jackson, notice of book by, 404.
Clemen's solution, 707.

Clergymen, fees for medical attendance upon, 496, 642.
Cleveland, Clement, modifications in the technique of vaginal hysterectomy, 777, 805.
Clinical Society of London, 213, 278, 407.
Coca, production of, 315.
Cocaine, awakening effects of, 59.
Coccyx, compound fracture of, and supra-pubic dislocation of the femur, 366.
Code of ethics, revision of the 632.
Cod-liver oil, digestibility of, 408.
Colic, biliary, 573.
Colitis, varieties of, 342.
College of Physicians of Philadelphia, 307.
Collins Joseph, the happy therapist, 122.
Columbian Dispensary in Brooklyn, 117.
Coma, uræmic, lavage of the stomach, in 144.
Communion-cup, infection and the 561, 635.
Congress, International. See *International Medical Congress.*
Congress of American Physicians and Surgeons, 697, 732, 760.
Congress of Russian Physicians, 341, 409.
Confinement, immediate repair of injuries after, 281.
Connecticut vital statistics and medical practice act, 563.
Connective tissue, selective stain for, 23.
Constipation, and dyspepsia, 149; chronic, treatment of, 26; congenital, 769.
Consultants may receive legacies, 276.
Consultation, the greatest in history, 148, 255.
Consumptives, a new hospital for, 561.
Contagious diseases, weekly statement, 31, 63, 96, 126, 156, 192, 223, 256, 288, 320, 350, 383, 416, 445, 478, 511, 544, 576, 608, 644, 679, 711, 744, 775, 808, 823.
Convalescence, companionship in, 447.
Convalescent children, association for the care of, 559.
Cooper, Dr. Henry C., death of, 306.
Coplin, W. M. L., notice of book by, 406.
Copper, sulphate of, in the treatment of syphilis, 129.
Cordier, A. H., nephro-lithiasis, 332.
Cornea, treatment of ulcer of the, 283.
Corner, Dr. Matthew, death of, 61.
Corning, J. Leonard, some less cultivated phases of psychology, 390.
Coroner, recommendation to abolish the office of, 86.
Coryl, a new local anæsthetic, 569.
Coryza, snuff for, 192, 313.
Cotterell, Edward, notice of book by, 309.
Cough, a mixture for, 317; chronic, local treatment of, 233; diagnosis of unilateral tuberculosis from, 802; treatment of, by manipulation, 438.
Cragin, Edwin B, what are the indications for a vaginal examination? 266, 281.
Cranial cavity, opening the, with a new set of instruments, 163.
Cranio-encephalic topography, 569.
Cranium, trephining in gun-shot wounds of the, 408.
Crary, Dr. David, Sr., death of, 530.
Cremation in America, 466; in France, 665; progress of, 645.
Creosote, a new method of administering, 299; external use of, 803; in gastric fermentation, 239.
Cresilol as an anatomical preservative, 605.
Crile, George W., on the treatment of compound fractures, 169.
Crime, surgical treatment of, 593.
Criminal anthropology, 42.
Criminality, one way to overcome, 122.
Criminals, vivisection of, 210.
Criminology, sterilization in, 188.
Curtis, B. Farquhar, the cure of cancer by operation, 225.
Curran, Martin W., notice of book by, 373.
Cusco, Dr., death of, 636.
Cyanides, death from the, 633, 742.
Cystitis, recent observations on, 527; treatment of, 761.
Cystoscope, suprapubic, 607.
Cystotomy, suprapubic, for vesical hemorrhage, 787.
Cysts, vaginal and parovarian, 606.
Czar, the physician of the, 478.

D

Dana, Charles L., notice of book by, 564; the cure of locomotor ataxia, 678.
Darby, Dr. C. S., death of, 634.
Darwinism in excelsis, 474.
David Livingstone Medical College, 18.
Davies, Dr. David, death of, 542.
Davis, Edward P., notice of book by, 605.
Day, Dr. Albert, death of, 727.
Deaf children, speech for, 271.
Deafness, statistics on, wanted, 741.
Death, a certain sign of, 480.
Decidua vera at the sixth week, 676.
Deimar, J. T., on an alleged case of quintuplets, 370.
Delivery, spontaneous, after chloroform narcosis, 367.
Denison, Charles, notice of book by, 501; the air-pressure inhaler and exhaler, 190
Dentists, 255; defects in, 114, 284.
Depilatory, 282
Depopulation, a theory of, 727.
Dermatol, 130.
Dervey, W. A., notice of book by, 404.
Diabetes mellitus, 217; benzosol in, 50; Clemen's solution in, 707; cysts of the pancreas in, 821; in functional nervous disease, 597; neuritis in, 59, 814; of nasal origin, 504; pancreatic changes in, 503; pathogeny of, 503; treatment of rheumatic or hepatic, 534; typhoid fever complicating, 773.
Diachysm, 18.
Diagnosis, physical, a modified method of, 470.
Diarrhœa and anæmia in cattle, parasitic, 511.
Dickinson, Charles S., obstinate singultus, 367.
Dickinson, Dr. William Howship, sonnet on the retirement of, from the working staff of St. George's Hospital, 456.
Diday, Dr. Paul, death of, 173.
Diet, an experiment in, 726.
Dietetic treatment of phthisis, 353.
Digestive proteolysis, 417, 449, 481, 513, 545, 577.
Diller, Theodore, a case of acute softening of the brain presenting hysterical symptoms, 520
Diphtheria, 178, 179; action of the poison of, on the blood, 534; apparatus for subliming calomel in, 644; Dr. Thorne Thorne's lecture on, 183; following tonsillotomy, 704; impossible with unbroken mucous membrane, 249; of the stomach, 61; paralysis of, 644; report of the N. Y. Health Board on, 596; vexed questions in the bacteriology of, 457.
Diplegia, infantile cerebral spastic, 411.
Dislocations, congenital, 248; congenital, of the hip, 639, 766.
Dispensaries, the question of, 314.
Distoma hæmatobium, eggs of the, 118.
Distomiasis, pulmonary, 542.
Diuretic, a new, nasrol, 31.
Dixon-Jones, Charles N., notice of book by, 373.
Dobson, Dr. William B., death of, 634.
"Doc.," the corner druggist, 146.
Doctor, proposal to drop the title of, 52.
Doctors and the ward man, 755.
Donkin, H. Bryan, notice of book by, 373.
Dorning, John, forms of intestinal obstruction in early life, with their diagnosis, 556.
Dorpat clinic, inaugural address of the new director of, 350; Russianization of, 824.
Dowd, J. Henry, new apparatus for use in operating in the perineal region, 63.
Down, Edwin A., some observations on water-gas, 557.
Dreams, a study of, 173.
Drinking habit and college athletics, 273, 339.
Dropsy, cardiac, theobromin in, 60; of bacterial origin, 559.
Drugs, favorite, 724.
Dunglison, Robley, notice of dictionary by, 245.
Duodenum, pseudo-diverticulum of the, 215; ulcer of the, 705.
Dysentery, amœboid, 412; treatment of, 743.
Dysmenorrhœa, 180; Jamaica dogwood in, 743.
Dyspepsia and constipation, 149; common forms of, in women, 693; fermentative, remedy for, 317; in children, treatment of, 160; nervous, auto-suggestion in, 790.
Dyspnœa, treatment of, 60.

E

Ear, development of, in cases of congenital deafness, 789; inflammation of the middle, followed by periphlebitis, 809; salmon-colored cotton for use in the, 790; suppuration of the middle, due to a coffee-bean in the nose, 461; use of pilocarpine in diseases of the, 409.
Earache, 27.
Earle, Dr. Charles Warrington, 18.
Eclampsia, puerperal, bacillus of, 742; treatment of, 109.
Eczema, red, 94; seborrhœal, 26.
Edebohls, George M., Freund's new operation for prolapsus uteri et vaginæ, 188.
Edis, Dr. Arthur W., death of, 28.
Edson, Cyrus, some facts bearing on the etiology of typhoid fever, 550.
Egg, the fable of the, 181.
Egypt, sanitary report of, 95.
Eichhacker, H. F., a rare case of spontaneous delivery after chloroform narcosis, 367; are dispensaries to be or not to be? 314.
Einhorn, Max, clinical observations on erosions of the stomach, and their treatment, 780, 803.
Elæomyenchysis, 591.
Elbow, compound fracture at the, 537.
Elder, Dr. Elijah S., death of, 796.
Electric lighting, pathological aspect of, 143.
Electricity, action of, on the pneumogastric, 236, 415, 510; action of galvanic current on the living organism, 771; new and positive method of correcting the "reverse" of the positive static charge, 235.
Electrode for better utilization of currents of high tension, 58.
Electro-therapeutics, modern, 720.
Elliott, George R., does eating vegetables make the big man? 186.
Elmira Reformatory, 528; reinstatement of the superintendent, 174; scientific vindication of the, 240.
Emigrant ships, sanitary and medical service in, 126.
Emmet and Marion Sims, a comparison between, 582.
Emphysema, due to insufficient nourishment, 90; extreme pulmonary, 673; remedy for, 60.
Empyema in children, treatment of, 247; surgical treatment of, 702; treatment of, 502.
Enchondroma, pelvic, 607.
Endometritis, senile, 180.
Endothelioma of the tonsil, 411.
England, favorite beverages in, 680; the aged poor of, 757.
Enterectomy, 103.
Enteric fever. See *Typhoid fever.*
Enterolith, mistaken for appendicitis and then for carcinoma, 267.
Enzymes, proteolytic, general nature of, 417.
Epigastrium, cysts of the, 214.
Epilepsy, cerebral extract in the treatment of, 58; excessive intestinal putrefaction in, 150; opium in the treatment of, 538; treatment of, by glasses, 428, 476; trephining for, 569.
Epileptic colonies, 635, 636.
Epistaxis, 678; treatment of, 715.
Epithelioma, methyl blue and chromic acid for, 93; of forehead and orbit, 598.
Epitheliomatous formations, multiple, in a person suffering from psoriasis in infancy, 313.
Ergot in periodical neuralgia, 334.

Erysipelas, facial, 130; facial, nitrate of aconitine in, 143; toxines of, in cancer, 743.
Esothyropexia, treatment of goitre by, 278.
Ether, growing popularity of, in London, 114; *vs.* chloroform, 638.
Ethics, a question of, 651, 708, 807; revision of the code of, 632.
Evans, Thomas R., the late Professor Brown-Séquard, 646.
Ewing, Charles B., action of rattlesnake venom upon the bactericidal power of the blood-serum, 663; the selection and physical examination of the recruit, 329, 355.
Examination after seven years of service, 147; New York State medical, amendments to laws relating to, 383.
Exophthalmos. See *Basedow's disease.*
Extension, use of the Weed splint for, 744.
Eye, action of scopolamine on the, 216; colloid disease in the muscular region, 768; ectropion uveæ, 768; instrument for removing foreign bodies from the iris and anterior chamber, 189; magnet operations, 766; muscular asthenopia, 767; the modern, 172; treatment of myopia without glasses, 104.
Eye-douche and lid-elevator, 30.

F

Face presentations, treatment of, 739.
Fainting, treatment of, 114.
Farwell, George D., subacute arthro-synovitis in an infant cured by a plaster-of-Paris splint, 59.
Fasting, therapeutic employment of, 230, 705.
Favus of the head and body, 764.
Feelings, genesis of the, 390.
Fees, high, and skilled labor, 402; medical, in France, 291.
Feet, sweating, hydrochloric acid for, 680.
Femur, bending of the neck of the, in adolescence, 765; fracture of the neck of, in old age, 234; suprapubic dislocation of the, and compound fracture of the coccyx, 366.
Ferratin, 102.
Fertility, degree of, at different ages, 679.
Fevers, diagnosis and nomenclature of, 178; hectic, 453; hysterical, 535; micro-organisms and, 798; mortality in hospitals for the treatment of, 312; reflex, 431.
Fibula, fracture of the head of, by muscular action, 367.
Field, George P., notice of book by, 604.
Filaria sanguinis, thymol for, 317.
Filters, germ-proof, 563.
Finger, Ernest, notice of book by, 565
Finger, tabes and neuropathic inflammation of the, 410; trophic disturbance of the, 790.
Fischer, Louis, the opium habit in children, 197, 218.
Fish, ptomaïnes in, 314.
Fissure of the anus in infants, 437.
Flies as carriers of disease, 551.
Florence, winter climate of, 647.
Florida, climate of southeastern, 663.
Flours, diabetic, 348.
Food, cost of, in different countries, 416.
Foot-ball, a college president on, 115.
Fords, Dr. Corydon L., death of, 499.
Foreign bodies in the orbit, 766; metallic, in the upper air-passages, method of locating, 349.
Fortunes, medical, 308.
"Forward," advice of a woman physician, 667.
Foster, Frank P., notice of dictionary by, 436; Michael, notice of book by, 374.
Fowler, George R., two cases of intracranial neurectomy, 745.
Fracture, compound, infection following, 639; compound, treatment of, 169; involving a joint, treatment of, 207; of the coccyx, compound, 366; of the elbow, compound, 537; of the head of the fibula by muscular action, 367; of the leg, operative treatment of simple, 640; of the leg or ankle, a splint for the treatment of, 139; of the olecranon, compound, treated by secondary suture, 537; of the radius, operation for correction of deformity of the wrist following, 9; of the skull, 526.
France, fees for graduation in medicine in, 463; increase of suicides in, 20.
Freckles, the red parasol a preventive of, 726.
Freer, O. T., nitrate of silver in gonorrhœa, 641.
French Society of Dermatology and Syphilography, 213.
Freund's new operation for prolapsus uteri et vaginæ, 188.
Fuller, Dr. Robert, death of, 634.

G

Gage, Simon Henry, notice of book by, 468.
Gallagher, Francis W., the Rocky Mountain region, especially New Mexico, 300.
Gallaudet, Bern B., notice of book by, 373.
Gall bladder, typhoid bacilli in the, 503.
Gall-stones, chloroform and succinate of iron in, 824; physical diagnosis of, 544.
Gall-tracts, operative surgery of the, and use of the anastomosis button, 35, 68.
Galton, Sir Douglas, notice of book by, 373.
Gamgee, Arthur, notice of book by, 603.
Ganglion cells, stain for, 24.
Garciadiego, Salvador, a sure sign for the diagnosis of small effusions in the peritoneal cavity, 106.
Gannon, Dr. John J., death of, 696.
Gas phlegmon, 15.
Gastroenteritis, acute, due to mustard, 346.
Gastroenterostomy for cancer of the stomach, 250.
Gastrostomy for stricture of the œsophagus, recent methods of, 216.
Gautier, G., notice of book by, 374.
Gavage in the treatment of acute diseases of infancy and childhood, 524.
Genitals, premature atrophy of, 281.
German, first study of, at home, 443.
Germany, army medical department in, 602; medical literature of, a French necessity, 352.
Gerster, Arpad G., rectal incontinence and its cure by torsion, 161; the system of medical service in hospitals, 124.
Gestation, ectopic. See *Pregnancy, extra-uterine.*
Gingivitis, scorbutic, microbe of, 647.
Girls, physical examination of young, 301; physical measurement of, in New York, 722.
Glandular enlargement, epitrochlear, site of infections causing, 101.
Glaucoma, halo symptom in, 767.
Glottis, spasm of, compression of the phrenic nerve for, 398.
Gluttony, death from, 544.
Glycophosphates, therapeutical uses of, 808.
Glycosuria. See *Diabetes mellitus.*
Goelet, Augustin H., uterine dilator with new self-acting lock, 575.
Goitre, exophthalmic (see *Basedow's disease*), surgical treatment of, by esothyropexia, 278.
Goldenberg, Hermann, a rare form of foreign body in the male urethra, 365.
Gonococcus, culture medium for the, 119.
Gonorrhœa, chronic, 743; disappearance of discharge of, during pneumonia, 81, 269; in a man of 103 years, 462; in childbed, 110; treatment of, 26, 348, 641.
Goodhue, E. S., operation for correction of deformity of the wrist caused by shortening of the radius after fracture, 9.
Goss, Clarence W., an unusual obstetrical experience, 440.
Gottheil, William S., notice of book by, 468.
Gout, accounting for, 511; and uric acid concretions, 534; guanin, in the hog, 674.
Gowers, W. R., notice of book by, 375, 533.
Graves' disease. See *Basedow's disease.*
Gray, Henry, notice of book by, 277.
Greek as the international language of science, 487, 506, 528.
Gregor, G. D., suppuration of the frontal sinus, 396.
Gridley, Ira D., a cure of varicose veins on the face and tongue, 366.
Griffin, E. Harrison, abscess of the antrum of Highmore, with cases and their treatment, 393.
Gross, M., atony of the stomach, 395.
Grotesque, Ruskin and Charcot on the, 445.
Growth and regeneration, 434.
Guaiacol, external use of, 803; in the treatment of tonsillitis, 364; reduction of temperature by, 804.
Guanin gout in the hog, 674.
Guiteras, Ramon, influenza—causes, complications and treatment, 76.
Guttmann, Dr. S., death of, 86.
Gynecological operations, minor, the therapeutic value of, 678.

H

Haden, Seymour, knighthood conferred on, 822.
Hæmatokrit, value of, in the diagnosis of anæmia, 282.
Hæmoglobin, from iron to, 808.
Hæmophibia, neuropathic source of, 731.
Hæmoptysis, remedy for, 317.
Haffin, C. J., preservation of the teeth of the negro, 708.
Hair, removal of superfluous, 60.
Hale, A. Creighton, notice of book by, 444.
Hale's lifting column, 710.
Hamburg Medical Society, 247.
Hammersten, Olaf, notice of book by, 374.
Hampton, Isabel Adams, notice of book by, 532.
Handwriting, slanting, 758.
Hard times and free medicine, 448.
Harding, L. A., permanganate of potassium, the new antidote for morphine poisoning from a chemical point of view, 459.
Harding, William, notice of book by, 406.
Hardships of the higher medical education, remedy for the alleged, 817.
Harris, Isham G., a case of quinine poisoning, 138.
Harris, Philander A., a successful case of Cæsarian section, 137.
Harrison, Reginald, notice of book by, 437.
Hart, D. Berry, notice of book by, 277.
Hart, Ernest, notice of book by, 533
Harvard Medical School, a bequest to, 275.
Harvard University, the strongest man at, 236.
Harveian Society of London, 407.
Hassal, Dr. Arthur H., autobiography of, 404; death of, 606.
Hay fever, Dr. Bishop's essay on, 668; uric acid, origin of, 596.
Hayes, Dr. Plymmon S., death of, 756.
Head, measurements of, and longevity, 275.
Headache, traumatic, 701.
Health, a national bureau of, 148, 759; public, and the State, 431.
Health board and personal rights, 82; of Canarsie, 140; of New York city, report of, on laryngeal diphtheria, 596; of New of York State, 115, 242, 499.
Heard, E. N., a simple method of locating metallic bodies in the upper air passages, 349
Hearing, middle-ear operations for improving the, 741.
Heart, arythmia of the, in infectious diseases, 471; chloroform in organic disease of the, 457; compensation of combined valvular lesions of, 760; determination of the size of the, 471; dilatation of the, 672; disease of the, rest in, 142; disease of the, menstruation in, 541; function and pathology of the, 535; hypertrophy of the, in renal disease, 503; idiopathic hypertrophy of the, 432; inflammation of the muscle of the, 639; lesion of the, without murmurs, 247; nature of the ganglia of the, 471; periodic rhythm of the, 471; suture of the, 637; weakness of, in arterio sclerosis, 317.
Heat, determination of the quantity of, given off from different portions of the body, 568; use of in operative surgery, 594.
Heath, Christopher, notice of book by, 468.

Heckel, Édouard, notice of book by, 277.
Heckel, Edward B., a combination test-card, 318.
Hectic phenomenon, analysis of, and treatment, 453.
Heiman, Henry, removal of a pessary from the dilated cervical canal of a seventy-year old woman, 347.
Hektoen, Ludwig, notice of book by, 501.
Hemingway, S., the uterometer, 349, 371.
Hemiplegia, uræmic, 217.
Hemorrhage, cerebral, 25; control of, in amputation at the shoulder, 703; in malignant disease of the tonsils, 23.
Hemorrhoids, treatment of, 250, 348, 775.
Hemostatic, calcium chloride as a, 351
Hermaphroditism, 310; pseudo, 120.
Hernia complicated with volvulus, 607; double inguinal, from straining at stool, 189; inguinal, cured by Bassini's operation, 537; mechanical treatment of, 107; radical treatment of, 537, 637; treatment of, 218; umbilical, 281; umbilical, radical treatment of, 221; vesical, 639.
Herpes, digital, 95.
Herzfeld, A. A., a new vaginal speculum with constant irrigation, 319.
Herzog, A. W., turkey and ptomaïne, 155.
Hewson, A., notice of book by, 532.
Hiccough, obstinate, 367.
Higgins, F. W., a hypothetical question, 380.
Highley, Percy, notice of book by, 436.
Highmore, abscess of the antrum of, 393.
Hip, congenital dislocation of the, treatment of, 639.
Hip disease, discussion on, 765.
Hip-joint, bloodless amputation at the, 33, 124, 187, 256, 381, 460.
Hirsch, Professor, death of, 274.
Hirt, Ludwig, notice of book by, 602.
Hoag, Lucy H., a sick Chinaman never sneezes, 480.
Hog, guanin gout in the, 674.
Hogan, Dr. M. K., death of, 338.
Hogner, Richard, contemporary uni-bilateral stethokyrtographical examinations, 260.
Holden, Ward A., notice of book by, 406.
Holt, L. Emmett, gavage (forced feeding) in the treatment of acute diseases of in fancy and childhood, 524.
Holt, Mr. Bernard, death of, 379.
Home, essentials in a healthful, 288.
Horse-hair in minor surgery, 224.
Hospital, a grand jury and a, 305; the Royal Victoria, of Montreal, 477.
Hospital appointments and advertising, 50.
Hospital boards, life tenure of, 113, 123.
Hospitals and the medical profession, 16, 62, 96, 124; fever and military, near each other, 95; workhouse and almshouse, 209.
Hospitals Medical Society of Paris, 149, 246, 310, 407.
Hotel hygiene, 647.
Howe, J. Morgan, on the defect in the dentist, 284.
Hubbard, Dr. Samuel T., death of, 725.
Hudson, A. T., fracture of the neck of the femur in senility, 234.
Human ostrich, an insane, 819.
Hurd, Henry M., notice of book by, 565.
Husband, liability of, for medical attendance upon the wife, 319.
Hydated cysts, intestinal obstruction caused by, 222; of the liver, a ptomaïne from, 472; opened through the chest-wall, 222.
Hyde, James Nevins, notice of book by, 374.
Hyderabad commission on chloroform anæsthesia, final results of the, 307.
Hydrocephalus, chronic, without a cerebrum, 411.
Hydrogen dioxide and papoid in pseudo-membranous inflammations, 311.
Hydronephrosis, congenital, cured by nephrectomy, 463.
Hydrotherapy, the Pope tries, 467.
Hymanson, A., a case of aneurism of the transverse part of the arch of the aorta, 439; disappearance of gonorrhœal discharge during pneumonia, 269
Hymen, imperforate, with retention of menstrual blood, 301.
Hyoid bone, resection of the, for fistula of the neck, 335, 537.
Hyoscyamine, action and value of, in nervous and mental diseases, 99.
Hyperchlorhydria, treatment of, 502.
Hypermetropia, change from myopic astigmatism to, 630
Hyperpyrexia, hysterical, 535.
Hypnotic, chloralose as a, 398.
Hypnotic suggestion for modifying or eliminating a fixed idea, 193.
Hypnotics, discussion on, 246.
Hypodermic medication, 568.
Hypodermic syringe, a new, 319.
Hysterectomy in prolapse of the uterus, 246; modifications in the technique of vaginal, 777, 805; myomectomy as a substitute for, 768.
Hysteria, acute softening of the brain simulating, 520; and marriage, 147, 394; in the form of facial neuralgia, 407; manifestations of, due to alcohol, 221.
Hystero-neurasthenia, traumatic, 591.

I

Ice, artificial, healthfulness of, 64.
Idiocy, harmfulness of linear craniotomy for, 613; microcephalic, with epilepsy and blindness, 536.
Idrosis, post-mortem, 52.
Immersion lenses, simple means of increasing the aperture and improving the performance of some, 362.
Immunity, artificial, 181.
Income tax, and professional men, 144, 174, 210; in England, 635.
Incompatibles, 479
Indiana State Medical Society, 757.
Infant feeding, 559.
Infant foods, cheap, 400.
Infants, fissure of the anus in, 437; scorbutus in, 811.
Infections, causing epitrochlear glandular enlargement, site of, 101.
Infectious diseases, compulsory notification of, 96; metastases in, 28; nomenclature for, 670, 681.
Inflammation, surgical, different types of, 598.
Influenza, a Latin poem on the, 47; causes, complications, and treatment, 76; bacillus of, 248, 541; treatment of, 60, 139.
Inhaler and exhaler, the air-pressure, 190.
Initials, the value of, 511.
Insane, central management of institutions for the, 177; New Jersey State Hospitals for the, 758; New York City Hospitals for the, 668, 694; New York State Hospitals for the, 243; pathology in hospitals for the, 429; physicians of the New York City asylums for the, officially exonerated, 723; the kind that kill, 63; working of the law for the State care of the, 180.
Insanity, puerperal, 17; statistics of, 212.
Insect bites, application for, 743.
Instruments, physicians' and surgeons', are mechanical implements in the eyes of customs officials, 466; surgical, of antiquity, 576.
Insurance, sanitary, 384.
International Medical Congress, eleventh, 414, 427, 430, 465, 466, 469, 502, 508, 534; a stop over *en route* for delegates to the, 381; suggestions for intending visitors, 156; the English of the, 400.
International Medical Congresses, 680; need of an official language for, 487, 506, 528, 684.
International medical missionary society, the, 819.
International Sanitary Conference, 428.
Intestinal absorption and alkalinity of the blood, relation between, 111.
Intestinal button, a new, 726; Murphy's, 35, 68, 103, 650, 684, 721.
Intestinal putrefaction, excessive, in epilepsy, 150
Intestinal surgery, turnip as a substitute for decalcified bone in, 645.
Intestine, acute obstruction of, due to cicatricial band, 573; adhesions of the, in middle-aged persons, 503; albuminuric ulceration of the, 222; disinfection of the, 125; influence of temperature upon fermentation in the, 503; obstruction of, caused by hydatid cysts, 222; obstruction of, in early life, 556; pathological histology of the reunion of the divided, 650, 684, 721; perforation of, in typhoid fever, operative treatment of, 508; resection and suture of, 541; surgery of the, 677; ulceration of the, 119.
Intubation of the larynx, 179
Intussusception of the ileum, produced by bicarbonate of sodium, 389 538.
Iodine and iodide, 398.
Iowa State Medical Society, 795.
Iritis, tuberculous, 407.
Iron, conversion of, into hæmoglobin, 808.
Irwin, Dr. B. J. D., a medal of honor awarded to, 320.
Isaacs, A. E., gonorrhœa at the age of a hundred and three, 462.
Italy's service to medicine, 592.
Ivy-poisoning, fatal, 727.

J

Jackson, George Thomas, notice of book by, 604; the barber-shop as a source of contagion, 426.
Jacobi, A., non nocere, 435, 609; notice of book by, 468; called to Berlin, 28.
Jacobson, W. H. A., notice of book by, 309.
James, Dr. Charles, death of, 695.
Jankau's acousticon, 643
Jaundice, treatment of, 472.
Jeaffreson, C. S., notice of book by, 468.
Jealousy, professional, a curious phase of, 309.
Jennings, David D., treatment of depressions in the skull in the new-born, 166.
Jewett, Charles, notice of book by, 404.
Joints, tuberculosis of the, new treatment for, 272.
Jonas, A. F., enterolith mistaken first for appendicitis and then for carcinoma, 267.
Jones, S. S., sterilization in criminology, 188.
Journalism, medical, the evolution of, 274.
Judd, Dr. Herbert, death of, 85.
Juler, Henry E., notice of book by, 405.

K

von Kahlden, C., notice of book by, 604.
Kearsarge, medical notes on the wreck of the, 822.
Keating, Dr. William V., death of, 596.
Keator, T. O., pre natal determination of sex, 4.
Kelsey, Charles B., notice of book by, 603.
Kennedy, James, notice of book by, 437.
Kidney, cardiac hypertrophy in disease of the, 503; congenital syphilis of the, 534; extensive cystoid degeneration of the, 412; extirpation of the, 569; floating, 569; floating, pathogenesis of, 149; nephrectomy for malignant tumor of the, 278; percussion of the, 504; retention cysts of the, due to occlusion of the ureter by a calculus, 118; sacculated, containing cholesterin, 121; sarcoma of the, 637; stone in the, 332; surgery of the, 800; treatment of insufficiency of the, 631; with two pelves, 120.
Kiliani, Otto G. T., sterilized catgut in a convenient and portable form, 621.
Knapp, Mark I., the relations of vegetable diet to growth, 315.
Knee-joint, disease of the, possibly syphilitic, 121.
Knock-knee, operative treatment of, 637.
Kocher, Th., notice of book by, 532.
Koenig, Adolph, the therapeutic value of sarsaparilla, 314.
Kohn, S., observations on nose bleed and its treatment, 715.

L

Labor, the conduct of ordinary, through external examinations only, 469; treatment of face presentations, 739.
Labyrinth, secondary syphilitic affection of the, 93.
Lactophenin, 328, 636.
Laminectomy, 15.
Language, need of an international, for scientists, 487, 506, 528, 684.
Laparotomy, exploratory, 571; vaginal, 409.
Larynx, benign and malignant, growths of the, 61; cancer of the, 117; intubation of the, 179.
Law, James, unsuspected poisoning by sterilized meat and milk of tuberculous animals, 292.
Lawrence, H. Newman, modern electrotherapeutics from the electrical standpoint, 720.
Lead-poisoning, in children, 801; treatment of, by monosulphite of sodium, 696.
Lederman, M. D., suppuration of the middle ear due to a coffee-bean in the nose, 461.
Lens, crystalline, unusual case of extraction of the, 494.
Leprosy, and vaccination, 415; distribution and control of, in America, 699; fish theory of causation, 95; hospital for, at Rio de Janeiro, 608; in Germany, 711; in San Francisco, 798; measles inimical to, 679; syringomyelia complicating, 568
Letter from Berlin, 28; from London, 27, 61, 94, 121, 154, 183, 221, 252, 283, 312, 379, 413, 441, 474, 507, 541, 572, 606, 639, 677, 705, 772, 806, 821; from Rome, 253, 313, 414, 508, 573.
Leucocytosis in fever, 801.
Leucoderma, an extreme case of, in a negro, 294
Leucoma of the tongue, 95.
Leverett, John, college athletics and the drinking habit, 339.
Lewinsky, J. C., first study German at home, 443.
Licorish, R. F., on the value of rest and fasting in the treatment of typhoid fever and other diseases, 705.
Lid elevator and eye douche, 30.
Lifting column, Hale's, 710.
Ligament, broad, cyst of the, 118.
Lilienthal, Howard, what is the site of infections causing epitrochlear glandular enlargement? 101.
Linn, Thomas, notice of book by, 406.
Lipoma, diagnosis of, 282.
Lithæmia, diet in, 776.
Lithotrity, perineal, 569.
Liver, a ptomaïne from hydatid cysts of the, 472; abscess of the, 246, 412; abscess of the, diagnosis of, 285; acute yellow atrophy of, and thrombosis of the portal vein, 409; anti-toxic function of the, 109; cirrhosis of the, 472; hydatid cyst of the, opened through the chest-wall, 222; hypertrophic cirrhosis of the, 24; non parasitic cysts of the, 140.
Locality, a healthy, 529.
Lockhart, Joseph S., life tenure of hospital boards, 123.
Locomotor ataxia. See *Tabes*.
London, a teaching university in, 283, 507, 606; charities of, 479; health of, 445; letters from, 27, 61, 94, 121, 154, 183, 221, 252, 283, 312, 379, 413, 441, 474, 507, 541, 572, 606, 639, 677, 705, 772, 806, 821.
Longevity, an instance of, 669; factors contributing to, 88; head measurements and, 275.
Loomis, Henry P., the dietetic treatment of phthisis, 353.
Loretin, a new antiseptic, 64.
Loumeau, E., notice of book by, 277.
Lucas, Mr. William F., Latin poem on the death of, 32.
Lunacy administration in America, 148.
Lunacy bill, the new State, 171.
Lunacy Commission admires itself, 632; real functions of a, 29.
Lunacy State Care Act, 85, 171.
Lungs, thrombosis of the, 672; alimentation in diseases of the, 762; apex catarrh of the, 5.
Lupus, treatment of, 26, 87, 317.
Lutkins, Dr. A. A., death of, 634.

M

McAllister, E., do the sick ever sneeze? 121.
McDonald, Arthur, notice of book by, 405.
McGrath, John, treatment of chronic urethritis, 462.
Macewen, William, notice of book by, 404.
Madden, Thomas More, notice of book by, 277.
Magill, William S., new and rapid method of anæsthesia, 61.
Magruder, G. L., an extreme case of leucoderma in a negro, with a comparison of similar conditions in various animals, 294.
Maher, J. J. E., a new disease of the vagina in peri-vaginitis simplex, 391.
Maine, the practice of medicine in, 465.
Maisch, John M. and Henry C. C., notice of book by, 436.
Majumdar, P. C., notice of book by, 309.
Malaria, and pleurisy, confusion of the fevers of, 535; caffeine in, 471; motor troubles in, 470; plasmodium of, 542, 566.
Malarial infection, bilious remittent, 543.
Malcolm, John D., notice of book by, 564.
Mall, Franklin P., notice of book by, 533
Mallett, G. H., a case of round-celled sarcoma of the ovary, 237.
Malpractice, a doctor falsely accused of, 19; another suit for, come to naught, 793; with reference to the legal and medical professions, 145.
Mammillary body in man, 648.
Manley, Thomas H., the local action of salicylic acid in the form of a liniment, 137.
Marcy, H. O., notice of book by, 605.
Marriage, and hysteria, 147, 394; and venereal disease, 667.
Marsh, F. O., humane treatment of morphinism, 122.
Marshall Professor Milne, death of, 121.
Martha Battey Hospital, 52.
Martin Christopher, notice of book by, 468.
Martin, Edward, notice of book by, 374.
Marx, S., accouchement forcé, 200, 220; further contribution to the study of occipito-posterior positions of the vertex, 585, 601.
Mastitis diphtheritica by infection from stomatitis diphtheritica, 352.
Maternal impression, an alleged, 25.
Matthieu, Albert notice of book by, 500
Mayo, W. J., pancreatic cyst—uretero-vaginal fistula the result of vaginal hysterectomy, successful reimplantation of the ureter into the bladder, 168.
Meacham, Franklin A., the status of medical legislation in Utah, 607.
Meacher, William, a splint for the treatment of ordinary fracture of the leg or ankle, 139.
Measles, and religion, 712; malignant, 769; nervous complications of, 790.
Medical attendance, the implied contract to pay for, 97.
Medical Board, trouble in a, 144.
Medical buccaneers, 401.
Medical charity, abusing the abuse of, 134, 153.
Medical colleges, American, statistics of attendance at, 498; four-year courses in, 52, 275; higher acquirements for entrance to 271; in St. Louis, 727.
Medical Council, General, of Great Britain, 773, 822.
Medical education, the star system in, 84.
Medical examinations, New York State, an attempt to lower the fees for, 275.
Medical examiners, Pennsylvania State Board of, 147; New York State Board of, 796; New York State Board of, report of the, 182; Oregon State Board of, 795.
Medical institution, another, in New York, 560.
Medical journalism, a section of, at the next Congress, 712.
Medical legislation in Ohio, 127; in Virginia, 117.
Medical life, effects of, upon the physician himself, 350.
Medical meetings, annual, 755.
Medical men and the income tax, 144; number of, in the United Kingdom, 121.
Medical philanthropist, a field for the, 776.
Medical practice, requirements for, in different States, 368.
Medical profession, and the hospitals, 16, 62, 96, 124; in the United States, 712; Mr. Gladstone on the, 633; necessity of a well-paid, 711; statistics of the, 478; the silent majority in the, 62.
Medical protection in Rome 817.
Medical Register of Great Britain, names stricken from the, 774.
Medical societies, multiplication of, in London, 379.
Medical Society of London, 247, 310, 407.
Medical Society of the County of New York, 58, 540, 820.
Medical Society of the District of Columbia, seventy-fifth anniversary of the, 406.
Medical Society of the State of New York, 177, 214.
Medical witnesses, 718.
Medicine, as a career for educated men, 448; debt of physiology to, 791; politics in, 82.
Medico Chirurgical Society of Edinburgh, 248.
Medico-legal Society, annual banquet of the, 52.
Meningitis, tubercular, healed by drainage, 413.
Menses, absence of the, 220.
Menstruation, diseases of, 180; in heart disease, 541; nerve theory of, 208.
Mental disease, relation of infectious processes to, 737.
Mergler, Marie J., notice of book by, 373.
Messemer, Dr. M. J. B., death of, 307.
Metastases in acute infectious diseases, 28; in certain skin inflammations, 463.
Metatarsalgia, non-operative treatment of, 772.
Metcalfe, Orrick, the treatment of cough by manipulation, 438.
Meyer, Willy, a portable sterilizer for private operations, 285; practical and efficient sterilization of materials for private operations—the finished portable sterilizer, 587, 620.
Michel, Dr. Middleton, death of, 796.
Michigan State Medical Society, 758.
Microbes in the alimentary tract, 310; relation of, to fever, 798.
Microcephalus, harmfulness of linear craniotomy for, 613.
Microscope, a simple means of increasing the aperture and improving the performance of some immersion lenses, 362.
Midwifery, some Chinese hints on, 680.
Midwives, registration and certification of, 774.
Migranine, 379.
Milk, an aid to the sterilization of, 770; care of, as a means of preventing disease, 823; determination of the commercial and nutritive value of, by the Babcock test, 46; human, not sterile, 176.
Mills, Charles K., notice of reports edited by, 437.
Milroy lectures of the Royal College of Physicians, 474.
Missionaries, medical wives for, 401.
Mississippi Medical and Surgical Society, 795.
Missouri State Medical Society, 758.
Mitchels, Dr. James, death of, 242
Mitchell, Hubbard W., medical witnesses from a physician's standpoint, 718.
Mitchell, Willard A., the implied contract to pay for medical attendance, 97.
Molluscum contagiosum, modes of infection, 95.
Monell, S. H., a new and original method of correcting the "reverse" of the positive static charge; with further practical suggestions, 235
Monstrosity, a case of, 788.

Montana, legal requirements for practice in, 696.
Montclair, epidemic of typhoid fever in, due to an infected milk-supply, 713.
Morgagni, influence of, in medical study, 430.
Morley, Professor Henry, death of, 773.
Moor, William, permanganate of potassium as an antidote for morphine, 200, 442, 642.
Morphine, permanganate of potassium as an antidote to, 200, 316, 442, 459, 460.
Morphinomania, treatment of, 122, 648.
Morphological examination of the individual, 470.
Morphology as a factor in the study of disease, 697.
Morris, Henry, notice of book by, 437.
Morris, Robert T., the production of ileal intussusception with carbonate of sodium, 389.
Morrow, Prince A., notice of book edited by, 375, 532.
Mortality, comparative, of man and woman, 498.
Morten, Honnor, notice of book by, 437.
Mothers, young, the offspring of, 726.
Mountain air and sea air, 511.
Mouth, ulcers of the, 213.
Müller's fluid, composition of, 480.
Murder, insanity, and the modern jury, 816.
Murphy, J. B., intestinal approximation: its pathological histology of reunion, and statistical analysis, 650, 684, 721; operative surgery of the gall-tracts, with original report of seventeen successful cholecystenterostomies by means of the anastomosis button, 35, 68.
Music as a healing power, 712.
Muskett, Philip E., notice of book by, 374.
Musser, John H., notice of book by, 501.
Mustard, acute gastro enteritis caused by, 346.
Mütter lectureship of the College of Physicians, of Philadelphia, 466.
Mycodermic medication, 568.
Myocarditis, 639.
Myomectomy as a substitute for hysterectomy, 768, 817.
Myopathies, muscular contraction in, 469.
Myopia, treatment of, without glasses, 104; use of glasses in, 767.
Myopic astigmatism, change from, to hypermetropia, 630.
Myxœdema, thyroid feeding in, 310, 413, 770.

N

Nævus, treatment of, 282.
Nammack, Charles E., a case of brain tumor medically treated, 590.
Narcosis, chloroform and bromethyl, 341; chloroform, is the action of electricity on the pneumogastric of value in? 236, 415, 510.
Nasrol, a new diuretic, 31.
National Guard surgeons, organization of the, 211
Nauchah, al, 535.
Navy, British, vital statistics of the, 154.
Navy Hospital in Brooklyn, reconstruction of, 530.
Nebraska State Medical Society, 795.
Neck, congenital fistula of the, resection of the hyoid bone for, 335.
Negro, preservation of the teeth of the, 708.
Nelson, Dr. Wolfred, elected a Fellow of the Royal Geographical Society, 242; on the Royal Victoria Hospital, Montreal, 477.
Nephrectomy, for malignant tumor, 278; in infancy, 312; transperitoneal, 341.
Nephritis, chronic, new method of diagnosis and prognosis of, 504; surgical aspects of, 732; without albuminuria in specific intoxications, 504.
Nephro-lithiasis, 332.
Nephrydrosis, intermittent, 527.
Nerve-stretching and splitting in localized interstitial neuritis, 341.
Nervous diseases, functional, persistent albuminuria and glycosuria in, 597; the short story as a therapeutic measure in, 792.
Nervous system, in disease, 729; influence of infectious processes on the, 736.
Neuralgia, periodical, ergot in, 334; treatment of, 60.
Neurasthenia, early recognition of, 730; remedy for, 348.
Neurectomy, intracranial, 745.
Neuritis, diabetic, 814; multiple peripheral in diabetes, 59; nerve-stretching and splitting in, 341; peripheral, with atrophy, 154.
Nevins, Laird W., notice of book by, 468.
Newberry Library, Dr. Senn's gift to the, 50, 51.
New-born, traction of the tongue in asphyxia of the, 106; treatment of depressions of the skull in the, 166; trismus of the, treated with tetanus antitoxin, 111.
Newell, Otis K., intermittent rapid dilatation of urethral stricture, 785.
New Jersey, board of managers of the State hospitals in, 696.
New Mexico, the climate of, 300.
Newton, Richard C., the recent epidemic of typhoid fever, in Montclair, due to an infected milk-supply, 713.
New York Academy of Medicine, 53, 150, 248, 279, 344, 506, 538, 597, 670, 802; nurses' bureau of the, 173; officers for 1894, 118; report of library committee, 57; report of treasurer, 56; report of trustees, 56; rule excluding non-members in the evening, 187; section on General Medicine, 88, 282, 671; section on Laryngology and Rhinology, 117; section on Obstetrics and Gynecology, 281, 376, 600; section on Public Health, 377; section on Surgery, 250, 409, 537, 598.
New York City vital statistics for 1893, 19.
New York County Medical Association, 87, 311, 673; officers of the, 86.
New York Infant Asylum affair, 123, 156.
New York Ophthalmological Society, 85.
New York Pathological Society, 23, 118, 411, 536, 672.
New York State Board of Health, 116.
New York State Lunacy Bill, 171.
New York State, mortality in, 20.
Nicoll, H. D., the New York Infant Asylum affair, 123.
Nipples, management of, before and during the puerperal period, 649.
Nivison, Dr. Nelson, death of, 52.
Noble, Charles P., report of a case of imperforate hymen with the retention of menstrual blood, together with remarks upon the question of the physical examination of young girls, 301.
Nomenclature for infectious diseases, 670, 681.
Non nocere, 435, 609.
North, John, a new portable air compressor, 709.
North Dakota Medical Society, 758.
Norris, Richard C., notice of book by, 501.
Nose, a tooth in the, 641; injudicious operations on the, 140; obstructions of, simplicity in the treatment of, 142; surgery of the accessory sinuses of the, 735.
Nose-bleed, treatment of, 715.
Notification of infectious diseases, compulsory, 96.
Nourse, Robert L., pyæmia complicating typhoid fever, and phlebitis following pneumonia, 525.
Noyes, William B., the diagnosis of Charcot joint, 752.
Nuclei, the germicidal principle of blood-serum, 125.
Nurses, a bureau for, 150, 173; a new training-school for, 275.

O

Oatman, E. L., lid elevator and eye-douche, 30.
Obesity, nitrogenous diet and hot water in the treatment of, 631.
Obstetrical experience, an unusual, 440.
Obstetrical instrumentarium, an aseptic, 382.
Obstetrical Society of London, 247.
Obstetrics, modern influence of surgery on, 142.
Œdema, chronic unilateral, of the lower extremity, 409.
Œsophagus, stricture of, differential diagnosis in, 538; stricture of, recent methods of gastrostomy for, 216.
Offenders brought to bay, 401.
Ohio, regulation of the practice of medicine in, 127.
Ohio State Medical Society, 758.
Oklahoma Medical Society, 758.
Old age, a case of gonorrhœa in extreme, 462; cancer of the tonsil in, operation and cure of, 136; endometritis in, 180; fractures of the neck of the femur in, 234; scrofula in, 95.
Olecranon, compound fracture of the, treated by secondary suture, 537.
Ontario, twelve years of sanitation in the province of, 568.
Onychia, 26.
Onychomycosis, 60.
Oöphoro salpingitis, castration in painful, 637.
Operating cabinet, portable, 643.
Ophthalmia, dangers of the spread of, 252, 278, 441; purulent, treatment of, 317.
Ophthalmological Society of London, 278.
Ophthalmoplegia and superior bulbar paralysis, 567.
Ophthalmoscope, a new, 575.
Opium, and its excessive use, 444; habit in children, 197, 218; habit, is it a blessing? 51.
Optic nerve, tumor of the, 767.
Orbit, epithelioma of the, 767; foreign bodies in the, 766.
Orr, Henry B., notice of book by, 406.
Osler, William, purgative treatment of typhoid fever, 416.
Osmun, L. C., fish and ptomaïne, 314.
Osteitis of the knee, tubercular, 94.
Osteoplastic operations, 570.
Ostriches, human, 793.
Otitis, phonographic, 398; suppurative, 741.
Otorrhœa, Stacke's radical operation for, 748.
Outerbridge, Paul, a new and short method of closing the perineum, 492.
Ovariotomy, a trocar for, 637; in the puerperal state, 341; uncomplicated, followed by septic peritonitis, 376.
Ovary, abscess of the, 600; cyst of the, 637; pregnancy after removal of one and part of the other, 81; round celled sarcoma of the, 237; small cystic degeneration of the, 281; suppurating cyst of the, communicating with the rectum, 310.
Overholt F., a new chloroform bottle, 190.
Oxygen, therapeutics of, 178.
Ozone preparations, physiological action of, 257.

P

Page, Charles E., hygienic *vs.* drug treatment of typhoid fever, 518; should therapeutic fasting be termed starving?—its employment in typhoid fever and other diseases, 230.
Paget, Sir James, golden wedding of, 774.
Pain tracts and pain nerves, 160.
Palate, cleft, 639.
Pancreas, cyst of the, 168, 821.
Papoid in pseudo membranous exudations, 311.
Paraform, a new antiseptic, 466.
Paralysis, bulbar, peculiar form of, 409; chloride of gold and sodium for, 60; diphtheritic, 644; facial, 607; infantile, electrical treatment of, 413; superior bulbar, and ophthalmoplegia, 567.
Paraplegia after typhoid fever, 278.
Paré, Ambrose, origin of the reputation of, 308.
Paresis, general, the brain in, 673.
Parke, Dr., memorial to, 640.
Parkman the historian, and his physicians, 383.

Parson, must the, pay? 496, 642.
Parsons, J. Inglis, notice of book by, 501.
Pasteur Institute, protest against a, 446; report of the, 679.
Patella, fracture of the, 233, 247; rupture of the ligament of the, 637.
Patent medicines, the sale of, 818.
Pathological processes, vital adaptability to, 432.
Pathological Society of London, 150, 213, 310, 407; of New York, 23, 118, 411, 536, 672
Payn, Dr. Frederick G., death of, 306.
Peabody, C. A., Hale's lifting column, 710.
Peddie, William, notice of book by, 603.
Pediculi pubis, lotion for, 26.
Peet, Walter B., some notes on aural development in a case of congenital deafness, 789.
Peliosis rheumatica, 773.
Pelvic abscesses, instrument for evacuating and draining, 21.
Pelvic organs, imperfect, in well-developed women, 87; conservative surgery of the female, 733.
Pelvic surgery, 214.
Pemphigus treated by the sulpho carbolates, 821.
Penis, horny growth of the, 223.
Pennsylvania State Board of Medical Examiners, 147.
Pension office, ex-Confederates and the, 244, 381.
Pepper, William, notice of book by, 436; resignation of, as provost of the University of Pennsylvania, 529.
Percussion hammer, a neurological, 772.
Pericarditis, fibrinous, treatment of, 502.
Pericardium, wounds of the, 638.
Perineal operations, jacket support of the legs in, 190.
Perineum, new and short method of closing the, 492; new apparatus for use in operating on the, 63; rupture of, caused by the axis-traction forceps and antepartum douche, 680.
Periostitis, acute, 28; the liquid of albuminous, 246.
Peritoneal cavity, diagnosis of small effusions in the, 106.
Peritoneum as a suture medium, 638.
Peritonitis, bacteria of, 646; puerperal, 219; treatment of, 407; treatment of postoperative, 278; tubercular, 798; tubercular, non exudative, 149; tubercular, treatment of, 473
Perivaginitis simplex, 58, 391.
Permanganate of potassium as an antidote to certain poisons, 243; as an antidote to morphine, 200, 316, 442, 459, 460, 642.
Pernet, George, the armamentarium of a Gallo-Roman surgeon of the third century, 695.
Pessary in the dilated cervical canal of an old woman, 347.
Pfarre, Dr. Philip H., death of, 757.
Pharmacopœia, the changes in the, 447.
Pharmacy, chemistry in its relation to, 435.
Pharyngitis, follicular treatment of, 117.
Pharyngo mycosis, 12.
Philadelphia County Medical Society and the American Medical Association, 636.
Philadelphia, Municipal Hospital of, 19.
Phimosis, 26.
Phlebitis following pneumonia, 525.
Phlegmon, gas, 15.
Phonograph, otitis communicated by the, 398.
Phorometer, adaptation of the Maddox cylinder for use on the, 678.
Phosphate of soda in tabes, 122.
Phosphorus, biological importance of, in its organic combinations, 435.
Photography, abuse of, in medicine, 752.
Phrenic nerve, compression of the, in glottic spasm, 398.
Phthisin crystals, 725.
Phthisis, acute, 213; dietetic treatment of, 353; endowment for laboratory research in the therapeutics of, 51; experimental, in rabbits, effects of tuberculin in, 802; fever of, in relation to prognosis, 141; inhalation of carbolic acid in, 407; inalations of mint in, 50, 340; night sweats in, 317; pneumatic cabinet in, 512; systematic exercise in the prevention of, 763; tachycardia in, 814.
Physician, a, found guilty of murder, 174; an eccentric, 339; effects of medical life upon the, 350; medical treatment of the, by the, 145; testimony of the, regarding his patient, 176; the, of sacred history, 182; the wife of the, 337.
Physicians and the income tax, 174; licensed, in Massachusetts, 700; the number of American, 276; taxing, 819.
Physicians' Mutual Aid Association of New York, 446.
Physiology, debt of, to medicine, 791.
Picric acid for burns, 807.
Piersol, George A., notice of book by, 373.
Pierson, Samuel, fracture of the head of the fibula by muscular action, 367.
Piffard, Henry G., a simple means of increasing the aperture and improving the performance of some immersion lenses, 362; the Babcock test as a means of determining the commercial and nutritive value of milk (bovine and human), 46.
Pilcher, James E., notice of book by, 501.
Pilocarpine in disease of middle ear and labyrinth, 409.
Piperazine, 60.
Pittsburgh, a dirty city, 529.
Pityriasis versicolor, cure of, 26
Pizarro, a congenital criminal, 446.
Plague, the Chinese, 819.
Plaster cast, horizontal position for applying, 318.
Playfair, W. S., notice of book by, 245.
Pleasant Plains, N. Y., the salubrity of, 352, 429.
Pleura, extensive adhesions of the, 205.
Pleurisy and malaria, confusion of the fevers of, 535; caused by the pneumococcus, 407, 413; fibrinous, treatment of, 502; hemorrhagic, 177; provisional costotomy for acute exudative, 570; treatment of serous and purulent exudative, 570.
Pleuritic exudation, to prevent extension of, 317.
Pleurotomy, 569.
Pneumococcus of Friedlander, innocuousness of, in the rabbit, 246.
Pneumonectomy, 94.
Pneumonia, acute catarrhal, importance of early diagnosis and prompt treatment in, 798; and aphasia, 149; chloride of calcium in, 144; disappearance of gonorrhœal discharge during, 81, 269; influence of atmospheric pressure on the prevalence of, 798; of the apex, 502; pathogeny of, 383; phlebitis following, 525; treatment of, 789, 797; treatment of certain symptoms of, 700; treatment of lobar, without opium or digitalis, 139
Poisoning by lead, monosulphite of sodium in the treatment of, 696; by morphine, permanganate of potassium as an antidote for, 200, 316, 442, 459, 460, 642; by ptomaïne in turkey, 14, 155, 380; by quinine, 138; by rhus toxicodendron, fatal, 727; by salicylate of soda, 149; by sterilized meat and milk of tuberculous animals, 292; by vetches, 535.
Poliomyelitis, acute anterior, 341.
Poliorromenitis, subacute, 534.
Politics in medicine, 82.
Politzer, notice of book by, 501
Post-Graduate Medical School, the new, 595.
Pott's disease of the spine, 344.
Poverty and disease as studies in sociology, 305.
Powers, Charles A., further observations on the physiological occurrence of conical stump after amputations in children, 423.
Practitioners' Society of New York, 21, 152, 342, 803.
Pregnancy, after removal of one ovary and part of the other, 81; albuminuria in, 154, 814; and Bright's disease, 247; diagnostic aids in, 705; extra uterine, rupture, laparotomy, recovery, 303; fatal nausea and vomiting of, 769; mistaken for a cyst, 408; pruritus during, 376; simultaneous intra and extra uterine, 631; tubal, 571.
Pregnant women, methodical examination of, in private practice, 224
Prescriptions, indiscriminate use of, 646; the ownership of the, 399.
Prevention of disease, 248.
Priapism, an epidemic of, 170.
Price, A. F., the treatment of syphilis with sulphate of copper, 129.
Prize, Boylston, award of the, 795; of the Medical Society of the County of New York, 370; of the Spanish Academy of Medicine, 711; Riberi, award of the, 275; the Merritt H. Cash, 467.
Professional men, incomes of, 173; tax on incomes of, 210.
"Professor of wind and water," and his misleading statements, 255.
Prolapsus uteri et vaginæ, Freund's new operation for, 188.
Prostate, castration for hypertrophy of the, 761, 794; enlarged, 26; enlarged, boutonnière operation for, 23; removal of adeno-myoma from the, 761.
Prostitute, registration of the male, 445.
Prostitution, relation of the medical profession to the abolition of, 480; the control of, 369, 377.
Proteids, general nature of, 449.
Proteolysis, digestive, 417, 449, 481, 513, 545, 577.
Pruritus, during pregnancy and the puerperium, 376; hiemalis, lotion for, 283; icteric, 472; lotion for, 26; vulvæ from jealousy, 563.
Psoriasis, ointment for, 543; treatment of, 568
Psychology, some less cultivated phases of, 390.
Ptomaines in fish, 314; poisoning from, after eating turkey, 14, 155, 380.
Public health and the State, 431; bill to establish a department of, 175; veto of bill amending the law on, 695
Puerperal eclampsia, bacillus of, 742.
Puerperal insanity, 17.
Puerperal period, pruritus during the, 376.
Puerperal sepsis, 219; endemic of, in Auvergne, 246.
Puerperal state, ovariotomy in the, 341.
Pulse, hepatic, 471.
Purpura hæmorrhagica, 473; sulpho-carbolates in, 821; the blood in, 111.
Pyæmia complicating typhoid fever, 525.
Pyelonephritis, bacteriology of, 732.
Pyle, J. S., opening the cranial cavity with a new set of instruments, 163.
Pyloroplasty, a successful case of, 135.
Pylorus, stenosis of the, 247.
Pyothorax and its treatment, 622, 709, 744.

Q

Quacks, a bill to license, 466; a poetical correspondence on, 744.
Quarantine, national, the bill concerning, 48, 304.
Quinine, poisoning by, 138.
Quintuplets, 307, 370.

R

Rabies in cows, epidemic of, 757; nervous lesions in, 560.
Rachitis, and infantile convulsions, 566; discussion on, 769.
Radii, congenital absence of both, 463.
Rafter, George W., notice of book by, 436.
Railroad hospitals, new, 818.
Railway coaches, disease in, 695, 808.
Ranney, Ambrose L., the eye treatment of chorea, 551, 582; the eye-treatment of epilepsy, 476.
Ransan, Dr. A. A., death of, 338.
Rattlesnake venom, action of, upon the bactericidal power of the blood-serum, 663.
Rauch, Dr. John H., death of, 403.
Raymond, James Harvey, guaiacol as a topical application in the treatment of acute tonsillitis, 364.

Raynaud's disease, 701.
Recruit, selection and physical examination of the, 329. 355.
Rector, Joseph M., an experiment with permanganate of potassium as an antidote for morphine poisoning, 460.
Rectum, excision of the, 25; incontinence of the, and its cure by torsion, 161; prolapse of the, new operation for, 216; supra sphincteric ulcers of the, 94.
Red Cross, protection for the, 498.
Red glass and blue glass, 276.
Red light for small-pox, 310, 344.
Reflexes, localization of the, 566.
Reich, A., diabetic multiple peripheral neuritis, 59.
Reichard, E. E., the treatment of lobar pneumonia without opium or digitalis, 139.
Rest, in chlorosis and heart disease, 142; in typhoid fever, 705.
Retina, detachment of the, 766; rupture of lymph-sheath of a vein in the, 768.
Rheumatism, gonorrhœal, 473; local application for, 60; treatment of acute, 473; treatment of chronic, 336.
Rhinitis, atrophic, application for, 317.
Rhode Island anti-vaccination bill, 531.
Riberi prize, award of the, 275.
Ribs, desternalization of the, 207.
Ricketts, B. Merrill, exstrophy of the bladder, 458.
Rivinius, foramen of, 741.
Robinson, A. R., notice of book by, 375.
Robinson, Beverley, the treatment of uræmia, 321, 342; the use of purgatives in the treatment of typhoid fever, 542.
Rockwell, A. D., the action of electricity on the pneumogastric—is it of value in chloroform narcosis? 236, 510.
Rocky Mountain region, the climate of, 300.
Rogers, W. B., enterectomy—end-to-end anastomosis—cholecystenterostomy with Murphy's button, 103.
Rolfe, William A., a case of suprapubic dislocation of the left femur and compound fracture of the coccyx, 366.
Roman fever, 370.
Rome, letters from, 253, 313, 414, 508, 573; mineral springs near, 446; our cabled despatches from, 465; winter climate of, 647.
Roosevelt, J. West, concerning the custom of abusing "the abuse of medical charity"—a protest, 134, 153; the medical profession and the hospitals, 62, 96.
Rosacea, application for, 94.
Rosahnsky, H., the treatment of cholera, 140.
Rose, Achilles, Dr. L. Jankau's acousticon, 643; Greek as the international language of physicians and scholars in general, 487, 506.
Rosenberg, Julius, a plea against accouchement forcé in the treatment of placenta prævia, 298.
Royal Medico Chirurgical Society of London, 341, 407.
Royal Society of Physicians of Budapest, 273.
Rugh, J. Torrance, a new and rapid method of anæsthesia, 155.
Rupp, Adolph, tubbing in typhoid, 29.
Rush College Laboratory, 18.
Russell, Dr. Dwight, death of, 403.
Russell, Louise, unique path of a revolver bullet, 269.
Russia, physicians in, 741.

S

Saccharine as an intestinal antiseptic, 704.
St. Louis, pen pictures in, 724.
St. Paul-Minneapolis, a healthy locality, 529.
Salicylate of soda, poisoning by, 149.
Salicylic acid, external use of, 64; local action of, in liniment, 137.
Salipyrin, 469.
Salts, neutral, influence of, on serum alexine, enzyme, toxalbumin, blood-corpuscles, and anthrax spores, 110.
Sanitary building, a unique, 133.
Sanitary conference, international, of Paris, 592.
Sanitary insurance, 384.
Sanitary motes and beams, 82.
Sarcoma, developing on adeno-fibroma, 410; endosteal of the radius, 283; of the ilium, inoperable, 599; of the tongue, 410; round celled, of the ovary, 237.
Sarsaparilla, 210, 314, 560.
Savage, G. C., notice of book by, 604.
Scarlatina, apparatus for subliming calomel in the treatment of, 644; local lesion of, 113, 115; membranous inflammation of the throat during, 213; pathogenesis of, 149.
Scars, unpigmented, tattooing, 743.
Schenck, S. L., notice of book by, 405.
Schiff, Professor Moritz, jubilee of, 274.
Schumpert, T. E., locomotor ataxia, with report of a case cured, 629.
Sciatica, pills for, 317.
Scopolaminine, 696; action of, on the eye, 216.
Scorbutic gingivitis, microbe of, 647.
Scorbutic pseudo-paralysis, 279.
Scrofula, iodoform in, 317; senile, 95.
Scurvy in children, 279, 770, 811, 820.
Sea air and mountain air, 511.
Searles, F. R., reckless use of chloral, 29.
Seeligmann, Gustav, an aseptic obstetrical instrumentarium, 382.
Seelye, H. H., atropia poisoning from eating turkey, 14; turkey and ptomaïne, 380.
Segur, Gideon C., notice of book by, 605.
Seitz, Carl, notice of book by, 532.
Semeleder, F., the canny Prince of Servia, 679.
Senn, N., notice of book by, 533.
Sepsis, puerperal, 219.
Septicæmia, gastro-intestinal, of infants, 527.
Septum-knife, annular, 189.
Serum-therapy of syphilis, 223.
Servetus, memorial function in honor of, 747.
Servia, the canny Prince of, 679.
Seward, W. M., a case of ectopic gestation—rupture at about one month—immediate laparotomy—recovery, 303.
Sewer-gas, effect of, in the production of disease, 698.
Sex, pre-natal determination of, 4.
Sexual debility in the male, physical and psychical causes of, 181.
Sexual instinct, effect of castration upon the, 173.
Sexual perverts, castration of, 479.
Shepherd, Francis J., a successful case of pyloroplasty, 135.
Shipps, William H., compound comminuted fracture of the skull, 237.
Shoulder, amputation at the, control of hemorrhage in, 703; neuropathic inflammation of the, 409.
Shrady, George F., some points in the diagnosis of appendicitis, 1, 21.
Sickness, sneezing in, 121, 480.
Sigmoid flexure, rupture of the, 310.
Simon, Charles E., a case of acute gastro-enteritis due to mustard, 346.
Simpson, Robert, notice of book by, 309.
Singultus, obstinate, 367.
Sinnett, Dr. J. H., resolutions on the death of, 467.
Sinus, frontal, suppuration of, 396; lateral, thrombosis of the, 741.
Size and quality, 84.
Skin, cold as an etiological factor in diseases of the, 764; thyroid extract in diseases of the, 247, 248, 763; tuberculosis of the, new treatment for, 272.
Skin-diseases, some cases of, at Mr. Hutchinson's clinical museum, 94.
Skin grafting, 254.
Skin-transplantation, Thiersch's method of, 512.
Skull, compound comminuted fracture of the, 237; fracture of, 526; treatment of depressions in the, in the new-born, 166; trephining for fracture of the, 246.
Sleep, chloroforming in, 402.
Sleeping-room, proper care of the, 425.
Sleeplessness, natural remedy for, 199.
Sloan, T. W., the horizontal position for applying plaster cast, 318.
Small-pox, and antiseptic vaccination, 465; in the city hospital, 112; light on the question of, 114; red light for, 310, 344; postal transmission of, 712; spread of, around hospitals, 252; the goddess of, 711; treatment of, 469.
Smith, Andrew H., caisson disease, 130, 152.
Smith, E. H., a bifid uterus with twins, 14.
Smith, Louise Russell, medical practice in Van, Asia, 706; unique path of a revolver bullet, 269.
Smith, Mr. Henry, death of, 542.
Sneezing in sickness, 121, 480.
Socialism and the sale of drugs in France, 403.
Society for Psychiatry and Neurology of Vienna, 409.
Society of Physicians and Surgeons of Paris, 278.
Society of Physicians of Vienna, 248, 278.
Sociology, poverty and disease as studies in, 305.
Spanking, scientific vindication of, 240.
Spasm, chronic, new method of treating, 591.
Specialties and specialism, 676.
Speculum, vaginal, with constant irrigation, 319.
Speech for deaf children, 271.
Spence, Arnot, exsection of the rib not necessary in pyothorax, 709.
Spermatorrhœa, 203.
Spermatozoa, motion of human, 645.
Spinal cord, syphilis of the, 213.
Spinal irritability, influence of venous congestion on, 704.
Spinal supports and braces, 18.
Spine, lumbar lordosis of the, 248; operation for injuries of the, 94; Pott's disease of the, 344.
Spleen, abscess of the, 639.
Splenectomy, 637.
Splenic artery, ligature of the, 638.
Spondylitis, 344.
Sponges, danger of using old, 93.
Spotswood, Dillon J., depressed fracture of skull—simple fracture of skull—fracture of the radius—recovery, 526.
Spratling, William Philip, some observations on the action and value of hyoscyamine in nervous and mental diseases, 99.
Stain, for connective tissue, 23; for ganglion cells, 24.
Staining method, a new, 672.
Stanard, Dr. A. C., death of, 371, 561.
Stapedectomy, 741.
Stark, Henry S., an analysis of the hectic phenomenon, with remarks on the treatment, 453.
Stearns, Henry P., notice of book by, 602.
Sterilization of materials for private operations, 587, 600.
Sterilized catgut in a convenient and portable form, 621.
Sterilizer, a new surgical, 30; portable, for private operations, 252, 285.
Stethokyrtographical examinations, contemporary, unibilateral, 260.
Stevens, A. A., notice of book by, 501.
Stewart, T. Grainger, knighthood conferred on, 821.
Stickler, Joseph William, the awakening effect of cocaine, 59.
Stiles, C. W., an extreme case of leucoderma in a negro, with a comparison of similar conditions in various animals, 294.
Stillé, Alfred, notice of book by, 436.
Stomach, and heart, trouble of, produced by the habitual posture of school-children, 408; atony of the, 395; bichromate of potassium in disorders of the, 502; cancer of the, 24, 119; cancer of the, gastroenterostomy for, 250; catarrh of the, large doses of bismuth in, 110; creosote in fermentation of the, 239; dilatation of the, 247; dilatation of, psychical sequela of, 143; diphtheria of the, 61; erosions of the, 780, 803; nature and management of functional disturbances of the, 803; perforating ulcer of the, surgical treatment of, 110, 541; relative situation of the, in men and women, 502; surgery of the, 638; surgical treat-

ment of dilatation of the, 282; ulcer of the, experimental production of, 149.
Stone, Mr. Thomas Madden, death of, 773.
Stowell, William L., a new hypodermic syringe, 319.
Strabismus with anomalous diplopia, 767.
Strahan, S. A. K., notice of book by, 437.
Straight, Howard, apex catarrh, 5, 51.
Streptococcus, a new, 149.
Stricture, traumatic urethral, operative indications in, 815; urethral, intermittent rapid dilatation of, 785; urethral, rupture of a sacculus of the bladder following, 121.
Strobell, Charles William, the revival of symphyseotomy, 10.
Strock, Daniel, bloodless amputation at the hip joint, 460.
Strophanthus, 60.
Struthers, Joseph, notice of book by, 404.
Stump, conical, after amputation in children, 423.
Sturgis, Russell, the use of suggestion during hypnosis of the first degree, as a means of modifying or completely eliminating a fixed idea, 193.
Succi, the faster, digestion of, 384.
Suggestion, hypnotic, for modifying or eliminating a fixed idea, 193.
Sugar, diet of, for athletes and workingmen, 775.
Suicide, and hard times, 112; in France, 20; and heat, 816.
Surgeons, acting assistant, to obtain recognition for, 306, 320.
Surgery, methods of teaching, 799; modern triumphs of, 792; operative, use of heat in, 594.
Surgical instruments of antiquity, 695.
Surgical operations and the daily papers, 648.
Surgical Society of Paris, 246, 408.
Sutton, J. Bland, notice of book by, 532.
Sutures, cranial, and their relations to cerebral lesions, 28.
Swasey, Edward, an instrument for removing foreign bodies from the iris and anterior chamber of the eye, 189.
Switzerland, medical students in, 360.
Sympathetic ganglia, structure of, 149.
Symphyseotomy, 94, 441; report on, 571; revival of, 10.
Syphilides, diphtheritic, 310.
Syphilis, and aneurism, 409; and tabes, 28, 566; arterio-sclerosis after, 791; blood-changes in, 278; congenital, 24; congenital, of the kidneys, 534; early treatment of, 693; in women, 496; intravenous injections of corrosive sublimate in, 510; migration of, from East Asia to America, 383; milder character and diminished prevalence of, 801; of the spinal cord, 213; prolonged intermittent treatment of, 80; serum-therapy of, 223; sulphate of copper in the treatment of, 129; tuberculosis preparing the way for, 684.
Syracuse Academy of Medicine, 115.
Syringomyelia, 772.
Syringomyelia complicating leprosy, 568.

T

Tabes, and syphilis, 28, 566; etiology of, 567; phosphate of soda in, 122; report of a cured case of, 629, 678, 708.
Tachycardia in pulmonary tuberculosis, 814.
Tanner, Thomas Hawkes, notice of book by, 602.
Tattooing needle, Tyson's, 709.
Tefft, J. E., unusual case of gunshot wound of the brain, 495.
Tennessee State Medical Society, 758.
Tenorrhaphy, 93.
Teratologia, a new journal, 744.
Test card, a combination, 318.
Testes, arrested growth of the, 815; undescended, 607.
Testicular juice in cutaneous trophoneuroses, 64.
Tetanus, a case of traumatic, 278; complicating vaccinia, 446; rheumatic, treatment of, 473; serum-therapy of, 723.
Tetany, in America, 801; pathogenesis of, 799.
Thayer, William Henry, the treatment of influenza, 139.
Therapeutical Society of Paris, 149, 246, 408.
Thiersch-Gould operation, 607.
Thiersch's grafts, microscopical sections of the skin after, 607; method of skin-transplantation, 512; solution, 93.
Thistle, W. B., eliminative and antiseptic treatment of typhoid fever, 289; purgative treatment of typhoid fever, 543.
Thomas, Homer M., pharyngo-mycosis, 12.
Thomas, T. Gaillard, the etiology of the diseases peculiar to women, 65, 87.
Thompson, W. Gilman, notes on the caisson disease, 133, 152; notes on the physiological action of ozone preparations, 257.
Thomson, W. H., a nomenclature for the different classes of infectious diseases, 670, 681; ergot in the treatment of periodical neuralgias, 334.
Throat, bacteria in the, and their relation to inflammation, 117.
Thrombosis, pulmonary, 672.
Thyreoglossal duct, persistent, 606.
Thyroid extract in diseases of the skin, 154, 247, 248, 763; in myxœdema, 310, 413, 770.
Thyroidectomy, toxicity of the urine after, 246.
Tiesler, Dr. Eugene, death of, 147.
Tilt, Dr. E. J., death of, 61.
Tongue, sarcoma of the, 410; varicose veins on the, 366.
Tonsil, chancre of the, 104; endothelioma of the, 411; hemorrhage in malignant disease of the, 23; sarcoma of the, in a patient eighty-nine years of age, 136.
Tonsilitis, guaiacol in the treatment of acute, 364; remedy for, 348.
Tonsillotomy, diphtheria following, 704.
Toothache, treatment for, 60, 634.
Toxins, tolerance of the, 80.
Trachelorrhaphy, abuse of, 768.
Trades, dangerous, question of, in Parliament, 154.
Transfusion, 568.
Treves, Holy Coat of, 808.
Trichinosis, 647.
Trichomycosis nodosa, the fungus of, 566.
Trigeminus, resection of the, 569.
Trismus neonatorum treated with tetanus antitoxin, 111.
Trower, William S., and the Canarsie Board of Health, 140.
Trophoneuroses, cutaneous, injections of Brown-Séquard's fluid in, 64.
Tropical diseases, 542.
Truex, William E., dentists, 255.
Tsuchiya, M., the "Professor of Wind and Water" and his misleading statements, 255.
Tubercle bacilli, a calculus containing, 118.
Tuberculin, ultimate results of, in the treatment of experimental eye tuberculosis, 802; value of, in the diagnosis of tuberculosis in cattle, 17, 116, 144.
Tuberculosis, and animal industry, 464; and carcinosis, anæmias of, 141; bovine, 535; bovine, a commission to investigate, 499; bovine, value of tuberculin in the diagnosis of, 17, 116, 144; causal treatment of, 472; cinnamic acid in, 143; contagiousness of, 307; controlled by gold and manganese, 675; Dr. Trudeau's laboratory for the study of, 244; heredity and contagion of, 568; hospital for male children suffering from, 726; in children, 705; mortality of, 341; of the joints and skin, new treatment for, 272; prepares the way for syphilis, 684; prevention of, 818; pulmonary (see *Phthisis*); registration of, 306, 401, 435, 562; serum treatment of, 568; treatment of, 473; treatment of empyema in, 502; troglodytism and alcoholism as etiological factors in, 544.
Tuberculous animals, poisoning by sterilized meat and milk of, 292.
Tucker, Ernest F., subcutaneous ligature for varicocele with an ordinary needle, 206.
Tucker, Ervin A., management of the breasts and nipples before and during the puerperal period, 649.
Tulane University, Richardson Memorial addition to, 18.
Tumors, abdominal, spontaneous disappearance of, 253.
Turkey, ptomaine poisoning from eating, 14, 155, 380.
Twins and a bifid uterus, 14.
Typhoid fever, an alleged cure for, 337; dietetic and therapeutic management of, 671; diminution of the mortality from, in Paris, 367; drinking treatment for, 498; eliminative and antiseptic treatment of, 289; epidemic of, due to an infected milk-supply, 713; extensive ulceration in, 536; fasting in, 230; governmental regulations concerning the management of, 20; hygienic vs. drug treatment for, 518; in diabetes, 773; influence of soil on the bacilli of, 806; lysol in, 568; management of, 503; operative treatment of intestinal perforation in, 508; paraplegia after, 278; purgative treatment of, 416, 510, 542, 543; pyæmia complicating, 525; rest and fasting in, 705; saccharine in, 704; some facts bearing on the etiology of, 550; specific treatment of, 288; treatment of, 700; tubbing in, 29; vaccination after, 178.
Tyson, James, notice of book by, 404.
Tyson, H. H., a tattooing needle, 709.

U

Ulcers, buccal, 213; of the intestines, 119; of the leg, chlorine gas in, 821; perforating gastric, surgical treatment of, 110; rodent, 407.
Umbilical cord, single ligature of the, 511; with a true knot, 376.
Uræmia, hemiplegia in, 217; the treatment of, 321, 342.
Urea, physiological and pathological proportions of, 141.
Uretero-lithotomy, 705.
Uretero-vaginal fistula, successful reimplantation of the ureter into the bladder, 168.
Urethra, caruncular of the, 181; ciliated infusoria from the, 118; female, appearance of, through the urethroscope, 26; intermittent rapid dilatation of stricture of the, 785; operative indications in traumatic stricture of the, 815; prolapse of the, in a young girl, 705; rare form of foreign body in the male, 365; rupture of the, 93, 761.
Urethritis, chronic, 618; chronic, treatment of, 462.
Uric-acid concretions and gout, 534.
Urine, retention of, after operations, 111; Spiegler's test for albumin in the, 512; toxicity of the, after thyroidectomy, 246.
Usher, J. E., notice of book by, 533.
Utah, status of medical legislation in, 607.
Uterometer, the, 349, 371.
Uterus, a child crying in the, 726; and adnexa, retro-peritoneal and intra-ligamentous tumors of the, 769; bifid, with twins, 14; dilator of the, with self-acting lock, 575; drainage of, by catgut, 571; elongated cervix, ovaritis, osmotic treatment, 45; extirpation of, for cancer, 94; extirpation of, in diseases of the adnexa, 738; instruments for anterior vaginal fixation of the, 600; myo-carcinoma of the, 150; prolapse of the, hysterectomy in, 246.

V

Vaccinated, the vaso-motor apparatus in the, 80.
Vaccination, a special train for, 243; after typhoid fever, 178; and leprosy, 415; and the law, 595; antiseptic, 465; compulsory, decision against, 669; free, in Boston, 51; in the French army, 512; matinées for, 18; to render it more efficient and popular, 695; test cases, 818.
Vaccine carried by pigeons, 276.

Vaccinia, researches on the bacteria of, 701; tetanus complicating, 446.
Vagina, a new disease of the, 58, 391; indications for an examination by the, 266, 281.
Van, Asia, medical practice in, 706.
Vance, Dr. Reuben A., death of, 561.
Varicocele, subcutaneous ligature for, 206.
Varicose veins on the face and tongue, 366.
Variola and vaccinia, 310.
Vascular diseases, increase of, 241.
Vegetables, physiological and pathological influence of, upon man 90, 186, 315.
Venereal disease and marriage, 667.
Vertebral arches, resection of the, 569.
Vertex, occipito-posterior positions of the, 585, 601.
Vetch poisoning, 535.
Veterinarians and the spoils system, 31.
Vibration, mechanical, in the treatment of disease, 62.
Vienna Medical Club, 248, 341, 409
Vierordt, Hermann, notice of book by, 372.
Vinton, Maria M., nine drachms of bromide at a dose, 440.
Virchow, jubilee of, 28.
Virginia medical legislation in, 117.
Vivisection, of criminals, 210; services rendered medicine by, 734.
Vivisectionist, jubilee of a, 274.
Vivisectors, objecting to continental, 168.
Volvulus, hernia complicated with, 607.
Vomiting, remedy for, 348.
Vulpius, Walther, Stacke's medical operation for obstinate chronic otorrhœa, 748.
Vulvo vaginitis in young girls, 26.

W

Wade, Willoughby Francis, notice of book by, 437.
Waechter, C., spermatorrhœa, 203.
Wagner, Clinton, sarcoma of the tonsil in a patient eighty-nine years of age—operation—recovery, 136.
Walk, James W., notice of reports edited by, 437.
Walker, John B., hernia and its mechanical treatment, 107.
Wall, A. J., notice of book by, 373.
Ward, D. W., notice of book by, 404.
Warner, Frank, a case of extensive pleuritic adhesions, 205.
Warts, multiple, of the face, 543; treatment of, 26.
Washington State Medical Society, 795.
Wassail, Dr., appointed dentist to the Czar, 20.
Water, the ancient and ready remedy, 272.
Water gas, some observations on, 557.
Weariness and workers, 270.
Weed, H. A., use of the author's splint for extension of the lower extremity, 494.
Weeks, John E., an unusual case of extraction of the crystalline lens, 494.
Weir, James, Jr., borderlands and crankdom, 360; criminal anthropology, 42.
Weld, Dr. Francis Minot, death of, 20.
Weil, J. C. Ogilvie, notice of book by, 605.
Wells, Walter S., elongated cervix uteri, ovaritis, osmotic treatment, 45.
Wendel, Dr. J. E., death of, 242.
Wharf doctors, 116.
Whooping cough, treatment of, 743.
Wicken, H., notice of book by, 374.
Wife, the physician's, 337.
Wilcox, Reynold W., a new method of administering creosote, 299.
Wilder, Burt G., notice of book by, 405.
Willard, De Forest, notice of Transactions edited by, 404.
Williams, Charles Theodore, notice of book by, 604.
Wilmarth, Charles H., notice of book by, 404.
Wilson, A. Marius, notice of book by, 375.
Wischnewetsky, L., mechanical vibration in the treatment of disease, 62.
Witnesses, medical, 718.
Witthaus, R. A., notice of book by, 372, 373.
Wolff, Bernard, a case of gas-phlegmon, 15.
Woman's suffrage and woman's brain, 560.
Women, common forms of dyspepsia in, 693; etiology of diseases peculiar to, 65, 87; inebriate, an industrial farm for, 695; medical, in Great Britain, 116, 712; medical, strange advice to, 667; medical students, what becomes of, 478; syphilis in, 496.
Wood and Whiting, notice of book by, 372.
Wood, George B., notice of book by, 564.
Woolley, B. M., opium and its excessive use, 444.
Work as a therapeutic agent, 189.
Workers and weariness, 270.
Workman, Dr. Joseph, death of, 530.
Wounds, resorption of bacteria in recent, 815.
Wright, Jonathan, Goethe's report of a tooth in the nose, 641.
Wrist, operation for correction of deformity of, 9.
Wyeth, John A., amputation at the hip-joint by the author's bloodless method, 33, 187.

Y

Yellow fever at Rio de Janeiro, significance of, 241; lesions of, 118.
Youngstown, a voice from, 337.

Z

Zarniko, Carl, notice of book by, 533.

BINDING SECT. MAY 1 8 [illegible]

R
11
M433
v. 45

Medical record

Biological
& Medical
Serials

PLEASE DO NOT REMOVE
CARDS OR SLIPS FROM THIS POCKET

UNIVERSITY OF TORONTO LIBRARY